Site Audit Report for Stage 2 Audit Area 2 (Proposed Lots 59, 60, 63 and road) - Remediation and Validation Program

Clyde Western Area Remediation Project

Viva Energy Australia Pty Ltd

14 April 2022



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List of Acronyms

Acronym	Description
ACM	Asbestos Containing Material
AEC	Areas of Environmental Concern
AHD	Australian Height Datum
ANZECC	Australian and New Zealand Environment and Conservation Council
ANZG	Australian and New Zealand Guidelines.
AOC	Accidentally Oil Contaminated
AS	Australian Standard
ASC	Assessment of Site Contamination
ASS	Acid Sulphate Soil
BGL	Below Ground Level
BH	Borehole
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
CLM	Contaminated Land Management
COC	Chain of Custody
CoPC	Contaminant of Potential Concern
CRC CARE	Cooperative Research Centre for Contamination Assessment and Remediation of the Environment
CSM	Conceptual Site Model
CTCP	Clyde Terminal Conversion Project
DO	Dissolved Oxygen
DPIE	Department of Planning, Industry, and Environment
DQIs	Data Quality Indicators
DQOs	Data Quality Objectives
EC	Electrical Conductivity
EIL	Ecologically Based Investigation Level
EIS	Environmental Impact Statement
ENM	Excavated Natural Material
EPA	NSW Environment Protection Authority
EPL	Environment Protection License
ERM	Environmental Resources Management
ESA	Environmental Site Assessment
ESL	Ecological Screening Level
eV	Electron Volt
FA	Fibrous Asbestos
GME	Groundwater Monitoring Event
GMP	Groundwater Management Plan
GWMP	Groundwater Monitoring Plan
Ha	Hectares
HHERA	Human Health and Ecological Risk Assessment

Acronym	Description
HIL	Health-Based Investigation Level
HSL	Health Screening Level
IMW	Intrusive Maintenance Workers
km	kilometre
LEP	Local Environment Plan
LNAPL	Light Non-Aqueous Phase Liquid
LOR	Limit of Reporting
LTEMP	Long Term Environmental Management Plan
m	metre
m AHD	Metres Australian Height Datum
m bgl	metres Below Ground Level
m btoc	metres Below Top of Casing
m^3	Cubic metres
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
MW	Monitoring Well
NATA	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
NHMRC	National Health and Medical Research Council
NSW	New South Wales
OCP	Organochlorine Pesticides
OEH	Office of Environment and Heritage
OPP	Organophosphorus Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PASS	Potential Acid Sulfate Soils
PCB	Polychlorinated Biphenyls
PID	Photo-Ionisation Detector
POEO	Protection of the Environment Operations
PPE	Personal Protective Equipment
PPM	Parts per million
PSI	Preliminary Site Investigation
QA	Quality Assurance
QC	Quality Control
RAP	Remedial Action Plan
EMP	Environmental Management Plan
RLs	Relative Levels
RPD	Relative Percentage Difference
RSI	Remediation Site Investigation
SAQP	Sampling and Analytical Quality Plan
SPOCAS	Suspension Peroxide Oxidation – Combined Acidity and Sulphate
SSD	State Significant Development.

Acronym	Description
SSTLs	Site Specific Target Levels
SWL	Standing Water Level
TP	Test Pit
TRH	Total Recoverable Hydrocarbons
USTs	Underground Storage Tank
µg/kg	Micrograms per kilogram
µg/L	Micrograms per litre
VENM	Virgin Excavated Natural Material
VOC	Volatile Organic Compound
WARP	Western Area Remediation Project
WWTP	Wastewater Treatment Plant

1. Introduction

Mr Andrew Kohlrusch (the auditor) of GHD Pty Ltd (GHD) was commissioned by Viva Energy Australia Pty Ltd (Viva Energy) to conduct an environmental site audit of Audit Area 2 (AA2) within Stage 2 Area of the Western Area Remediation Project (WARP) at Clyde Terminal located at Devon Street, Rosehill NSW. The Clyde Terminal, including the WARP and Stage 2 Area is shown on Figure F1 (extracted from ERM, 2022b) in **Appendix A-1**.

The WARP comprises approximately 40 hectares of the Clyde Terminal that is no longer required for operational purposes. Viva Energy has commenced remediation of the WARP to facilitate sale and redevelopment for commercial/industrial use in accordance with the site zoning IN3 as per the Parramatta Council Local Environmental Plan (LEP) 2011.

Given the scale of remedial works the WARP was declared State Significant Development (SSD N^{o} 9302) and as such to assess the potential environmental impacts from remediation, an Environmental Impact Statement (EIS) containing a Conceptual Remedial Action Plan (RAP) was submitted in late 2019 to Department of Planning, Industry, and Environment (DPIE).

The Consent Conditions for SSD N^{o} 9302 were issued on 7 May 2020. Viva Energy is staging the remediation of the WARP as follows:

– Stage 1 – Former Process West – completed in 2020.
– Stage 2 – Former Utilities and Movements – being conducted in three sub-stages (Audit Areas AA1, AA2 and AA3) currently under remediation and validation.
– Stage 3 – Former Process East (projected for completion in 2022/23).

The staging of the remediation of the WARP is being conducted as per Consent Condition A9 of SSD N^{o} 9302. The location of the Stage 2 remediation area is shown on Figure F2 (extracted from ERM, 2022b) in **Appendix A-1**.

This audit is statutory as per Consent Condition B3 for SSD N^{o} 9302. The site has also been notified to the NSW Environment Protection Authority (EPA) under *Section 60 of the Contaminated Land Management Act 1997*.

In consideration of the redevelopment strategy proposed for the Stage 2, the auditor notes that the proposed lots and road will be subdivided in four audit areas (AA1 to AA4), each of which will be progressively validated, such that Section A Site Audit Statements (SAS) will be prepared for each of the audited areas. The lots subdivision approved under SSD N^{o} 10549 has been grouped as follows:

– AA1: Lots 51 to 55 and adjoining proposed road (completed December 2021).
– AA 2: Lots 59, 60, 63 and adjoining proposed road (the subject of this report).
– AA3: Lots 56, 58, 61, 62 and adjoining proposed road (subject to validation following completion of bio-piling process)
– AA4: Lot 64 (to be completed following implementation of RAP requirements for Area of Environmental Concern (AEC) 4).

1.1 Site audit details

This Site Audit Report (SAR) has been prepared for the AA2 of Stage 2 of the WARP that incorporates the proposed subdivision Lots 59, 60, 63 and a portion of the proposed road alignment to the east of the three aforementioned lots. The AA2 location is shown on Figure F2 (extracted from ERM, 2022b) in **Appendix A-1**.

The proposed lots have been defined as part of the Central Sydney Industrial Estate and Sustainable Road Resource Centre Project (SSD N^{o} 10459) which details plans for future redevelopment of the WARP for commercial/industrial land use. The Survey Plans of the proposed subdivision are provided in **Appendix A-4**.

This SAR and accompanying SAS have been produced to document the findings of the site audit that incorporated the review of the AA2 Validation report and other supporting relevant documentation reports prepared for AA2, listed in **Section 1.4**.

The reports reviewed as part of this audit, as well as the relevant background reports are listed in **Sections 1.4** and **1.5**. The site audit details are presented in **Table 1.**

Table 1 Site audit details

Information	Details
Site auditor	Mr. Andrew Kohlrusch
NSW EPA site auditor accreditation nº	0403
NSW EPA Site Audit Statement nº	072-2127799
Stage 2 - Legal property description [1]	Part Lot 100 in Deposit Plan (DP) 1168951
Council	City of Parramatta Council
Proposed lots and proposed road areas	Lot 59: 21,350 m^2 Lot 60: 33,180 m^2 Lot 63: 36,330 m^2 Proposed road: 5,598 m^2
Site occupier	Viva Energy
Current land use	Vacant site
Proposed land use	Commercial/Industrial

Previous site audit statements related to the Stage 2 remediation area are summarised in **Table 2**.

Table 2 Previous audit documentation

Area audited	Purpose of the SAS	SAS number	SAS date
Stage 2	Comprising an audit of the detailed RAP for Stage 2 (comprising AA1, AA2 and AA3)	065-2127799B	13/08/2021
Stage 2 AA1	Assess Stage 2 AA1 suitability for commercial/industrial land uses following completion of remediation and validation program	068-2127799	23/12/2021

The auditor concluded in SAS Nº 065-2127799B that:

– *It is the auditor's opinion that following remedial and validation activities discussed in the Stage 2 RAP, the lots will be suitable for the proposed future use (commercial and/or industrial).*

– *In consideration of the redevelopment strategy proposed for the Stage 2 area, the auditor noted that as part of SSD 10459, subdivided lots will be progressively validated such that separate SAS will be prepared for each proposed lot or group of lots.*

This site audit has been conducted in accordance with the requirements of *the Contaminated Land Management Act 1997* (the 'Act'). The Act defines site audit as follows:

"site audit" means a review:

– *(a) that relates to management (whether under this Act or otherwise) of the actual or possible contamination of land, and*

– *(b) that is conducted for the purpose of determining any one or more of the following matters:*

(i) the nature and extent of any contamination of the land,

(ii) the nature and extent of any management of actual or possible contamination of the land,

[1] The areas and legal property descriptions for each of the proposed lots and road for the AA2 are further discussed in **Section 2.**

(iii) whether the land is suitable for any specified use or range of uses,

(iv) what management remains necessary before the land is suitable for any specified use or range of uses,

(v) the suitability and appropriateness of a plan of management, long-term management plan or a voluntary management proposal.

Furthermore, the Act provides the following definitions:

– *"Site Audit Report" means a site audit report prepared by a site auditor in accordance with Part 4 [of the Act].*
– *"Site Audit Statement" means a site audit statement prepared by a site auditor in accordance with Part 4 [of the Act].*

1.2 Site audit purpose

The purpose of this site audit is to independently review the AA2 Validation report prepared by Environmental Resources Management Australia Pty Ltd (ERM) to assess whether:

– the AA2 Validation report was prepared in a manner consistent with NSW EPA made or endorsed guidelines listed in **Section 1.6.**
– the Consent Condition B3 of SSD Nº 9302 was met.
– the site is suitable for commercial/industrial land use following completion of remediation and subsequent validation program.

To achieve the audit objective, the auditor has reviewed the works completed by ERM as presented in the reports listed in **Section 1.4** and assessed whether information therein demonstrates that AA2 is suitable for future commercial/industrial uses. Details regarding the proposed lots/road that comprise AA2 are presented in **Section 2.1**.

1.3 Audit triggers

Following the announcement of the closure of the former Clyde Refinery, on 22 June 2012, the NSW EPA issued a Preliminary Investigation Order to Viva Energy under the CLM Act requesting reports on environmental contamination.

Following receipt of a number of reports, in June 2016, the NSW EPA declared Lot 398 in DP 41324, Lot 2 in DP 224288, Lot 1 in DP 383675, Lot 101 in DP 809340 and, Lot 100 DP in 1168951 (which includes AA1) as contaminated land under the CLM Act (Declaration Nº 20131110).

1.3.1 Consent Conditions SSD Nº 9302

The NSW DPIE on 7 May 2020 issued the Conditions of Consent for the remediation of contaminated soils and management of contaminated groundwater in the WARP to enable future commercial/industrial land uses. Conditions of Consent SSD Nº 9302 (from the audit perspective) require the following:

The development may only be carried out:

(a) in compliance with the conditions of this consent;

(b) in accordance with all written directions of the Planning Secretary;

(c) in accordance with the EIS and RtS;

(d) in accordance with the Detailed RAP;

(e) in accordance with the Development Layout in Appendix 1. and

(f) in accordance with the management and mitigation measures in Appendix 2.

Part B of the Conditions of Consent SSD 9302 specified the environmental conditions for the remediation, which included the following:

Prior to the commencement of preparation works, the Applicant must prepare a Detailed RAP for the development, in consultation with the EPA and to the satisfaction of the Site Auditor and the Planning Secretary. The Detailed RAP must:

- *be prepared by a suitably qualified and experienced person in accordance with Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites (OEH, 2011).* **The auditor notes that this Guideline was updated in April 2020 and is currently referenced as NSW EPA (2020) *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites*.**
- *be reviewed by the Site Auditor in accordance with the requirements of Condition B3.*
- *be approved by the Site Auditor and Planning Secretary, prior to the commencement of preparation works.*
- *be submitted to the EPA for reference once approved and prior to the commencement of preparation works.*
- *detail all final remediation methods and technologies including layouts and design.*
- *detail the decision protocol for determining which remediation method applies to different materials.*
- *incorporate the recommendations of the Air Emissions Verification Report approved in accordance with condition B15.*
- *include triggers for contingency actions and alternate treatment methods to ensure the remediation objectives are achieved.*
- *detail all procedures and plans to be implemented to reduce risks to an acceptable level for the proposed final land use.*

The SSD condition B6 states that within six months of the completion of demobilisation, or as otherwise agreed with the Planning Secretary, the auditor must submit a Validation Report to the EPA, Council and the Planning Secretary.

The SSD Condition B7 states that the site auditor must within 12 months of the completion of demobilisation, or as otherwise agreed with the Planning Secretary, submit a SAR and Section A, Site Audit Statement to the EPA, Council and the Planning Secretary. The reports must be prepared in accordance with relevant guidelines produced or approved under the CLM Act and confirm that the remedial works approved under the consent have been completed in accordance with the remediation objectives listed in the Detailed RAP and the risks to human health and the environment have been addressed in accordance with the objectives of the Detailed RAP.

The SSD Condition B8 states that prior to the finalisation of the SAS and SAR, a Long Term Environmental Management Plan (LTEMP) should be prepared to the satisfaction of the auditor and the Planning Secretary.

Subsequent to the issue of SSD Nº 9302, Viva Energy reviewed its approach to remediating the WARP and resolved to conduct the remediation in three stages based on geographical portions of the WARP. DPIE was informed of the staging of remediation on 19 May 2020. A letter containing relevant documentation required by the Consent Conditions for the WARP was submitted for the stages. DPIE on 3 June 2020 approved the proposed staging of remediation as follows:

- *The Department has carefully reviewed the Staging Plan and is satisfied with the proposed approach.*
- *Accordingly, the Planning Secretary has approved the Staging Plan, dated 19 May 2020. You are advised that if the staged remediation works result in any additional impacts to those assessed under SSD 9302, you may be required to provide further information and additional mitigation controls to demonstrate the impacts can be managed. This may require supporting advice from technical experts.*

1.3.2 Sydney Central Industrial Estate and Downer sustainable road resource centre (SSD Nº 10459)

The Stage 2 Area (including AA2) is within the extent of site redevelopment works proposed to be completed as per SSD Nº 10459. ERM reported in the Stage 2 Remedial Action Plan (RAP) that while

remediation activities are not subject to the SSD Nº 10459 and associated consent conditions, consideration of the proposed subdivision of the Stage 2 Area for commercial/industrial land used has been incorporated into aspects of remedial planning and approaches outlined within the Stage 2 RAP.

1.4 Audited documentation

This SAR has been prepared following review of information presented in the documents outlined below:

– (ERM, 2022a). *Clyde Western Area Remediation Project, Stage 2 Remediation – Ambient Air Quality Summary*, dated 21 February 2022 (the **Stage 2 AAQ**).
– (ERM, 2022b). *Clyde Western Area Remediation Project, Stage 2 validation report (Audit Area 2)*, dated 4 April 2022 (the **AA2 Validation**)
– (ERM, 2022c). *Clyde Western Area Remediation Project Proposed Lots 59, 60 and 63 – Long Term Environmental Management Plan*, dated 25 March 2022 (the **AA2 LTEMP**).
– (ERM, 2022d). *Clyde Western Area Remediation Project - Stage 2 Groundwater Monitoring – Remediation Phase – Month 1*, dated 8 November 2021 (the **Remediation GME 1**).
– (ERM, 2022e). *Clyde Western Area Remediation Project - Stage 2 Groundwater Monitoring – Remediation Phase – Month 2*, dated 20 December 2021 (the **Remediation GME 2**).

The outcome of the reviews of documents aforementioned associated with the remediation and validation of AA2 was presented in interim audit advice letters (IAA) or tracked in an audit commentary spreadsheet.

Copies of IAAs and/or audit spreadsheet, as well as the consultant's responses (where relevant) are presented in **Appendix B**.

1.5 Background reports

Given the nature of the works completed at the WARP, the auditor also considered the following documents as background information, much of which had been considered in preparing the SAS and SAR related to the Stage 2 RAP.

– ERM (2018). *Clyde Terminal Durham Street Rosehill NSW, PFAS Conceptual Site Model and Model and Flux Assessment*, dated 20 December 2018 (the PFAS CSM).
– AECOM (2019). *Viva Energy Clyde Western Area Remediation Project – Appendix C: Conceptual Remedial Action Plan*, dated 21 January 2019 (the Conceptual RAP).
– ERM (2020a). *Clyde Western Area Remediation Project - Remediation Site Investigation*, dated 7 February 2020 (the RSI).
– ERM (2020b). *Clyde Western Area Remediation Project, Human Health and Ecological Risk Assessment*, dated 16 February 2020 (the HHERA).
– ERM (2020c). *Clyde Western Area Remediation Project, Stage 1 Air Emission Verification Report*, dated 26 May 2020 (the AEVR).
– ERM (2021a). *Clyde Western Area Remediation Project – Stage 2 Drainage Decommissioning Validation Report*, dated 17 June 2021 (the Stage 2 Drainage).
– ERM (2021b). *Clyde Western Area Remediation Project – Stage 2 Environmental Site Assessment*, dated 17 June 2021 (the Stage 2 ESA).
– ERM (2021c). *Clyde Western Area Remediation Project, Stage 2 - Detailed Remediation Action Plan*, dated 9 June 2021 (the Stage 2 RAP).

The auditor notes that all reports listed above were subjected to review and commentary presented in previous site audit reports and statements. The previous SAR and SAS issued for the Stage 2 is summarised in **Table 2**.

1.6 Regulatory guidelines

This SAR was prepared with reference to the following statutory legislation, guidelines and/or standards which have been endorsed for use by NSW EPA:

- NSW EPA (2020). *Contaminated sites: Guidelines for Consultants Reporting on Contaminated sites* (the Consultant Guidelines).
- NSW EPA (2020). *Assessment and Management of Hazardous Ground Gases* (the Ground Gas Guidelines).
- ANZAST (2018). *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*.
- NSW EPA (2017). *Contaminated Land Management: Guidelines for the New South Wales Site Auditor 3rd Scheme (edition)* (the Auditor Guidelines).
- CRC Care (2015). *A Practitioner's guide for the analysis, management and remediation of LNAPL. Technical Report Nº 34*.
- NSW EPA (2014). *Waste Classification Guidelines Part 1: Classifying Waste, NSW EPA* (the Waste Guidelines).
- NEPC (2013). *National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended by the National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (Nº 1),* National Environment Protection Council, May 2013 (the ASC NEPM).
- NHMRC & NRMMC (2004). *Guidelines for Drinking Water Quality in Australia, National Health and Medical Research Council and Natural Resource Management Ministerial Council*, Canberra.
- WA Department of Health (2021). *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (the Asbestos Guidelines).
- NSW DEC (2007). *Guidelines for the Assessment and Management of Groundwater Contamination* (the Groundwater Guidelines).
- NSW EPA (1995). *Sampling Design Guidelines* (the Sampling Guidelines).

1.7 Permitted land uses

The AA2 is zoned as IN3 – Heavy Industrial under the Parramatta Council Local Environmental Plan 2011. Permissible uses allowed under this zoning (with consent), include:

Agricultural produce industries; Building identification signs; Business identification signs; Depots; Freight transport facilities; General industries; Hardware and building supplies; Hazardous storage establishments; Heavy industries; Horticulture; Kiosks; Medical centres; Offensive storage establishments; Pubs; Roads; Rural supplies; Sawmill or log processing works; Take away food and drink premises; Timber yards; Warehouse or distribution centres; Water storage facilities.

1.8 Site auditor visit

The auditor has undertaken a number of site inspections since being commissioned in 2018. The most recent site inspection (relevant to AA2) was undertaken on 4 November 2021, observations from which are summarised below. The Stage 2 AA2 has no current formal use. Access to the AA2 is restricted and controlled by Viva Energy.

A site walkover within proposed Lots 59, 60, 63 and portion of the proposed road, that comprises AA2, was conducted by GHD (site auditor and auditor assistant), ERM and Enviropacific (EP) and Viva Energy. Remedial works across most of AA2 had been completed and excavations were open and could be inspected. There were no odours observed at any of the remedial excavation areas. Screening for the biopiles had commenced – slight odours were noted at these locations.

The auditor noted that the AA2 is relatively flat with a gradual slope to the south towards Duck River. Apart from some shallow, man-made surface water drainage features, the site no longer contains any infrastructure associated with the former activities conducted at the site. The following photographs were taking it during the site inspection in November 2021.



Figure 1 Overall view Stage 2 area and former Stage 1 remediation Area (in the background)



Figure 2 Overall view of Stage 2 Area looking north



Figure 3 *Overall view of Stage 2 Area looking east*



Figure 4 *Overall view of Stage 2 Area looking east*



Figure 5 *Boundary between Former Stage 1 Remediation Area and Stage 2 Area*



Figure 6 *Temporary stockpile*



Figure 7 *Temporary stockpile*



Figure 8 *Biopile area*

1.9 Site audit report structure

This report documents the audit of the reports referenced in **Section 1.4.** Where the auditor has provided comments on the work, these are highlighted in blue shaded dialogue boxes. The remainder of this report is organised as follows:

Section 2 Site conditions and environmental setting

Section 3 Historical land use

Section 4 Previous characterisation reports

Section 5 Stage 2 Remedial action plan

Section 6 Stage 2 Ambient air quality summary

Section 7 Implementation of AA2 Stage 2 RAP

Section 8 AA2 Stockpile management

Section 9 Consent Condition B22 - Groundwater monitoring events

Section 10 Evaluation of quality assurance and quality control

Section 11 Conceptual site model post remediation

Section 12 AA2 Long-term environmental management plan

Section 13 Other considerations

Section 14 Compliance with regulatory requirements

Section 15 Audit conclusions

Section 16 Disclaimer

1.10 Site audit report limitations

The information and opinions given in this SAR are based on reviewing information presented in the documentation referenced in **Section 1.4** and other supporting information provided by Viva Energy and the consultant.

The auditor has not carried out any independent investigations in relation to the condition of the site. This audit is subject to the limitations presented in **Section 16**.

The auditor assumes no responsibility or liability for any errors or omissions in the information provided in the reports reviewed or that the consultant did not confer any reliance on the reports to the auditor.

The purpose of this SAR is to assess if the AA2 Validation report was prepared in accordance with guidelines made or endorsed by the NSW EPA, complied with relevant Consent Conditions required by the DPIE as previously discussed in **Section 1.3** and whether it demonstrated the site was suitable for commercial/industrial land uses. No other warranties, expressed or implied, are made.

This SAR relates only to the subsurface to define the nature and extent of contamination at the site, and related identified off-site impacts from surface water, groundwater, or soil vapour. It does not comment on the evaluation of geotechnical issues, or any other issues associated with the site.

2. Site conditions and environmental setting

A summary of the site conditions and environmental settings discussed by ERM in the AA2 Validation report and/or in the other reports reviewed as part of this audit listed in **Section 1.4**.

2.1 Site identification

The AA2 is located in the north-western portion of the WARP and extends from Devon Street in the north to the Duck River to the south boundary. A WARP location and the AA2 layout are shown on Figures F1 and F2 (extracted from ERM, 2022b) in **Appendix A-1**.

The site identification information along with the proposed lots and road is summarised in **Table 3.**

Table 3 Site identification

Information	Details
Site identification:	AA2 in Stage 2
Lots in AA2 and deposit plan (DP) [2]	Proposed Lot 59 in DP 1280734 Proposed Lot 60 in DP 1280734 Proposed Lot 63 in DP 1280734 Proposed Road in DP 1280734 Currently the Stage 2 Area is within Part Lot 100 in DP 1168951
Site occupier:	Viva Energy
Local Government Authority:	City of Parramatta Council
Current land use:	Vacant site
Proposed land use:	Commercial/industrial
Land use zoning:	IN3 – Heavy Industrial under the *Parramatta Local Environmental Plan 2011*

2.2 AA2 Description prior remediation

ERM outlined in the AA2 Validation report the following key features across AA2 prior to remediation:

– Lot 59:
  - Part of AEC-14b (petroleum hydrocarbon impacted soils to be excavated and validated)
  - Stockpile SP30 (demolition waste containing asbestos and has been deemed unsuitable for on-site re-use, and was identified as requiring off-site disposal)
  - Part of stockpile SP31 (demolition waste, predominantly concrete and bricks, sourced from demolition of refinery infrastructure)

– Lot 60:
  - Part of AEC-14b (petroleum hydrocarbon impacted soils to be excavated and validated)
  - Stockpile SP36 (demolition waste, predominantly concrete and bricks, sourced from demolition of refinery infrastructure)

– Lot 63:
  - AEC-3d (petroleum hydrocarbon impacted soils to be excavated and validated)
  - AEC-3e (petroleum hydrocarbon impacted soils to be excavated and validated)
  - Stockpile SP41 (demolition waste, predominantly concrete and bricks, sourced from demolition of refinery infrastructure)

[2] The survey plans showing the lot locations are presented in ***Appendix A-4***

- Stockpile SP42 (demolition waste, predominantly concrete and bricks, sourced from demolition of refinery infrastructure)

– Proposed Road
  - Part of stockpile SP31 (demolition waste, predominantly concrete and bricks, sourced from demolition of refinery infrastructure)
  - Part of SP37 (Western Area Demolition – 2015, predominantly bricks and concrete)

2.3 Topography and drainage

ERM stated in the AA2 Validation report that the surface of the AA2 was reshaped over time with the use of imported fill to provide a relatively flat site. Until July 2020, rainfall and surface water were collected through the Continuously Oil Contaminated (COC) and Accidentally Oil Contaminated (AOC) drainage systems which diverted the water to the Clyde Terminal Drainage network and Wastewater Treatment Plant (WWTP).

As reported by ERM in the AA2 Validation report, only clean water drainage network is present, tank farm drainage network was mostly above-ground infrastructure and has been removed, adjoining pits to the east and west were cleaned and decommissioned. Therefore, drainage lines present within AA2 did not form part of the oil contaminated drainage network and did not contain residual sludge following cleaning. ERM noted that the general drainage currently flows to the south towards the Duck River.

ERM described that the Duck River the closest surface water body to the AA2. It is separated by other land (proposed lot 64) owned by Viva Energy. The Duck River is lined with mangroves adjacent to the and is considered a moderately disturbed catchment.

As reported by ERM in the RSI, the tidal limit of the Duck River extends approximately one kilometre upstream of the site to the Clyde Railway culvert (Cardno Lawson-Treloar, 2008).

The upper reaches of the Duck River extend approximately 10 kilometres south to Condell Park, within the Bankstown LGA where stormwater flows in a series of storm water pipes and open concrete drains. The downstream extent of the Duck River discharges into the Parramatta River to the north-east of the Stage 2. ERM reported that the Parramatta River is the major tributary of Sydney Harbour located approximately 15 kilometres downstream of the site which, in turn, discharges into the Pacific Ocean.

The drainage network is shown on Figure F5 (extracted from ERM, 2022b) in **Appendix A-1.**

2.4 Geology and potential acid sulfate soils

ERM documented in the AA2 Validation report the following general soil profiles within AA2:

– The average thickness of fill material is 0.6 metres with the greatest thickness between 1.2 to 1.5 metres to the south in proximity to the Duck River. Fill material is underlain by high plasticity orange red and grey clay across the majority of the Stage 2.

– There was no proposed disturbance to Potential Acid Sulfate Soils (PASS) present below the fill within AA2 and no lowering of the water table was proposed as part of the remedial works. Therefore, ERM considered that the scope of remedial works did not warrant the preparation of an Acid Sulfate Soils Management Plan (ASSMP).

2.5 Hydrogeology

A summary of the hydrogeology information presented in the AA2 Validation report is presented in **Table 4**.

Table 4 Hydrogeology – AA2

Data	Results
Groundwater depth	A shallow unconfined aquifer is present in AA2 within fill and estuarine-alluvial sediments at depths between 0.5 metres below ground level (m bgl) and 5 m bgl. ERM reported that a preferential pathway for groundwater flow had been identified within sandy lenses in the fill and estuarine units along with anthropogenic structures, such as the on-site storm water drainage network.
Groundwater flow direction	For the majority of the Stage 2 Area (including AA2), groundwater flow direction was inferred be to the south and south-east towards the Duck River. Groundwater flow direction maps prepared using data collected during the remediation is shown on Figure F2 and Figure F3 (extracted from ERM, 2022d) in **Appendix A-3**.
Hydraulic gradient	ERM reported that the average hydraulic gradient of 0.003 along the up-gradient portion of the WARP, including AA2.
Hydraulic conductivity	ERM reported that the hydraulic conductivity has been established to be low across the majority of the WARP, with estimated hydraulic conductivity values for wells that were screened across clay, sandy clay and gravelly clay typically ranging from 5×10^{-5} m/day to 6×10^{-3} m/day.
Tidal assessment	ERM reported that on the basis of static water level data obtained from monitoring wells adjacent to the Duck River (including within Lot 64), tidal interaction of surface water within the Duck River with groundwater is not considered likely to be occurring and is consistent with tidal assessments undertaken within the Clyde Terminal.

The AA2 Validation report discussed two hydrologic aspects that formed key elements of the conceptual site model (CSM) as follows:

– Vertical migration of groundwater is limited by the soil profile which comprises unconsolidated fill underlain by low permeability clay. Industrial infrastructure included aboveground systems as well as pipework and drainage systems installed in the near surface. Therefore, ERM concluded that vertical migration of contaminants in the AA2 is limited by the nature of the soil profile and the aquifer.

– Lateral migration of contaminants of potential concern (CoPC) in groundwater is limited by the low permeability of the lithology and relatively flat hydraulic gradient. ERM reported that this conclusion was supported by the limited lateral extent of impacted groundwater, indicating that, where present, areas of impacted groundwater are stable and do not appear to be migrating.

2.6 Auditor discussion - Site conditions and environmental setting

The auditor considered that the information presented by ERM in the AA2 Validation report and in the reports previously reviewed as part of this audit, listed in **Section 1.4** provided a detailed description of the features of AA2.

The descriptions of the proposed lots and those of the immediate surrounding land uses reported by ERM were consistent with the auditor's observations made during the site inspection undertaken in November 2021. The photolog of this site visit is presented in **Section 1.8**.

The auditor considered that the AA2 Validation report and relevant supporting information presented a detailed summary of site geology and hydrogeology. This information provided sufficient basis for understanding these elements of the CSM and their influence on contaminant distribution and mobility.

The auditor noted based on ERM reports listed in Sections 1.4 and 1.5, as well as in the observations of the soil profile in remedial excavations, the following key information regarding the hydrogeological characterisation:

- Vertical migration of groundwater is limited by the soil profile which comprises a thin layer of unconsolidated fill underlain by low permeability clay.

- Lateral migration of CoPC in groundwater is limited by the low permeability of the lithology and relatively flat hydraulic gradient, indicating that where present areas of impacted groundwater are likely to be stable with resultant limited migration.

It is the auditor's opinion that the site conditions and environmental setting information provided by ERM in the AA2 Validation report together with other reports reviewed as part of this audit contained relevant information as recommended in Schedule B2 of the ASC NEPM (NEPC, 2013) and the Consultant Guidelines (NSW EPA, 2020).

3. Historical land use

The summary of the historical land use provided below was developed by ERM based on desktop reviews, interviews and aerial photograph reviews undertaken during the previous investigations, further outlined in **Section 4.1**.

The historical infrastructure relevant to the operations described below is shown on Figure F2 (extracted from ERM, 2022b) in **Appendix A-1**.

3.1 Former Clyde Refinery

AECOM in the Conceptual RAP (AECOM, 2019) described that the former Clyde Refinery was originally included as part of an 850-acre land grant by the Crown to John Macarthur. In 1908, a parcel of 140 acres of land was transferred to the Commonwealth Oil Corporation (COC). The COC struck financial difficulties and went into receivership. In 1913 the land was then acquired from COC by John Fell and Co.

The new owner began purchasing crude oil to refine at Clyde and refining commenced in 1926. In 1928, Shell Refining Pty Ltd took over as owner and operator of the site. Shell purchased an additional seven acres of land and a further 150 acres in June 1930. The duration of the first stage of expansion of the site was from 1929 to 1939 with the purchase and construction of new equipment and buildings, increasing the crude product intake to approximately 250 tonnes/day by 1934.

The former Clyde Refinery operations primarily comprised the receipt and refining of crude oil and finishing product piped from the Gore Bay Terminal until cessation of refining activities in 2012. Since the completion of refining operations, the former Clyde Refinery has been partially utilised as a terminal, which primarily involves the receipt, storage and distribution of finished petroleum products.

Since the cessation of refining operations in 2012, the Clyde Terminal continues to receive finished petroleum products from the Gore Bay Terminal via an existing product transfer pipeline and distributes the products by separate pipelines from the Clyde Terminal to the adjacent Parramatta Terminal.

3.2 Western Area Remediation Project

Following completion of the Clyde Terminal Conversion Project (SSD N^{o} 5147), 40 hectares of the terminal (the western area) was no longer required for operational purposes. Given the identified presence of contaminated soil and groundwater in the western area, remediation as per conditions listed in SSD N^{o} 9302, is taking place to enable future commercial and/or industrial land uses.

3.3 Stage 2 remediation area

ERM, 2022b described the following features associated with the former refining operations in the Stage 2 Area from approximately 1960 until their demolition occurred between 2012 to 2020:

- Administration buildings, car parking areas and offices.
- Fuel and product storage infrastructure, including Tank Farm Areas A1, A2, A3, J and above-ground pipe tracks.
- Oil Refining infrastructure, including boilers, Platformer 3 and flare areas to the south
- A water treatment plant and control room.
- Bitumen loading gantry and associated rail sidings.
- Contractor support services buildings, including warehouses and workshops, laboratory and fire station electrical sub-stations and associated transformer yards.
- Underground drainage infrastructure (accidentally oil contaminated and clean water council drainage), Pump House 1 and corrugated plate interceptor unit.
- Southern Buried Waste Area which is known to have been used for the burial of refinery wastes and soil sourced from excavations across the Clyde Refinery footprint.

– Former sub stations – which were cleared of the presence of Polychlorinated Biphenyls (PCBs).

ERM reported that the in-situ decommissioning and decontamination of the sub-grade drainage network was undertaken between July 2020 and February 2021 and subsequently has been isolated from the Clyde Terminal Drainage network and Wastewater Treatment Plant (WWTP).

The drainage network location is shown on Figure F5 (extracted from ERM, 2022b) in **Appendix A-1**.

3.4 Audit Area 2

The historical features described by ERM in the AA2 Validation report are as follows:

– Lot 59:
  - Bitumen loading gantry and rail siding
  - Southern extent of Tank farm A2
  - Electrical substations 23 and 29
  - Water tanks 88 and 89
  - Bitumen tanks 96 and 97
– Lot 60:
  - Bitumen tanks 94 and 95
  - Contractor laydown/warehouse areas
  - Former car storage (AutoNexus)
– Lot 63:
  - Former Contractor Warehouse Areas, including Former Fire Station Area
  - Former Car storage (AutoNexus)
– Proposed Road:
  - Southern extent of Tank farm A2
  - Water Treatment Plant
  - Tank farm J
  - Former Laboratory Area
  - Contractor Workshop Area

3.5 Auditor discussion – Historical land use

The auditor noted that investigations over the past 30 years have incorporated a detailed description of the former Clyde Refinery and associated environmental conditions.

ERM demonstrated that the primary historical usage of the Stage 2 Area which had the potential to result in soil and groundwater contamination was the storage and processing of petroleum hydrocarbons, the former sub-stations, the drainage systems, former buildings, and fill imported to the Western Area.

Regarding AA2, the auditor noted that the current primary uses that could have resulted in contamination were the tanking areas. The formal electrical substations and the former fire station areas, were previously investigated in the PFAS CSM (ERM, 2019) , RSI (2020a) and HHERA (ERM, 2020b) and were not deemed by ERM to require remediation. A list of issued SAS relevant for the Stage 2 remediation area is presented in **Table 2**.

The auditor noted that most of the former infrastructure within AA2 was aboveground, including fuel and product storage infrastructure, associated pipe tracks and administration buildings.

The auditor considered that the information provided by ERM in the AA2 Validation report was sufficiently detailed and adequate for the purposes of identifying potential contamination at AA2 that subsequently formed the scope of additional site characterisation and remedial planning.

4. Previous characterisation reports

This section presents a summary of historical site investigations and assessments throughout Stage 2 which contains AA2. The location of historical soil, groundwater and soil vapour investigation is shown on Figures 6A to 6D (extracted from ERM, 2022b) in **Appendix A-1**.

The complete historical soil, groundwater and soil vapour dataset within AA2 screened against the remediation criteria are provided in **Appendix C-1** as Tables N1 to N9 (extracted from ERM, 2022b).

4.1 Historical reports

ERM, 2022b reported that investigations across the Clyde Refinery have been conducted since 1991. A summary of the objectives and scope of works of the investigations is presented in **Table 5**.

Table 5 Summary of historical reports – AA2

Author	Year of assessment	Objectives	Scope of works
Groundwater Technology	1994	Assessment of soil and groundwater conditions	Installation of six monitoring wells
Woodward Clyde	1998	Groundwater assessment	Drilling of 13 soil bores Installation of four monitoring wells (MW98/2, MW98/3, MW98/4, MW98/5)
ERM	2009	Investigation of shallow soils within the Old Admin Area	Drilling of 15 soil vapour bores
ERM	2008 to 2020	GMEs for compliance purposes	Groundwater sampling
Douglas Partners	2010	Geotechnical investigation for Sydney Metro	Installation of five monitoring wells (BH115, BH116, BH209, BH210, BH341)
ERM	2012	Stage 1 and 2 Environmental Site Assessments	Drilling of 11 soil bores (BH12/29- BH12/39) Installation of 12 monitoring wells
AECOM	2018	Targeted Site Investigation (TSI)	Installation of Two groundwater wells (MW18/23 and MW18/24) Installation of five soil bores Drilling of 15 test pits
ERM	2018	Development of PFAS CSM and Model Flux	Groundwater sampling and hydraulic testing in existing wells
ERM	2018	Lease Exit Investigation for Autonexus	Drilling of 15 soil bores (SB1B to SB15B)
ERM	2019	Remediation Site Investigation (RSI)	Drilling of 57 test pits Installation of six soil vapour bores
ERM	2019 to 2020	Remediation Trials	Excavation of approximately 1200 m^3 of soil material from process west for bioremediation treatability trials
ERM	2020	Stage 2 Drainage Decommissioning Validation	Drilling of 14 test pits Sampling of nine sludge characterisation

Author	Year of assessment	Objectives	Scope of works
ERM	2020	Stage 2 Characterisation of stockpiled material on-site	- Sampling of four stockpiles - Visual inspection of 11 demolition waste stockpiles for presence of asbestos containing material (ACM)
ERM	2021	Stage 2 Additional ESA for increased sample density for validation of future subdivision	- Drilling of 97 Test pits: 63 samples collected for laboratory analysis - Collection of 34 samples for visual observation and field screening

Relevant data from these reports are discussed in the following sections in relation to preparation of the Stage 2 RAP and the subsequent AA2 Validation report.

4.2 AA2 Characterisation

The Stage 2 ESA (ERM, 2021b) completed site characterisation works by increasing sampling densities to facilitate the assessment of site suitability for the individual proposed lots and road.

ERM stated in the Stage 2 ESA report the sampling density achieved for each lot was considered appropriate for the assessment of land use suitability as commercial/ industrial and sampling densities for AA2 have been provided in **Appendix C-1** as Table N-10 (extracted from ERM, 2022b).

4.2.1 AA2 Historical soil characterisation

A summary of soil exceedances for the AA2 is summarised in **Table 6**. The remedial criteria are further discussed in **Section 5.3**.

The historical soil exceedances for the WARP by depth are shown on Figures F6A to F6D (extracted from ERM, 2022b) in **Appendix A-1**.

Table 6 Summary of historical soil exceedances – AA2

Lot ID	AEC	CoPC	Soil criteria exceeded	Relevant locations (depth in m bgl)
59	AEC14b	TRH >C_{12}-C_{16} aromatic TRH >C_{10}-C_{12} aromatic TRH >C_{10}-C_{12} aliphatic TRH F1	SSTLs - Direct contact for future commercial workers and construction workers	TP20/29B (0.5) TP20/29C (0.5) TP20/30 (0.5) TP20/28 (1.55)
60	AEC3e	TRH > C_{12}-C_{16} aromatic TRH > C_{10}-C_{12} aromatic TRH > C_{10}-C_{12} aliphatic TRH F1	SSTLs - Direct contact for future commercial workers and construction workers	TP21/79 (0.2)

Lot ID	AEC	CoPC	Soil criteria exceeded	Relevant locations (depth in m bgl)
63	AEC3d	TRH >C_{12}-C_{16} aromatic	SSTL Vapour Intrusion for future commercial workers	TP19/17 (0.5)
Proposed Road	AEC14b	TRH > C10-C12 aliphatic TRH F1	SSTL Vapour Intrusion for future commercial workers	TP20/29C (0.5)

4.2.2 AA2 Light non-aqueous phase liquids

ERM stated in the Validation report that given the difficulty in consistent visual identification and description of LNAPL within the soil profile due to the high viscosity of LNAPL, the TRH Management Limits for commercial/industrial land use (coarse soils) were applied to allow comparison to soil analytical data.

ERM, 2022b reported that given the low volatility of residual LNAPL identified in soil samples exceeding TRH Management Limits, the potential for pooling of hazardous ground gases or other acute hazards during excavation works was considered unlikely. However, as a conservative measure, a LTEMP was proposed for management of potential odour generation and awareness of aesthetic impacts.

The location where residual LNAPL trapped in soil is shown on Figures F6A to F6C (extracted from ERM, 2022b) in **Appendix A-1.**

4.2.3 AA2 Historical groundwater characterisation

ERM reported in the AA2 Validation report that LNAPL had been identified during previous groundwater monitoring events at the following monitoring wells located within the Stage 2 Area, noting that these monitoring well locations are situated outside and down hydraulic gradient of AA2:

– MW11/17 (AEC-5) – located immediately south of former Platformer 3 Location.
– MW12/01 (AEC-4) – situated within the Southern Buried Waste Area.
– MW20/06 (AEC-4) – situated within the Southern Buried Waste Area.
– MW18/24 (AEC-3A) – situated within the footprint of the former laboratory.

The groundwater monitoring wells location and historical exceedances are shown on Figure F6D (extracted from ERM, 2022b) in **Appendix A-1**.

Groundwater monitoring of wells in the vicinity of these four locations where LNAPL was historically observed, has demonstrated no down gradient migration of LNAPL from these areas. Associated hydrocarbon dissolved phase concentrations are also limited in extent and are delineated to within the Stage 2 boundary (before Duck River).

Concentrations of CoPC in groundwater were reported below adopted SSTLs for on-site human health. Within AA2, the following exceedances of off-site criteria ecological receptors have been reported in the groundwater monitoring dataset during GMEs completed in the last five years (2016 to 2021):

– MW12/03 (Lot 63): naphthalene exceeding off-site ecological criteria.
– MW11/06 (Lot 59) hexavalent chromium exceeding off-site ecological criteria.

However, groundwater samples collected from down hydraulic gradient wells have been recorded concentrations below the adopted criteria and demonstrated that the extent of the impacts at these locations is localised. Based on these delineation data, ERM considered that the potential risks to off-site receptors (Duck River) were low and acceptable.

4.2.4 AA2 Historical soil vapour characterisation

ERM reported in the AA2 Validation report that three soil vapour monitoring wells were installed within AA2 as follows:

– Lot 60 - AEC-2 (CDU Tank farm sludge): SV19/04.
– Lot 63 - AEC-3c (former contractor warehouse, PAH hotspot): SV19/10.
– Lot 63 - AEC-3d (former contractor warehouse): SV19/03.

Laboratory analytical results identified exceedances of the SSTLs for soil vapour location SV19/03 (Lot 63 - AEC-3d) for the following chemicals:

– TRH >C8-C10 Aliphatic; TRH >C10-C12 aliphatic.
– Naphthalene.
– Methane.

Hazardous ground gas assessment was undertaken for methane and carbon dioxide concentrations in accordance with the Hazard Ground Gas Guideline (NSW EPA, 2020). Based on the results of soil vapour monitoring, ERM concluded that the presence of these hazard ground gases across the broader Stage 2 Area were classified as having a “very low” safety risk in accordance with NSW EPA, 2020.

The methane detected at soil vapour monitoring well SV19/03 was categorised by ERM as having a “low” safety risk and had potential for accumulation of methane within future indoor air spaces. This well was noted by ERM to be located within AEC-3d and was subject to remediation.

The locations of the soil vapour monitoring wells and historical exceedances are shown on Figure F6E (extracted from ERM, 2022b) in **Appendix A-1.**

4.3 Auditor discussion – Historical characterisation reports

The auditor considered that a significant quantum of work had been conducted over the past 30 years and that these works have appropriately characterised AA2.

The auditor noted that sample locations have been systematically positioned across the AA2 with the collection of samples largely focused on areas of concern (identified as part of the thorough site history assessment) in shallow fill, with deeper samples of the underlying natural soils collected sporadically across the AA2, particularly in areas where site observations identified the potential for contamination in the overlying fill.

The auditor noted that the QA/QC evaluation for the historical reports, including the Stage 2 ESA was discussed in the SAR that accompanied the SAS nº 065-2127799B.

The auditor considered that the site plans provided by ERM were to scale and adequately identified the sampling locations per depth (when applicable) relevant to the main site features such as former buildings, remaining drainages, boundaries, and roads.

The auditor noted that the reports relevant to AA2 were standalone reports, presenting sufficient information for the understanding of the site conditions leading to the preparation of the Stage 2 RAP. As such, it is the auditor’s opinion that the reports reviewed as part of this site audit met the key requirements of the NSW EPA Consultant Guidelines (NSW EPA, 2020) and ASC NEPM (NEPC, 2013).

5. Stage 2 Remedial action plan

The Stage 2 RAP prepared by ERM was reviewed by the auditor and the SAS Nº 065-2127799B issued in August 2021. The Stage 2 RAP detailed the nature and approximate extent of identified soil contamination, the extent of remediation required, feasible remediation strategies to address the identified contamination, and the environmental management requirements.

A list of remediation methods for the AECs identified within the Stage 2 area were presented and each method evaluated against criteria of effectiveness, timeframe, health and safety, complexity, sustainability, and cost (as per CRC Care, 2018 guidance).

5.1 AECs within AA2

ERM identified the following AECs as part of the review undertaken during the RSI (ERM 2020a) and the Stage 2 RAP (ERM, 2021c). The AECs identified as being relevant to proposed Lots within AA2 included:

- AEC-2 (Buried Waste Area 8 – CDU Tank farm Sludge) in Lot 60.
- AEC-3 (Southern Contractor Area) in Lot 63 and proposed road.
- AEC-8 (Tank farm J) – in the proposed road.
- AEC-11 (Partial areas of Tank farm A2) in Lot 59 and proposed road.
- AEC-13 (Substations and Transformer Yards) in Lot 59.
- AEC-14 (Subsurface drainage network) in Lots 59, 60, 63 and proposed road.
- AEC-15 (General site areas outside of other AECs) in Lots 59, 60, 63 and proposed road.

A discussion regarding the AECs that requiring remediation and/or management is further presented in **Section 5.4**.

5.2 Data quality objectives

ERM documented in the AA2 Validation report that the DQOs for the validation program completed following remediation were developed using the guidance in Schedule B(2) of the ASC NEPM as summarised in **Table 7**.

Table 7 ***Data quality objectives***

Step	Action	Details
Step 1	State the Problem	ERM stated that the remediation objectives were: – To remediate soils within AA2 (where required) to enable the land to be used for commercial/ industrial purposes. – To ensure any approved remediation process that is implemented adheres to all applicable regulatory requirements. To achieve the objectives, a soil sampling plan was prepared to validate the efficacy of remedial works to be conducted within proposed lots 59, 60, 63 and the proposed road.
Step 2	Identify the Decision/Goal of the study	Based on the remediation objectives, the following decisions were to be made by ERM: – What was the lateral extent of the AEC-3e hotspot which required remediation? (data gap outlined in the Stage 2 RAP). – Had sufficient soil sampling been conducted to characterise soil conditions beneath the proposed road area? (data gap outlined in the Stage 2 RAP).

Step	Action	Details
		– Had remediation excavations removed contaminated soil to the extent practicable to remove potential risks to human health and the environment? – Was excavated soil suitable for on-site re-use, or did it require further treatment (via biopiling) or off-site disposal (material containing ACM)? – Was imported fill material suitable for use in AA2?
Step 3	Identify information inputs	The data necessary to answer the primary study questions identified in Step 2 were as follows: – Historical results. – Field observations made during remediation works for odours, LNAPL, sheens, discoloration, asbestos and other indicators of potential contamination. – Characterisation of the area of interest via visual screening and sampling of soil from excavations and stockpile footprints and subsequent field testing and/or laboratory analysis of selected samples. – Adoption of appropriate assessment criteria. – Evaluation of data quality by assessment of QA/QC.
Step 4	Define boundaries of the study	– Spatial: AA2 is shown on Figure F3 (extracted from ERM, 2022b) in **Appendix A-1**. – Temporal: Historical investigation completed until quarter 4 of 2021 (approximately 30 years). – Vertical: The depth of groundwater within AA2.
Step 5	Decision rules	The decision rules outlined by ERM in the AA2 Validation report were based on the achievement of objectives outlined in Step 1. In a case where the objectives were not met, additional excavation should be undertaken.
Step 6	Specify the performance or acceptance criteria	ERM reported that the data quality assessment should be based on the following: – The acceptable limits on decision errors applied during the review of the results will be based on the Data Quality Indicators (DQIs) of precision, accuracy, representativeness, comparability and completeness (PARCC) in accordance with the ASC NEPM Schedule B(3) - Guidelines on Laboratory Analysis. ERM considered that the potential for significant decision errors will be minimised by: – Completing a robust QA/QC assessment of the assessment data and application of the probability that 95% of data will satisfy the DQIs. Therefore, a limit on the decision error would be 5% that a conclusive statement may be incorrect. – Assessing whether appropriate sampling and analytical density (both laterally and vertically throughout the fill and soil profiles) has been achieved for the purposes of meeting the project objectives; and – Ensuring that the criteria set was appropriate for continuing use consistent with current and proposed usage under the IN3 – Heavy Industrial zoning.
Step 7	Optimise the design for obtaining data	ERM reported that the DQOs were developed based on a review of existing data. If data gathered during the remediation and validation program indicated that the objectives of the remediation were not being met, the sampling design would need to be adjusted accordingly.

5.2.1 Auditor discussion – Data quality objectives

The auditor considered that the DQOs prepared by ERM for the validation program were appropriate for the purposes of collecting data of acceptable quality to validate the AA2 for its proposed commercial/industrial land use. The auditor noted that the DQOs were consistent with those presented in the Stage 2 RAP.

5.3 Remediation Criteria

5.3.1 Petroleum hydrocarbons criteria

ERM presented in the AA2 Validation report that the remediation approach was excavation of the hydrocarbon impacted soils and subsequent biopiling (if required). Applicable risk-based remediation criteria for excavation bases and walls adopted by ERM were as follows:

– Direct Contact SSTLs for commercial/industrial land use, construction works and intrusive maintenance workers.
– Vapour Intrusion SSTLs for commercial/industrial land use (specified by depth of impact), construction works and intrusive maintenance workers.
– The visible presence of LNAPL or sheen in the walls or base of the excavation; and
– NEPM Management Limits for TRH (commercial/Industrial, coarse-grained soils), which provide a semi quantitative assessment of the potential formation of LNAPL or potential for future acute hazards during excavation.

Remediation criteria (SSTLs) extracted from the HHERA (ERM, 2020b) are shown on **Table 8**.

ERM stated that during the historical assessments, the generation of polar compounds through natural aerobic biodegradation processes had been noted – which may cause false positives in TRH results. As such, ERM concluded that TRH C_{10}-C_{40} silica gel clean-up analysis should be adopted to remove degradation by-products for the validation assessment of the AA2 remedial areas.

ERM also noted in the AA2 Validation report that the measured concentration of methane recorded at AEC-3d (at only one location) was associated with the presence of residual LNAPL impregnated in shallow soils and would be remediated via excavation. No specific methane monitoring was proposed and therefore, specific criteria were not presented.

5.3.2 Off-site disposal criteria

ERM documented in the AA2 Validation report that characterisation of excavated materials to be disposed off-site was to be undertaken in accordance with the protocols listed in NSW EPA (2014) *Waste Classification Guidelines: Part 1: Classifying Waste* ('the Waste Classification Guidelines').

5.3.3 On-site beneficial reuse criteria

No soil was reused within AA2. Soils for biopiling were sent to a designated area located in AA3 within Stage 2.

5.3.4 Auditor discussion – Remediation criteria

Given the nature of the proposed land use of Stage 2 Area (commercial/industrial uses) which will be largely covered in hardstand surface, ERM did not consider there to be potential exposure risks to on-site ecological receptors. The auditor considered that the AA2 Validation report nominated appropriate target levels based on Schedule B1 and B7 of the ASC NEPM (NEPC, 2013) and considered the land use scenarios/activities during and after remediation.

Table 8 Soil SSTL remediation criteria

COPC	Direct Contact (mg/kg)			Vapour intrusion (mg/kg)						Management Limits (mg/kg)
	Commercial	IMW	Construction	Commercial (0.15 m bgl)	Commercial (1 m bgl)	Commercial (>2 – 4 m bgl)	Commercial (>4 m bgl)	IMW	Construction	
Benzene	400	15000	1200	3.2	3.2	3.2	3.2	NL	NL	-
Naphthalene	9800	810000	67000	NL	NL	NL	NL	NL	NL	-
Benzo(a)pyrene TEQ	40	3000	200	-	-	-	-	-	-	-
Total Chromium [3]	21000	100,000	8200							
Chromium VI	3600	17000	1400	-	-	-	-	-	-	-
TRH C6-C10 (less BTEX)	28000	830000	69000	600	770	NL	NL	NL	NL	-
TRH C6-C10	-	-	-	-	-	-	-	-	-	700
TRH C10-C16 (less N)	17000	540000	45000	NL	NL	NL	NL	NL	NL	-
TRH C10-C16	-	-	-	-	-	-	-	-	-	1000
TRH C16-C34	27000	770000	64000	-	-	-	-	-	-	3500
TRH C34-C40	27000	770000	64000	-	-	-	-	-	-	10000
TPH (EC5-6) aliphatic	1200000	3700000	310000	-	-	-	-	-	-	-
TPH (>EC6-8) aliphatic	1200000	3700000	310000	480	610	880	1400	NL	NL	-
TPH (>EC8-10) aliphatic	24000	740000	62000	760	980	1400	2200	NL	NL	-
TPH (>EC10-12) aliphatic	24000	740000	62000	430	600	980	1800	NL	NL	-
TPH (>EC12-16) aliphatic	24000	740000	62000	4300	8300	17000	33000	NL	NL	-

[3] Assumes total chromium is 17% Hexavalent chromium

COPC	Direct Contact (mg/kg)			Vapour intrusion (mg/kg)						Management Limits (mg/kg)
	Commercial	IMW	Construction	Commercial (0.15 m bgl)	Commercial (1 m bgl)	Commercial (>2 – 4 m bgl)	Commercial (>4 m bgl)	IMW	Construction	
TPH (>EC16-21) aliphatic	470000	4400000	370000	-	-	-	-	-	-	-
TPH (>EC21-34) aliphatic	470000	4400000	370000	-	-	-	-	-	-	-
TPH (>34) aliphatic	4700000	44000000	3700000	-	-	-	-	-	-	-
TPH (>EC8-10) aromatic	9500	300000	25000	110	150	230	420	NL	NL	-
TPH (>EC10-12) aromatic	9500	300000	25000	280	430	750	1400	NL	NL	-
TPH (>EC12-16) aromatic	9500	300000	25000	430	2800	5100	9800	NL	NL	-
TPH (>EC16-21) aromatic	7100	220000	18000	-	-	-	-	-	-	-
TPH (>EC21-34) aromatic	7100	220000	18000	-	-	-	-	-	-	-
TPH (>34) aromatic	7100	220000	18000	-	-	-	-	-	-	-

5.4 Remediation approach

ERM stated the overall approach selected for most of the AECs was source removal with either off-site disposal (stockpiles SP30 an SP99, as Special Waste (Asbestos) – as General Solid Waste) or on-site biopiling. For some AECs where the soil contamination has been deemed to not present an unacceptable risk, but exceeded TRH Management Limits, the selected option was to manage the residual soil impacts via a LTEMP.

A summary of the areas selected for remediation and/or management, the adopted remedial methodology and the CoPC risk drivers is presented in **Table 9**.

Table 9 Summary of remedial options, areas that require remediation and/or management

AEC	Area within AA2	CoPC requiring remediation	CoPC requiring management	Preferred remediation method
AEC-2: Buried Waste Area 8 – CDU tank farm sludge	Lot 59	No remediation required	Residual LNAPL within shallow soils or soil concentrations exceeding Management Limits for TRH	On-site management via LTEMP
AEC-3d: Former Contactor Warehouse	Lot 63	TRH >C_8-C_{12} (aliphatic) Benzene Naphthalene methane (from residual LNAPL)	Residual LNAPL within shallow soils or soil concentrations exceeding Management Limits for TRH	Excavation and on-site biopiling for future re-use
AEC-3e: TRH hotspot (TP21/79)	Lot 63	TRH F1 TRH >C_{10}-C_{12} (aliphatic)	Residual LNAPL within shallow soils or soil concentrations exceeding Management Limits for TRH	Excavation and on-site biopiling for future re-use
AEC-8: Tank farm J	Proposed road	No remediation required	Residual LNAPL within shallow soils or soil concentrations exceeding Management Limits for TRH	On-site management via LTEMP
AEC-11: Tank farms A1, A2, A3	Lot 59	No remediation required	Residual LNAPL within shallow soils or soil concentrations exceeding Management Limits for TRH	On-site management via LTEMP
AEC-13: Former Substation Areas	Lot 59	No remediation required	No management required	No remediation required
AEC-14: Subsurface drainage network	Lots 59, 60, 63 and proposed road	No remediation required	Management of Residual hydrocarbons within pipework post decommissioning	On-site management via LTEMP
AEC-14b: Compromised Pipes 15D100-4, 15D100-5	Lot 59	TRH F1 fraction	Residual LNAPL within shallow soils or soil concentrations exceeding Management Limits for TRH	Excavation and on-site biopiling for re-use On-site management via LTEMP for direct

AEC	Area within AA2	CoPC requiring remediation	CoPC requiring management	Preferred remediation method
			Direct Contact - Carcinogenic PAHs (TP21/07)	contact exceedances post remediation
AEC-15	Lots 59, 60, 63 and proposed road	No remediation required	Residual LNAPL within shallow soils or soil concentrations exceeding Management Limits for TRH	On-site management via LTEMP

The locations of the AECs and proposed lots are presented in Figure F3 (extracted from ERM, 2022b) from in **Appendix A-1**.

5.5 AEC-3e Delineation

Prior to commencement of the remedial works, the Stage 2 RAP stated that four additional site characterisation sampling locations should be collected to delineate impacts identified at TP21/79 (AEC-3e). Two samples were proposed to be collected from each of four test pits located up to five metres in four directions from TP21/79.

ERM reported that the test pits were to be advanced by an excavator to a maximum target depth of 2.0 m bgl. Samples were to be selected for analysis based on visual and olfactory indicators of contamination

At several depths within each test pit, soils were to be placed in a zip lock bag and screened in the field for head space vapours. If soils recorded PID readings >100 ppm, then another test pit was to be excavated five metres beyond the previous test pit until PID readings were lower than 100 ppm.

A summary of the proposed additional investigation locations and rationale is provided in **Table 10**.

Table 10 AEC-3e Delineation scope of works

Test pit ID	Depth	Minimum sample numbers	Laboratory analysis	Rationale
TP21/102	2.0 m or depth of vertical delineation as indicated by field screening and/or observations.	2 samples, being one sample in fill and one sample in natural clay.	All samples - TRH C_6-C_{40} and BTEXN. If volatile impacts suspected - TRH CWG .	Lateral delineation of AEC-3e excavation extent (north).
TP21/103	2.0 m or depth of vertical delineation as indicated by field screening and/or observations.	2 samples, being one sample in fill and one sample in natural clay.	All samples - TRH C_6-C_{40} and BTEXN . If volatile impacts suspected - TRH CWG.	Lateral delineation of AEC-3e excavation extent (east).
TP21/104	2.0 m or depth of vertical delineation as indicated by field screening and/or observations.	2 samples, being one sample in fill and one sample in natural clay.	All samples - TRH C_6-C_{40} and BTEXN . If volatile impacts suspected - TRH CWG.	Lateral delineation of AEC-3e excavation extent (south).
TP21/105	2.0 m or depth of vertical delineation as indicated by field screening and/or observations.	2 samples, being one sample in fill and one sample in natural clay.	All samples - TRH C_6-C_{40} and BTEXN .	Lateral delineation of AEC-3e excavation extent (south).

Test pit ID	Depth	Minimum sample numbers	Laboratory analysis	Rationale
			If volatile impacts suspected - TRH CWG.	

5.6 Proposed Road data gap assessment

The Stage 2 RAP documented that sampling at four additional characterisation locations was to take place within the proposed road which crosses several AECs within AA2. A summary of proposed additional investigation locations and rationale is provided in **Table 11**.

Table 11 Proposed road data gap scope of works

Test pit ID	Depth	Minimum sample numbers	Laboratory analysis	Rationale
TP21/98 TP21/99 TP21/100 TP21/101	2.0 metres or depth of vertical delineation.	2 samples, being one sample in fill and one sample in natural clay.	All samples – TRH C_6-C_{40} and BTEXN. Fill samples – PAH and eight metals. If demolition waste materials encountered – Asbestos %w/w .	Increased spatial coverage of elongated proposed road alignment.

5.7 Excavation methodology

The excavation methodology nominated by ERM was to include the following actions:

– Prior to commencing excavation overlying hardstand surfaces were to be removed and stockpiled on-site for classification (Stockpile SP 97).

– Excavation in grids in a progressive and methodical manner. Once the excavation of each grid was achieved, the excavator was to be utilised for the collection of validation samples. The survey of each proposed remediation extent was overlaid with a grid system, with each grid presenting 10 metres by 10 metres surface area, as outlined in Figures F7, F8 and F9 (extracted from ERM, 2022b) in **Appendix A-1**.

– As per the requirements of the AEVR prepared by ERM and the EPL 570, excavations were to be completed to maintain an exposed surface area of contaminated soil no greater than 900 m^2. This was to be achieved through a combination of the following:

  - Progressive validation (via field headspace screening) of exposed surfaces (i.e. excavation, stockpiles) with subsequent selection of contaminated soils requiring treatment (>100 ppm v PID) or not requiring treatment (<100 ppm v PID).
  - A watercart was to be used as required during the excavation works for dust suppression.

The above activities were to be combined with a program of ambient air quality monitoring for Volatile Organic Compounds (VOCs), odour and dust, as documented within the Stage 2 AAQ report, discussed in **Section 6**.

5.8 Segregation and screening of materials

As presented in the Stage 2 RAP, ERM adopted the following segregation and screening method:

– Excavated materials were to be stockpiled and screened to allow removal of oversize material (>50 mm) and increase available surface area of soil materials for biopiling. ERM reported that this was to be achieved via the use of a Powerscreen Warrior 1400X.

– A hood enclosure was to be placed over the screen deck, connected to a soil vapour extraction (SVE) system with activated carbon adsorption vessels to mitigate the emission of VOCs and odours during the screening process.
– The operation of the SVE system was to be conducted in accordance with EPS's Air Quality Management Method Statement and Soil Vapour Extraction Breakthrough Procedure.
– The Powerscreen hood enclosure and SVE system provided an additional level of VOC and odour control of the approved material screening process outlined in the AEVR prepared by ERM.

5.9 Biopiling

ERM reported that the screened materials were to be transported to the biopile treatment area in Tank farm A1, located within Stage 2 AA3 for the construction of biopiles, as per the specification outlined in the Stage 2 RAP and EPS's *Excavation and Bioremediation Method Statement*.

At the completion of biopiling construction, SVE system operation and validation of suitability of soils for re-use will occur outside AA2. These aspects of the remediation process will be reported at a later date within a separate site audit report (associated with AA3 validation).

5.10 Monitoring required during remediation

ERM, 2022b that applicable monitoring requirements as per the associated WARP Remediation Environmental Management Plan (REMP) (AECOM, 2021) sub-plans and EPL 570, were to be implemented as per the summary presented in **Table 12**.

Table 12 Compliance monitoring during remediation requirements

Monitored media	Scope
Groundwater	Weekly gauging for changes in water levels and LNAPL during remediation. Baseline and post remediation groundwater sampling of nearby wells
Ambient Air, Dust and Odour Monitoring	Daily ambient air, dust and odour monitoring during remediation works to assess the effectiveness of the implemented management measures and the potential need for increased management measures. Boundary and source area air quality monitoring with Summa Canisters during intensive phases of excavation to verify compliance with air quality standards (relevant to AEC-3d and AEC-3e excavations).

5.11 Validation program

The remediation validation program prepared by ERM is summarised in **Table 13.**

Table 13 Stage 2 AA2 validation program

Contamination/Area	Validation approach	Required analysis	Sampling density
Hydrocarbon petroleum excavation: AEC-3a AEC-3d AEC-3e AEC14a AEC-14b	- Visual assessment of excavation surface on a systematic basis for the presence of LNAPL (in soils) or soils with PID screening >100 ppm. - The presence of residual LNAPL (in soils) and/or PID screening >100 ppm should be used to guide	- BTEXN - Carcinogen BaP - PID. If PID >100 ppm and/or reported concentrations > SSTLs then TRH speciation (CWG fractions) - If TRH C10-C40 > Management Limits, then the silica gel	- Wall: One sample per 10 lineal metres or one sample from each wall if excavation wall <10 m. Additional sampling ate the same frequency to be conducted for each material type present. - Base: 10 x 10 metres off-set grid in herringbone pattern.

Contamination/Area	Validation approach	Required analysis	Sampling density
	further excavation to the extent practicable. - Validation sampling from final excavation walls and floor surfaces.	clean-up analysis will be used to confirm the result.	
Stockpiles from: AEC-3a AEC-3d AEC-3e AEC-14a AEC14b	- Visual assessment of soil for the presence of LNAPL (in soils) or soils with PID screening >100 ppm - Sampling of stockpiled soil to determine suitability for beneficial re-use or if further treatment is required.	- BTEXN - Carcinogen BaP - PID. If PID >100 ppm and/or reported concentrations > SSTLs then TRH speciation (CWG fractions). - If TRH C_{10}-C_{40} > Management Limits, then the silica gel clean-up analysis will be used to confirm the result.	- Up to 250 m^3 - One sample per 25 m^3 (minimum three samples per stockpile). - Between 250 and 2,500 m^3 - 10 samples (minimum number for calculation of 95% UCL). - >2,500 m^3 - One sample per 250 m^3
Stockpiles from: AEC-3b	- Classification of soil in accordance with the NSW EPA (2014) Waste Classification Guidelines: Part 1: Classifying Waste. - Disposal to an appropriately licensed facility.	Use of existing in-situ data, plus the following: - BTEXN - TRH C_6-C_{40} - VOCs - PAHs - Phenols - As, Cd, Cr, Cu, Ni, Pb, Zn, Hg, Cr^{6+} - PCBs - OCPs	- Up to 250 m^3 - One sample per 25 m^3 (minimum three samples per stockpile). - Between 250 and 2,500 m3 - 10 samples (minimum number for calculation of 95% UCL). - >2,500 m - One sample per 250 m^3
Temporary stockpile footprint (if not conducted on hardstand)	Should a stockpile be placed on the footprint of a planned remediation to be undertaken at later stages of the WARP, separate validation for residual stockpile impacts is not considered warranted.	Use of existing in-situ data, plus the following: - BTEXN - TRH C_6-C_{40} - VOCs - PAHs - Phenols - As, Cd, Cr, Cu, Ni, Pb, Zn, Hg, Cr^{6+} - PCBs - OCPs	- 10 x 10 metres off-set grid in herringbone pattern.
Additional sampling al alignment of proposed road	Collection of additional samples to confirm suitability for proposed land use and/or LTEMP requirements.	- BTEXN - TRH C_6-C_{40} - PAHs (50% of samples) - Metals (50% of samples) - If building or demolition material noted within fill: field sieving for gravimetric quantification of AF + FA quantification.	Two samples at each of four additional sample locations to reduce spatial gaps in the data.

Contamination/Area	Validation approach	Required analysis	Sampling density
Additional delineation sampling around TP21/79 in AEC-3e	Collection of additional samples to refine remediation area AEC-3e.	BTEXN TRH C_6-C_{40} Carcinogenic BaP PID. If PID >100 ppm and/or reported concentrations > SSTLS then TRH speciation (CWG fractions) If TRH C10-C40 > Management Limits, then the silica gel clean-up analysis will be used to confirm the result.	Two samples at each of four additional sample locations to delineate impacts at AEC-3e.
Imported material	Classified as VENM.	As required	As required.

5.12 Auditor discussion – Stage 2 Remedial action plan

The appropriateness of the Stage 2 RAP was discussed in a SAR and SAS (Nº 065-2127799B) issued by the auditor on 13 August 2021. The auditor noted that the Stage 2 RAP was prepared based on a series of robust assessments, including two ROAs, AEVR and the outcomes and lessons learnt with the Stage 1 Area remediation. The Stage 2 RAP was considered by the auditor to have been prepared in a manner consistent with relevant guidelines.

As stated in the SAR associated with SAS Nº 065-2127799B, the auditor considered that ERM identified the key areas of contamination that would require remediation. The proposed remediation areas have concentrations of CoPC in soils that exceeded the nominated remediation target levels. The auditor noted that the selected remedial options for each AECs were technically sound and consistent with NSW EPA policies.

ERM provided an appropriate unexpected finds protocol in the event that additional contamination was identified during remediation or development works. In addition, the auditor noted that the Stage 2 AA2 will be subject to a LTEMP.

Two additional areas in AA2, i.e. the Proposed road and AEC-3e (western boundary) had been identified by ERM as requiring supplementary investigation to confirm the land suitability for commercial/industrial use from a contamination perspective. The collection of soil samples along the proposed road and within AEC 3e was considered an appropriate approach to dealing with the uncertainty associated with the extent of contaminated soils in these areas or providing greater characterisation coverage.

The auditor noted that the validation sampling program prepared by ERM was based on a systematic sampling grid of each excavation to evaluate the efficient removal of the contaminated soil.

There was also a sampling program to demonstrate whether soil treated using biopiling can be reused on-site and for waste classification for materials to be disposed off-site (i.e. stockpiles SP30 and SP99 that contained asbestos impacted material).

6. Stage 2 Ambient air quality summary

ERM, 2022a reported that the AAQ presented the outcomes of the assessment of ambient air quality monitoring data collected during the Stage 2 remediation works in accordance with the requirements of the NSW DPIE now DPE conditions of consent SSD Nº 9302.

The AAQ was prepared to meet the reporting requirements outlined within the Environment Protection Licence for the WARP and the monitoring requirements outlined within the Stage 2 Air Emissions Verification Report (AEVR) (ERM, 2021). The ambient air monitoring was undertaken by ERM between 29 September and 19 October 2021.

6.1 Legal requirements

ERM reported that the AAQ report met the requirement of Condition R4.1 d) of Environment Protection Licence 570 (EPL 570) which states the following:

"The licensee must provide to the EPA air quality performance reports. The first report must be provided to the EPA by close of business on the Friday of the first week that the Soil Vapour Extraction systems are in operation…The reports must include: …

d) Monitoring data collected as per the air quality management procedure including any action taken when ambient VOC concentrations measured trigger the action levels identified in the Clyde Western Area Remediation Project Stage 2 Air Emissions Verification Report, dated 11 June 2021."

In addition, ERM reported that as per EPL 570, the below requirements for exposed surface areas were applicable to the Stage 2 remediation works:

- *O6.6 The total exposed excavation area must not exceed 900 m² at any time. For the purposes of this condition, an exposed excavation area means a disturbed ground surface as a result of the Stage 2 remediation works.*
- *O6.7 Stockpiles of unclassified contaminated material and stockpiles of contaminated material that has been identified as requiring onsite treatment must be covered at all times using a physical cover or suitable suppressant, except during periods when material is being added or removed from the stockpile.*
- *O6.8 Stockpiles of unclassified contaminated material and stockpiles of contaminated material that has been identified as requiring onsite treatment must be processed and, if required, moved to the biopile are for remediation as soon as reasonably practicable*.
- *Excavation areas were progressively validated as not requiring further remediation such that compliance with condition O.6 were met during the works. Validation results are detailed within relevant validation reports which are. Stockpiled materials were covered with suitable suppressant (Vital Bon Matt solution) when materials were stored and not subject to reworking.*

6.2 Stage 2 monitoring events

The ambient air monitoring events carried out by ERM covered the following aspects of the Stage 2 AEVR:

- **Photo-ionisation Detector (PID) area monitoring:** which was used to provide real-time information on the intensity of VOC emissions during soil handling works and implement response measures.
- **Boundary VOC monitoring:** which was undertaken during the Stage 2 remedial works in order to provide assurance of the efficacy of PID area monitoring in managing potential VOC impacts offsite.

ERM reported that at the time of preparation of the AAQ report, the biopile soil vapour extraction (SVE) system commissioning and operation has not been undertaken. The focus of the AAQ report

was to provide a summary of ambient monitoring during excavation and soil screening works for the Stage 2 remediation area.

Monitoring data from biopile SVE systems is to be reported separately to the EPA within regular air quality performance reports in accordance with Condition R.4.1, the AEVR and a number supplementary of EPL requirements following commissioning of the SVE systems for Stage 2.

6.3 Stage 2 ambient monitoring results

6.3.1 PID area monitoring

ERM, 2022a reported that PID area monitoring was undertaken during soil handling of remedial activities operations in order to provide real-time notification of elevated total volatile organic compound (TVOC) concentrations, and inform nominated Level 1 and Level 2 responses, as follows:

Level 1 (5 ppm):

– *Notification of plant operator of elevated ambient VOC concentrations;*
– *Investigation of potential sources; and*
– *Review of potential measures to reduce VOC emissions.*

Level 2 (10 ppm):

– *Cessation of soil handling operations and implementation of measures listed under Level 1 until TVOC emissions consistently reduce below the Level 1 trigger; and*
– *Investigation of the potential for Stage 2 related odours to be detected at the downwind boundary.*

A summary of exceedances of the aforementioned PID trigger levels is presented in **Table 14.** A figure of the PID exceedance's location is shown on **Figure 9** (extracted from ERM, 2022a).

Table 14 Summary of PID exceedances

Date	Monitoring location	Level exceeded	Comment / Management actions implemented
29/09/2021	3A-NW	Level 1	*Notified equipment operator of elevated VOC readings during loading of material.* *Reduced volume of material being transferred. Concentrations reduce to below level 1 trigger*
30/09/2021	3A-NW	Level 1	*Notified equipment operator of elevated VOC readings during loading of material.* *Conduct monitoring of boundary during works execution.*
01/10/2021	3A-NW	Level 1	*Notified equipment operator of elevated VOC readings.*
5/10/2021	3A-NW	Level 1	*Notified equipment operator of elevated VOC readings during loading of material.* *Reduced volume of material being transferred.*
6/10/2021	3A-NW	Level 2	*Level 2 trigger reached over isolated 60 second peak.* *Notified equipment operator of elevated VOC reading.* *Subsequent measurements were below Level 1 trigger.*
7/10/2021	SSA-CW	Level 2	*Notified equipment operator of elevated VOC readings during loading of material.* *Cessation of soil handing operations until PID measurements were below level 1 trigger level.* *Activated Anotec odour misting system.*

Date	Monitoring location	Level exceeded	Comment / Management actions implemented
8/10/2021	3A-NW	Level 2	*Notified equipment operator of elevated VOC readings during loading of material.* *Cessation of soil handing operations until PID measurements were below level 1 trigger level;* *Modification of excavation methods to exclude stockpiling of freed material outside of the excavation.* *Reduction of material drop heights.* *Reduction of excavation rates.*
19/10/2021	SSA-CW	Level 1	*Notified equipment operator of elevated VOC readings during loading of material.* *Reduced volume of material being transferred*.

ERM reported that with exception of the exceedances outlined in **Table 14** all other PID monitoring readings were below the adopted trigger levels. A summary of the PID measurements is presented in **Appendix C-2** (extracted from ERM, 2022a).

6.3.2 Boundary VOC monitoring

ERM stated in the AAQ report that ambient VOC monitoring was undertaken during the Stage 2 remedial works in order to provide assurance of the efficacy of PID area monitoring in managing potential VOC impacts to off-site receptors.

The sampling was conducted using evacuated canisters in accordance with the USEPA TO-15 methodology, as specified within Compendium Method TO-15 - *Determination of volatile organic compounds in air collected in specially prepared canisters and analysed by gas chromatography / mass spectrometry* (US EPA, 1999). ERM noted that this method has also been applied by state jurisdictions under the National Environment Protection (Air Toxics) Measure (ASC NEPC, 2011) for the evaluation of VOC concentrations within populated airsheds around Australia.

As documented in the AAQ report, monitoring was conducted near the northern boundary (EC 01), southern boundary (EC 02), western boundary (EC 03) and eastern boundary (EC 04) of the Western Area. In addition, an 'at-source' location (EC 00) was included to allow assessment of the contribution to the air quality from the remedial works relative to other local and regional VOC emission sources

The monitoring locations are shown on **Figure 9** and **Figure 10** (extracted from 2022a) overleaf extracted from the AAQ report. A summary of the VOC boundaries results is presented in **Appendix C-2** (extracted from ERM, 2022a).

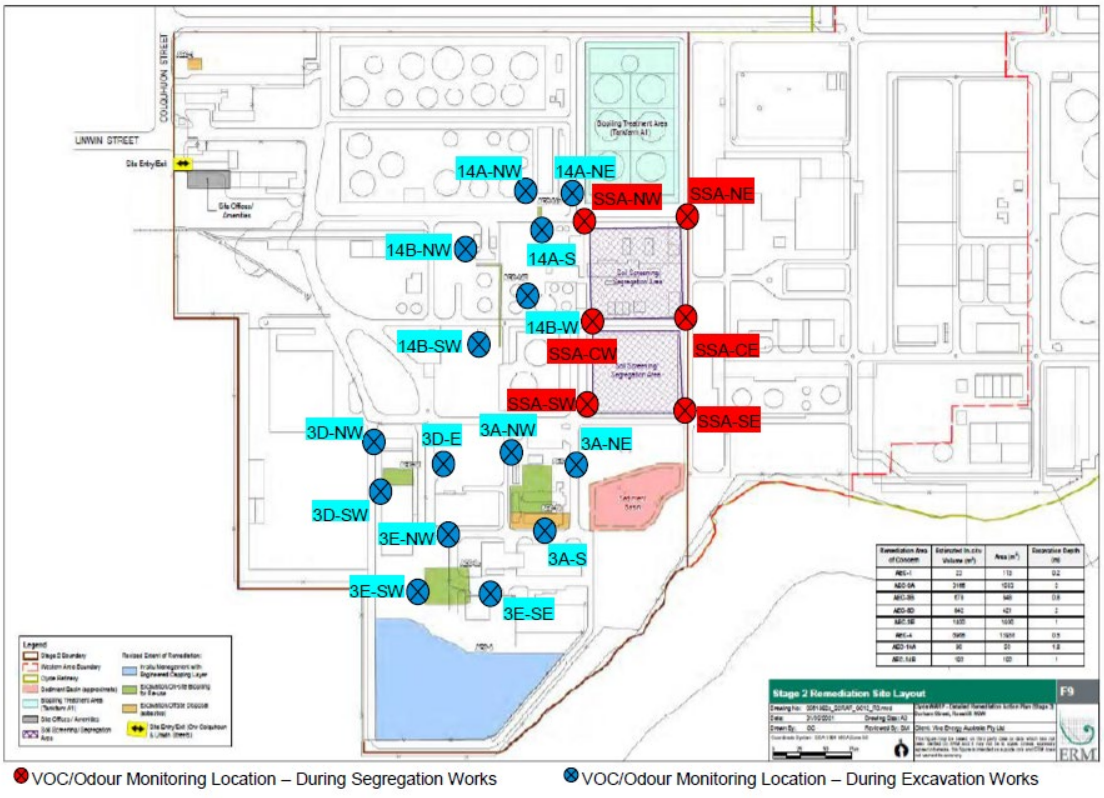


Figure 3-1: Aerial imagery showing monitoring locations relative to excavation area

Figure 9 Monitoring locations relative to excavation areas

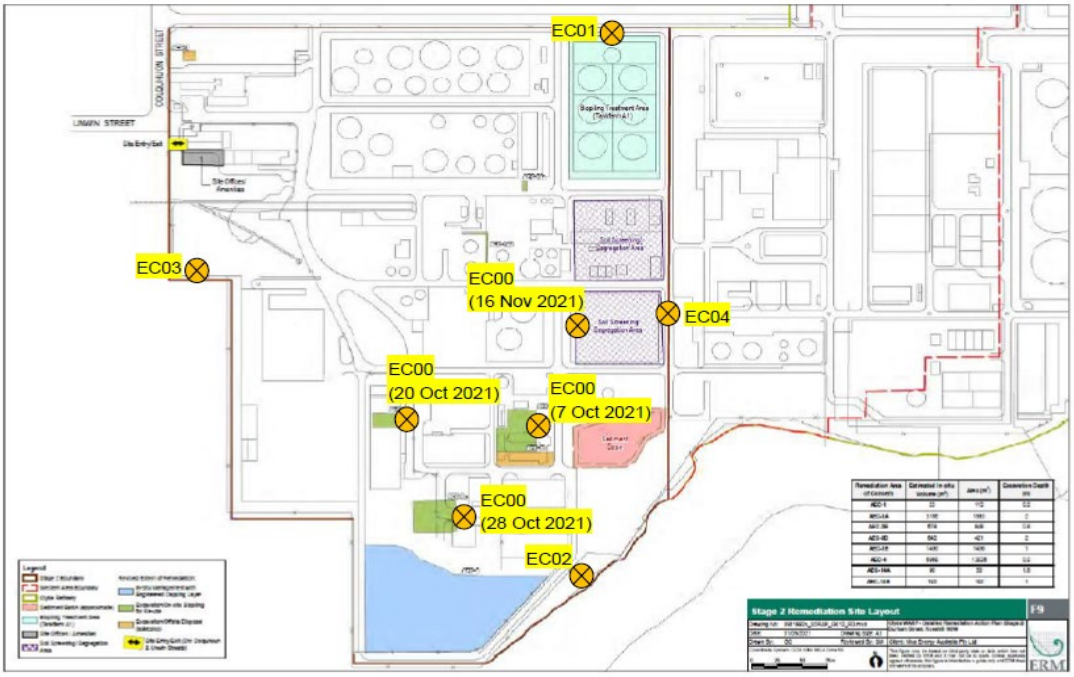


Figure 3-2: Air sampling locations

Figure 10 Air sampling location

ERM reported that three rounds of monitoring, targeting the intensive phases of remedial works, as follows:

– Round 1: Excavation and stockpiling (AEC-3A) (7/10/2021 – 8/10/2021).
– Round 2: Excavation and stockpiling (AEC-3D) (20/10/2021 – 21/10/2021).
– Round 3: Excavation, stockpiling and screening (28/10/2021 – 29/10/2021).
– Round 4: Stockpiling and screening operations (16/11/2021 – 17/11/2021).

A summary of the boundary monitoring results (maximum by location) is presented in **Table 15**.

Table 15 Screening of boundary monitoring wells – maximum detected concentrations

Analytes		Maximum 24-hour concentration – Rounds 1 to 4 (µg/m³)				Screening criteria	
	EC00	EC 01	EC 02	EC 03	EC 04	24 hours	Chronic / Annual
	At the source	Northern Boundary	Southern Boundary	Western Boundary	Eastern Boundary		
Benzene	<3	< 3	< 3	< 3	< 3	29[(a)]	*9[(b)]*
Toluene	11	13	11	9.8	19	3,770[(b)]	*377[(b)]*
Ethylbenzene	11	< 4	< 4	< 4	< 4	21,700[(a)]	*260[(a)]*
Xylenes – Total	19	< 12	< 13	< 13	< 12	1,085[(b)]	*868[(b)]*
1.2.4-Trimethylbenzene	6.5	< 4	< 5	< 5	< 5	92[(c*)]	*54[(d)]*
1.3.5-Trimethylbenzene	<5	< 5	< 5	< 5	< 5	92[(c*)]	*54[(d)]*
Hexane	<5	< 5	< 5	< 5	< 5	133[(c*)]	*200[(d)]*
Naphthalene	<22	< 20	< 21	< 20	< 22	18[(d*)]	*50[(d)]*
Cyclohexane	81	< 3.5	< 3.5	< 3.5	< 3.5	792[(c*)]	340

Notes:

(a) ATSDR (2021)
(b) ASC NEPC (2011)
(c) NSW EPA (2016)
(d) TCEQ (2021)

* 1-hour average criterion divided by 24 to obtain the theoretical lower bound 24 hours average concentration indicative of compliance.

"<" Maximum result less than LOR.

ERM reported that based on the results shown in **Table 15** that the detections above the limit of reporting at boundary locations were limited to toluene and 1,2,4-trimethylbenzene, with maximum measured concentrations of these substances being at least an order of magnitude lower than respective screening criteria. In addition, the maximum toluene detection, was significantly higher than the corresponding at-source sample result. Accordingly, the boundary toluene measurement was considered by ERM to be indicative of an external toluene source not associated with the Stage 2 remediation works.

ERM noted that the laboratory LOR for naphthalene (22 ug/m³) was reported marginally above the nominated criterion (18 ug/m³). This criterion was calculated by ERM by dividing the one hour averaged odour-based criterion of 440 ug/m³ by 24, to obtain a theoretical lower bound 24 hours average criterion that would implicitly demonstrate compliance with one hour criterion.

ERM also noted that naphthalene was also below laboratory LOR (17 to 22 ug/m³) at all EC00 (source) samples during all rounds of monitoring, including reported concentrations of < 17 ug/m³ near the source during excavation of AEC-3d, where naphthalene was the key contaminant of concern.

ERM concluded that based on the above, the reported laboratory LOR for naphthalene in boundary samples was not considered to have exceeded criteria.

ERM provided additional context on the scale of monitoring results, by comparing average and maximum concentrations measured by the NSW Department of Environment and Conservation (DEC) in Sydney as part of the *NSW Ambient Air Quality Research Project* (1996 – 2001) (DEC, 2004) and the NSW NEPM air toxics monitoring campaign (NEPC, 2010). This comparison by ERM, is shown in **Table 16**.

Table 16 Comparison of boundary monitoring results with historical monitoring within Sydney

CoPC	Stage 2 Boundary	Urban Air			24 hours: Screening Criteria
		(Sydney 1996 – 2001):	(Sydney 2009 – 2010):		
	Average (maximum)	Average *(Maximum)*	Average *(Maximum)*		
	AS 01 to 03	Sydney CBD	Rozelle	Turrella	
Toluene	<7.5 (19)	15.8 *(37.7)*	3.4 *(14.3)*	6.8 *(24.1)*	3,770

Note:

All values converted from volumetric to mass-based units at conditions of 25°C and 1 atmosphere.

AS01 – 03 refer to the four boundary locations as per the Evacuated Canister 'EC' nomenclature for the sample average and maximum (EC01, EC02, EC03 and EC04). It is also noted that these locations also correspond with Ambient Sampling 'AS' locations AS01 – AS04.

ERM reported that the boundary monitoring locations were selected to provide representative ambient air samples at site boundaries/ The canisters were placed on the northern, eastern, southern and western boundaries to record the presence of potential air toxics sourced from excavation areas in the proximity to receptors, capturing a potential range of wind directions over a 24-hour monitoring period. It was noted by ERM that these locations were consistent with those proposed within the Stage 2 AEVR.

ERM concluded that based on the results shown in **Table 16,** that concentrations of detected VOC during Stage 2 remedial activities were within the range of those observed in ambient air within Sydney as documented in DEC (2004) and NEPC (2010).

6.4 Auditor discussion – Stage 2 Ambient air quality summary

The auditor considered that the monitoring was conducted as per the measures outlined in the AEVR, with key measures including the use of real-time VOC monitoring and implementation of a trigger response framework for mitigation of VOC emissions during the works.

The auditor noted that the results of the monitoring indicated that the air emissions management framework outlined in the Stage 2 AEVR was effectively implemented and that the performance indicators were met as follows:

- Boundary VOC concentrations were commonly below the limit of reporting, and significantly lower than the adopted screening criteria.
- No offensive odours were detected at the boundary.
- No odour or dust complaints were received from offsite receptors related to the Stage 2 remedial works.

The auditor concurred with ERM's conclusion that the naphthalene LOR, being greater than the calculated averaged odour-based criterion, did not suggest there was a potential risk that was not quantified. The auditor noted that the value used by ERM was an odour and not a health based criterion. By way of comparison, 50 ug/m^3 is the threshold limit (expressed as a time weighted average) at which most workers can be exposed without adverse effects (American Conference of Governmental and Industrial Hygienists' threshold limit value) – US EPA 2022 web site search https://www.epa.gov/sites/default/files/2016-09/documents/naphthalene.pdf

7. Implementation of AA2 Stage 2 RAP

The remediation and validation activities, including AEC-3e delineation investigation, future road data gap investigation, excavation validation of AEC-3d, AEC-3e and AEC-14b and backfilling with VENM were conducted between 2 September 2021 and 9 February 2022. The outcome of these activities is presented in the following sections.

All primary and intra-laboratory duplicate samples were submitted to National Association of Testing Authorities (NATA) accredited laboratory Eurofins Environmental Testing (Eurofins) and all interlaboratory duplicate samples were submitted to NATA accredited laboratory ALS Laboratories (ALS). The QA/QC evaluation is further discussed in **Section 10**.

7.1 AEC-3e Delineation results (Lot 63)

Four supplementary test pits (TP21/102 to TP21/105) were excavated on 2 September 2021, as per the approach outlined in **Section 5.5**. The locations of these supplementary test pits are shown on Figure F4 (extracted from ERM, 2022b) in **Appendix A-1**.

The test pits were excavated to depths up to 2.2 m bgl. The following field observations were noted by ERM:

– Asphalt was encountered from the surface to 0.04 m bgl.
– Fill was present beneath the asphalt at depths of approximately 0.7 m bgl (with the exception of TP21/105).
– Natural soils beneath the fill were described as red, brown, yellow brown, mottled grey, silty/sandy clays, soft to firm.
– During excavation of TP21/105, a concrete pipe was observed at approximately 1.3 m bgl within the eastern edge of TP21/105. The pipe was observed to be surrounded by reworked natural clays and road base material.
– During excavation activities at TP21/104, a pipe was identified at approximately 1.6 m bgl within the natural clay layer. The pipe was observed to be surrounded by reworked natural clays with possible LNAPL/sheen on soil observed. A hydrocarbon odour was noted in the overlying fill layer.
– Hydrocarbon odours were also noted within the natural clays at TP21/10 and within the dark grey gravelly sand at TP21/103. Potential LNAPL/sheen was also observed on natural clays within TP21/102.
– Results of field headspace screening with a PID recorded measurements ranging from 53.1 to 446.0 ppm v in areas with hydrocarbon odour and potential LNAPL/sheen.

Nine primary samples were sent to Eurofins for CoPC analysis as listed in the Stage 2 RAP. CoPC were analysis reported at concentrations below the adopted SSTLs with the exception of the following samples:

– TP21/102 at 1 m bgl where concentrations of TRH >C_{10}-C_{12} aliphatic and TRH >C_{10}-C_{12} aromatic exceeded the SSTLs for vapour intrusion for commercial receptors. Concentrations of TRH > C_{10}-C_{12} following silica gel clean up exceeded the Management Limits.
– TP21/104 at 1 m bgl where concentrations of TRH >C_{10}-C_{12} aliphatic, TRH >C_{10}-C_{12} aromatic and TRH F1 exceeded the SSTLs for vapour intrusion for commercial receptors. Concentrations of TRH > C_{10}-C_{12} following silica gel clean up exceeded the Management Limits.

Given the exceedances recorded at 1.0 mbgl, ERM collected (and had analysed for CoPC) a deeper sample at 2.0 m bgl. All CoPC concentrations were below the adopted SSTLs.

Based on the results recorded at 1.0 m bgl and 2.0 m bgl, ERM proposed that the western extent of AEC-3e should be extended to accommodate the removal of hydrocarbon soils on the basis of

exceedances of the SSTLs for vapour intrusion at 1.0 m bgl. The AEC-3e validation sampling results are discussed further in **Section 7.5.5**.

7.2 Proposed Road data gap results

Two supplementary test pits (TP21/100 and TP21/101) were excavated on 3 September 2021, as per the approach outlined in the Stage 2 RAP. The locations of supplementary test pits are shown on Figure F7 (extracted from ERM, 2022b) in **Appendix A-1**.

The test pits were excavated to depths up to 1.6 m bgl. The following field observations were noted by ERM:

– Concrete was encountered from the surface to 0.1 m bgl at TP21/101. Concrete was not observed during the drilling of TP21/100.
– Fill was present at shallow depths to approximately 0.7 m bgl (TP21/100 and TP21/101).
– Natural soils described as red brown, light brown, mottled grey, silty/sandy clays, soft to firm, were observed underlying the fill horizon.
– No hydrocarbon odours or staining was observed within the fill and underlying natural materials.
– Results of field headspace screening with a PID recorded measurements ranging from 0.1 to 0.5 ppm v in TP21/101. Headspace screening of soils within TP21/100 were low within fill materials (1.5 ppm v), were greater within natural soils at 0.7 m bgl (197.6 ppm v) and were lower within deeper natural soils at 1.2 mbgl (32.6 ppm v).

Nine primary samples were sent to Eurofins for analysis of CoPC as listed in the Stage 2 RAP.

Laboratory results of all CoPC were below the adopted remediation criteria, confirming suitability for proposed road land use with LTEMP requirements (discussed further) in **Section 12**.

7.3 Extent of excavations

The extent of impacts requiring remediation as proposed in the Stage 2 RAP and the final extent (following the receipt of additional characterisation or subsequent validation data) are shown on Figures F4 and F7 to F9 (extracted from ERM, 2022b) in **Appendix A-1**.

Details of the estimated and completed vertical and lateral extent of remediation are provided in **Table 17**.

Table 17 Remediation excavation summary

Excavation Area ID	Area (m^2)	Remediation depth (m bgl)	Remediation Volume (m^3)	Assumptions/Comments
AEC-3d	421 (estimated)	2 (estimated)	842 (estimated)	Excavation to a depth of two metres to remove source of vapour impacts (shallows soils and LNAPL trapped in soils to level of groundwater) based on PID readings at TP 19/17 to two metres within clay. LNAPL removal required to remove potential source of methane.
	472 (final)	1.5* (final)	723 (final)	Surveyed area includes shallow battered edges of excavation, resulting in the observed shallower average depth.
AEC-3e	900 (estimated)	1.5 (estimated)	1,350 (estimated)	Lateral extent was subject to further refinement through data gap investigation.
	936 (final)	1.8* (final)	1,656 (final)	Increased depth and volume due to additional soils surrounding subsurface

Excavation Area ID	Area (m^2)	Remediation depth (m bgl)	Remediation Volume (m^3)	Assumptions/Comments
				pipework that were removed during excavation.
AEC-14b	192 (estimated)	1 (estimated)	192 (estimated)	Assumed backfill sands to a width of 2 metres excavated along alignment of pipe. Maximum depth of backfill to be excavated 1 metre based on observed pipe depth of approximately 0.5 metres.
	561 (final)	1.4* (final)	773 (final)	Increased volume and depth excavated due to removal of contaminated material in wall samples remaining at original excavation extent. Determination of contamination extent based on validation sample exceedances, field observations throughout excavation process, such as visible staining, hydrocarbon odour and PID headspace measurements.
		Total (actual)	**3,152**	

Note: (*) *Average depth based on surveyed excavation depth.*

7.4 Deviations of Stage 2 RAP

7.4.1 Additional excavations

The AA2 Validation report stated that the additional excavation works summarised in **Table 18**. The additional excavation areas (grids) are shown on Figures F7 to F9 (extracted from ERM, 2022b) in **Appendix A-1**.

Table 18 Summary of additional excavations

Excavation ID	Grid references	Comments
14B-10-W additional excavation	H6	Extension of western wall of grid H6 within AEC-14b excavation to remove impacted soil exceeding the remediation criteria
14B-1-B additional excavation	A4	Extension of base of grid A4 within AEC-14b excavation to remove impacted soil exceeding the remediation criteria
14B-5-E additional excavation	C6	Extension of eastern wall of grid C6 within AEC-14b excavation to remove impacted soil exceeding the remediation criteria
14B-8-B additional excavation	F6	Extension of base of grid F6 within AEC-14b excavation to remove impacted soil exceeding the remediation criteria

7.4.2 AEC-14b Deviations

The AA2 Validation report documented that during excavation of AEC-14b (Lot 59), an unexpected find of a suspected ACM conduit and associated soils beneath a bridge was encountered. The width of excavation was extended to remove the potentially asbestos impacted material, which was then temporarily stockpiled within AA3 (SP 99). The location of the ACM conduit is shown on Figure F7 (extracted from ERM, 2022b) in **Appendix A**.

ERM reported that SP 99 was classified as Asbestos Waste – General Solid Waste and disposed off-site.

7.4.3 AEC-3e Deviations

ERM outlined in the AA2 Validation report that during excavation of AEC-3e (Lot 63), a conduit suspected to comprise asbestos containing material was observed in final south-western excavation wall. The conduit was intact and no asbestos materials were mixed within excavated soils. The location of the ACM conduit is shown on Figure F9 (extracted from ERM, 2022b) in **Appendix A**.

In addition, during AEC-3e excavation, product leaking from sub-surface services were observed, which were immediately contained with surrounding soils during excavation. A surveyed in-situ volume of 1656 m^3 was excavated and transported to the treatment area (within AA3).

7.5 Validation Program

ERM stated that overall the validation program was completed in a manner that was consistent with the procedures listed in the Stage 2 RAP. A summary of the validation program is presented **Table 19**.

Table 19 Summary of validation program

Validation Item	Total number of primary samples	QA/QC samples (set of duplicate and triplicate)
AEC-3e delineation	9	1
Future road data gap investigation	4	1
SP30 footprint validation	1	0
AEC-14b excavation	38	3
AEC-3d excavation	32	2
AEC-3e excavation	36	0

7.5.1 Stockpile SP30 footprint validation (Lot 59)

The location of the SP30 footprint is shown on Figure F7 (extracted from ERM, 2022b) in **Appendix A-1**. The SP30 footprint was observed to consist of hardstand concrete, with minor fines described as brown and orange silty clay.

Removal of the SP30 was conducted on 9 September 2021**.** Given the size of the footprint, a single sample location was subject to gravimetric sieving. No ACM was identified within material retained above the sieve aperture (>7 mm).

Although the remediation criteria for the SP30 footprint required visual confirmation of no remaining ACM due to being located on hardstand, a soil sample was collected from the base due to traces of fines remaining on the concrete hardstand following removal.

The single sample was subject to gravimetric sieving as per the methodology outlined in the Stage 2 RAP. No ACM was identified within material retained above the sieve (>7 mm).

Laboratory results tabulated and screened against relevant remediation criteria are provided in in. **Appendix C-1** as Table 5 (extracted from ERM, 2022b).

7.5.2 Asbestos air monitoring

ERM reported that during excavation and off-site removal of the asbestos impacted soil stockpile SP 30 on 9 September 2021, airborne asbestos monitoring was undertaken at four locations surrounding the adjacent asbestos removal areas around SP30. All monitoring and analysis were conducted in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC: 3003(2005)].* Asbestos air monitoring results were summarised as follows:

– The airborne asbestos fibre concentrations recorded for the sampling undertaken on 9 September 2021 were below the limit of detection for the method used(<0.01 fibres per millilitre of air sampled).
– Monitoring results were acceptable and indicate that the workplace controls were adequate to mitigate the risk to those on-site personnel working outside the set exclusion zone or the nearby identified receptors.

The results of asbestos monitoring conducted during works is presented in **Appendix C-1** (extracted from ERM, 2022b).

On the basis of sampling and visual observations during excavation, ERM concluded that the footprint of the former SP30 met the assessment criteria defined in the RAP.

7.5.3 AEC-14b Excavation validation (Lot 59)

Excavation of AEC-14b was conducted between 22 September 2021 and October 2021 as per the Stage 2 RAP methodology (discussed in **Section 5.6**).

The AEC-14b excavation was advanced to an approximate average depth of 1.0 mbgl to remove impacted soil and visible LNAPL trapped within shallow soils. Rainfall following 22 to 24 September 2021 excavation works resulted in softening of the ground prior to backfilling and additional excavation was undertaken on 8 October 2021 to extend the base of the excavation to approximately 1.5 mbgl.

The walls of the excavation generally consisted of fill materials described as brown, red/ grey silty/ sandy clay, from which validation samples were collected at 0.5 m bgl. The vertical extent of the excavation extended into medium plasticity, natural clay, brown, red and grey. Natural clays were generally observed to have no evidence of impact. ERM noted that minimal groundwater seepage was observed from clay lithology during excavation.

An unexpected find of suspected ACM conduit and associated fill/soils was encountered on 23 September 2021. A summary of the unexpected find was discussed in **Section 7.4.2**.

A total of 38 primary samples were collected from within the footprint (wall and floor) of the excavation. Sample locations and exceedances of the adopted assessment criteria are shown on Figure F7 (extracted from ERM, 2022b) in **Appendix A-1.**

Laboratory results tabulated and screened against relevant remediation assessment criteria are provided in **Appendix C-1** as Table 5 (extracted from ERM, 2022b).

Of the 38 samples, four samples collected from depths ranging from 0.5 m bgl to 1.0 m bgl had CoPC concentrations in excess of the validation criteria. Therefore, additional the excavation was extended, as follows:

– Sample 14B-10-W-0.5 - The western wall at grid H6 was excavated approximately 1.0 m further to the west to remove impacted material. One additional validation sample was collected (14B-10-W-RV-0.5). The re-validation sample recorded no exceedances of the validation criteria for the COPC.
– Sample 14B-1-B-1.0 - The base at grid A4 was excavated approximately 0.5 m deeper to remove impacted material. One additional validation sample was collected (14B-1-B-RV-1.5). The re-validation sample recorded no exceedances of the validation criteria for the CoPC.
– Sample 14B-5-E-0.5 - The eastern wall at grid C6 was excavated approximately 1.0 metres to further to the east to remove impacted material. One additional validation sample was collected (14B-5-E-RV-0.5). The re-validation sample recorded no exceedances of the validation criteria for the CoPC.
– Sample 14B-8-B-1.0 - The base at grid F6 was excavated approximately 0.5 m deeper to remove impacted material. One additional validation sample was collected (14B-8-B-RV-1.5). The re-validation sample recorded no exceedances of the validation criteria for the COPCs.

Based on sampling and visual observations during excavation, ERM concluded that the walls and base of the extent of the AEC-14b excavation meet the validation criteria for all COPCs.

7.5.3.1 Unexpected finds validation – AEC-14b

As discussed in **Section 7.4.2** a suspected ACM conduit and associated soils beneath a bridge was encountered.

Following excavation of soils and materials associated with the suspected ACM conduit, the exposed soil surface was visually clear of ACM (based on the Licensed Asbestos Removalist, Asbestos Clearance Certificates was presented in Appendix O of the Validation report) associated building rubble on 24 September 2021. Asbestos validation sampling of remaining soils was completed by ERM, including on-site 10 L screening of surface soils and a collection of 500 mL soil samples from the walls and base of the excavated area in grid G6 (samples 14B-9-B-1.5, 14B-9-E-0.5 and 14B-9-W-0.5).

No ACM was encountered during 10 L screening and no asbestos was detected in the analysed soils samples.

7.5.4 AEC-3d Excavation validation (Lot 63)

Excavation of AEC-3d was conducted between 21 and 22 October 2021 as per the Stage 2 RAP methodology (discussed in **Section 5.6**. The location of AEC-3d is shown on Figure F8 (extracted from ERM, 2022b) in **Appendix A-1**.

The AEC-3d excavation was advanced to an approximate average depth of 1.8 m bgl to remove impacted soils and visible LNAPL trapped within shallow soils. ERM reported minimal groundwater seepage was noted from clay lithology during excavation.

The upper extent of the walls (0 to 1.0 m bgl) of the excavation generally consisted of low to high plasticity orange, brown/ red-brown mottled clay, , from which validation samples were collected at 0.5 mbgl. The deeper portions of the excavation walls (1.0 m bgl to 1.8 m bgl) of the excavation generally consisted of low to high plasticity grey and orange-brown sandy clay, , from which validation samples were collected at 1.5 m bgl.

No visible LNAPL was observed in the walls or base of the completed excavation.

Of the 32 samples, four samples at 0.5 m bgl exceeded the Management Limits (1000 mg/kg) for TRH $>C_{10}$-C_{16} – following silica gel clean-up, as follows:

– Sample 3D_CS_S in grid C2 (1,200 mg/kg)
– Sample SD_C4_S in grid Cd (1,600 mg/kg)
– Sample 3D_C5_E in grid C5 (1,100 mg/kg)
– Sample 3D_C5_S on grid C5 (1,600 mg/kg)

Based on sampling and visual observations during excavation, ERM concluded that the walls and base of the extent of the AEC-3d excavation met the validation criteria for all COPCs.

ERM noted that additional excavation to remove soils exceeding TRH management limits was not undertaken at AEC- 3d as there was no identified vapour intrusion risk to future receptors and similar concentrations requiring passive ongoing management were identified in adjacent areas to AEC-3d, located within Lot 63.

TRH management limit exceedances are shown on Figure F8 (extracted from ERM, 2022b) in **Appendix A-1**, will be managed under an LTEMP further discussed in **Section 12**.

7.5.5 AEC-3e Excavation validation (Lot 63)

Excavation of AEC-3e was conducted between 29 October and 17 November 2021. ERM noted that the AEC-3e validation sampling density was similar to the Stage 2 RAP validation strategy and methodology (outlined in **Section 5.5**).

ERM noted the frequency of base validation samples was marginally less than the nominated frequency (in the Stage 2 RAP) of one location per 100 m^2. This was due to the anticipated area of the remediation base being 900 m^2, which was subsequently surveyed as 936 m^2.

The AEC-3e excavation was advanced to an approximate average depth of 1.3 m bgl to 3.0 m bgl to remove impacted soil and visible LNAPL trapped within shallow soils. ERM reported that minimal groundwater seepage was noted from the clay lithology during excavation.

The upper extent of the walls (0 to 1.0 m bgl) of the excavation generally consisted of low to high plasticity, orange-brown mottled clay, from which validation samples were collected at 0.5 m bgl or 1.0 m bgl. The deeper extent of the walls (1.0 m bgl to 2.0 mbgl) and base (1.3 to 3.0 m bgl) of the excavation generally consisted of low to high plasticity, dark red sandy clay, from which validation samples were collected at 1.0 m bgl or 1.5 m bgl.

A total of 36 primary samples were collected. Sample locations and exceedances of the adopted assessment criteria is shown on Figure F9 (extracted from ERM, 2022b) in **Appendix A-1.** Laboratory results tabulated and screened against relevant remediation assessment criteria are provided in **Appendix C-1** as Table 7 (extracted from ERM, 2022b).

Of the 36 samples, one sample (3E-E3-S in grid E3) at 1.0 mbgl exceeded the Management Limits (1000 mg/kg) for TRH >C_{10}-C_{16} – following Silica gel clean-up – for commercial/industrial (coarse soils).

Based on sampling and visual observations during excavation, ERM considered that the walls and base of the extent of the AEC-3e excavation met the validation criteria for all CoPC.

ERM noted that additional excavation to remove soils exceeding TRH management limits was not required at AEC- 3e as there was no identified unacceptable vapour intrusion risk to future receptors and similar concentrations requiring passive ongoing management were identified in adjacent areas located within Lot 63.

Locations of soil with TRH management limit exceedances and the ACM conduit left in-situ are shown on Figure F9 (extracted from ERM, 2022b) in **Appendix A-1.** These will be managed under an LTEMP further discussed in **Section 12**.

7.5.5.1 Unexpected findings validation – AEC-3e

As discussed in **Section 7.4.3**. a suspected ACM conduit was connected to an approximately 10 m long conduit travelling through the AEC-3e excavation.

Approximately 0.4 metres of the suspected ACM conduit was removed by hand from the connecting point of the steel conduit to within the excavation wall. No portion of the suspected ACM conduit was mixed within the AEC-3e excavated soils that were subsequently screened for biopiling.

The suspected ACM conduit was noted to extend in a south westerly direction from the AEC-3e excavation, for an unknown distance. The starting point of the remaining suspected ACM conduit is shown on Figure F9 (extracted from ERM, 2022b) in **Appendix A-1** and is to be added to an asbestos register within the AA2 LTEMP.

Product leaking from subsurface services removal during the remedial works was immediately contained with surrounding soils during excavation. These soils mixed with minor product were then stockpiled within the soil segregation / screening area as part of the segregation process outlined in the Stage 2 RAP and discussed in **Section 12**.

Leaked product was observed to contact the base of grids C3, C4, D4, E3 and E4. Grids C4, D4 and E4 were initially sampled on 2 and 3 November 2021, prior to the unexpected release of product.

Following the leak, the base of grids C3 and E3 were then subject to validation sampling and the base of grids D4 and E4 were re-sampled on 17 November 2021 to confirm adequate removal of product.

7.6 AA2 Residual drainage network

As detailed by ERM in the Stage 2 Drainage Decommissioning Validation Report, the former COC and AOC drainage network remains in-situ within parts of Lots 59, 60, 63 and the proposed road following decontamination and decommissioning activities.

These pipes and pits were suitably decontaminated and decommissioned throughout 2020, as documented within the Stage 2 Drainage Decommissioning Report (ERM, 2021a).

ERM noted that in parts of Lots 59, 60 63 and the proposed road alignment of AA2, some drainage lines could not be cleaned, with residual hydrocarbon sludge noted to remain within these pipes following decommissioning. An overview of pipework containing residual hydrocarbons within the broader Stage 2 Area following completion of decommissioning works is shown on Figure F5 (extracted from ERM, 2022b) in **Appendix A-1**.

The following conditions are noted by ERM to be present post drainage decommissioning within AA2:

– Sections of previous AOC and COC drainage were flushed to remove residual hydrocarbons within pipes and pits. ERM stated that no significant residual hydrocarbon material remained following cleaning of pipework situated in AA2.
– Gas testing of pipes and pits did not identify residual gas accumulation above relevant health and safety standards following cleaning.
– No compromised pipework was identified during pipe cleaning works within AA2.
– Pits have been filled with stabilised sand or aggregate to prevent lateral migration of residual sludges from other portions of the Stage 2 Area.
– The drainage network has been isolated from the Clyde Terminal wastewater treatment plant and cannot be re-commissioned for future use.

Based on these aspects, ERM concluded that specific management of residual conditions or risks of contaminant exposure associated with the decommissioned drainage network within AA2 are not necessary.

7.7 Wastewater management

As stated by ERM in the AA2 Validation report no dewatering or disposal of wastewater from remediation activities was not necessary given the minimum volume.

7.8 Validation of imported soil

ERM considered that the balance of material imported as backfill for the remedial excavations (9,440 tonnes) was generally consistent with overall excavation volumes, taking into consideration the bulk density of compacted clay materials (2.99 T/m^3 based on 3,152 m^3 of excavated material, based on the following factors:

– Tonnages of imported material were calculated from estimated truck and trailer size and were not subject to weighbridge measurements upon receipt.
– It was noted that final compacted excavations were mounded from the centre of backfilled excavations to prevent pooling of surface water and this could account for a greater overall volume of VENM required to be imported.

A summary of volumes and sources of material imported for use within AA2 is provided **Table 20**.

Table 20 Summary of VENM classification and sources

VENM sources	Site address	VENM report reference	VENM description	VENM mass (tonnes)
Punchbowl	13-23 Henry Street, Punchbowl NSW	E24351.E05.004.Rev0	Clay soils (VENM)	2880
St Ives	97 Killeation Street, St Ives NSW 2075	PCA7153-2021_VENMLET01_9Sep21	Clay soils (VENM)	216
North Parramatta	52 Belmore Street, North Parramatta NSW 2151	CH1214_D9516-VENM Classification	Clay soils (VENM)	768
Lane Cove North	640-646 Mowbray Road, Lane Cove North NSW 2066	RG165-WAC-1-1	Clay soils (VENM)	800
Carlingford	96 Carlingford Rd, Epping NSW 2121	CH1214_D9516-VENM Classification	Clay soils (VENM)	2464
Parramatta	125-129 Arthur Street, Parramatta NSW	E29010Klet	Clay soils (VENM)	64
Roseville	1-3 Corona Avenue, Roseville NSW	E24295.E05.001_Rev0	Clay soils (VENM)	1128
Turramurra	117-121 Merrivale Lane, Turramurra NSW	ES8391/2	Clay soils (VENM)	1120
			Total	**9,440**

The VENM certificates and tracking recorded were included in Appendix H of the Validation report. Laboratory analyses were conducted for the eight sources. Following assessment of these analysis, ERM concluded that the material from the eight sources outlined in **Table 20** were deemed VENM and suitable for use within Stage 2 AA2.

7.9 Waste management

ERM reported in the AA2 Validation that SP30 and SP99 were removed from Stage 2 area in September 2021. The reconciliation of waste volumes tracked from site to a licenced waste management facility during the remediation is provided in **Table 21**.

Table 21 Waste Tracking Summary

Waste ID	Classified material (tonnes) *	Waste classification	Receiving facility	Material received (tonnes)
SP30	Approximately 68.8	Special Waste (Asbestos) – as General Solid Waste	Glenfield Waste Services	60.96
SP99	Approximately 16	Special Waste (Asbestos) – as General Solid Waste	Glenfield Waste Services	32.72
Total	**84.8**	-	-	**93.68**

Note:

(*) Material originally classified by volume m^3, which was then converted to tonnes by applying a conversion factor of 1.6 T/m^3 for soil with gravels. (**) NSW EPA EPL Nº 4614.

The following considerations were outlined by ERM regarding the waste tracking summary:

– The 32.72 tonnes of material from the SP99 were higher than the estimated 16 tonnes. The 16 tonnes were calculated by ERM using an estimated volume of 10 m^3. However, SP99 was

observed to contain a large number of foreign materials, including large blocks of cement, which is a factor for a potential increase in tonnage received.

– The estimation of 10 m^3 was not confirmed by survey equipment and the stockpile may therefore have in fact been larger than 10 m^3.

7.10 Auditor discussion – Implementation of AA2 Stage 2 RAP

The auditor considered that the number and locations of the samples collected during the validation sampling program was adequate in demonstrating the effectiveness of the remedial works. The samples from the walls and bases of excavations were collected in a manner consistent with standard industry practice and the approach listed in the Stage 2 RAP.

The selection of the soil analytical suite was suitable given that contamination was clearly linked to the historical use of the site and previous investigation results.

The auditor considered that impacted fill/soils within AA2 were remediated in accordance with the Stage 2 RAP. Residual hydrocarbons in soil that were demonstrated to not pose an unacceptable human health risk shall be managed in accordance with the Stage 2 AA2 LTEMP to allow the land to be used for commercial/ industrial uses.

The auditor noted during the site inspection conducted on 4 November 2021 that following remediation works, no ACM was observed within the AEC-2 excavation or the footprint of SP30.

Waste disposed off-site was classified as per the Waste Guidelines and tracked to ensure disposal to appropriate waste receiving facilities.

Based on the outcomes of validation activities undertaken by ERM, AA2 including the adjoining portion of proposed road, the auditor considered that AA2 is suitable for ongoing commercial/industrial land use, subject to implementation of a legally enforceable LTEMP to manage the residual impacts. The discussion of residual impacts (that do not pose risks to future on-site receptors) is further presented in **Section 12**.

8. AA2 Stockpile management

8.1 Stockpiles remaining in AA2

Sixteen stockpiles were present within the footprint of AA2 at the completion of remedial works. A summary of stockpiles remaining in AA2 is presented **Table 22**. These stockpiles were generated during previous demolition works and site preparation works associated with the retention dam construction.

The location of stockpiles remaining within AA2 as at the time of preparation of this report are shown on Figure F11 (extracted from ERM, 2022b) in **Appendix A-1**.

Table 22 Summary of Additional Stockpile Characterisation Undertaken

Stockpile ID	Source of material	Material type	Volume (m^3)	Assessment Outcome
SP90	Imported material from Stage 1 (Downer) - Saturated clays	Excavated material from Sediment Basin Extent – concrete from historical footings	190	Suitable for re-use on-site for the point of environmental perspective.
SP96	Biopiled soils generated from Stage 1 remediation works (AEC-9).	Imported material from Stage 1 (Downer) - Saturated clays	2800	Suitable for re-use on-site for the point of environmental perspective.
SP37	Western Area Demolition in 2015	Bricks and concrete	30	Suitable for re-use on site under hardstand. Alternatively, any visible asbestos present at ground surface to be managed as per unexpected finds procedure outlined in AA2 LTEMP.
SP33	Western Area Demolition in 2020	Brick, concrete and soils	780	Suitable for re-use on-site for the point of environmental perspective.
SP34	Western Area Demolition in 2020	Concrete, soil, asphalt and metal	15	Suitable for re-use on-site for the point of environmental perspective.
SP35	Western Area Demolition in 2020	Bricks	80	Suitable for re-use on-site for the point of environmental perspective.
SP36	Western Area Demolition - 2015	Concrete	30	Suitable for re-use on-site for the point of environmental perspective.
SP39	Western Area Demolition in 2015	Soil, concrete and bricks	5175	Suitable for re-use on-site for the point of environmental perspective.
SP41	Western Area Demolition in 2015	Concrete	1800	Suitable for re-use on-site for the point of environmental perspective.
SP42	Western Area Demolition in 2015	Concrete and bricks	1250	Suitable for re-use on-site for the point of environmental perspective.
SP43	Western Area Demolition in 2015	Concrete and bricks	175	Suitable for re-use on-site for the point of environmental perspective.
SP84	Excavated material from Sediment Basin Extent (saturated Sandstone)	Soil	350	Suitable for re-use on site under hardstand. Alternatively, any visible asbestos present at ground surface to be managed as per unexpected finds procedure outlined in AA2 LTEMP.
SP86	Excavated material from Sediment Basin Extent (grey clay)	Soil	1057	Suitable for re-use on site under hardstand. Alternatively, any visible asbestos present at ground surface to be managed as per unexpected finds procedure outlined in AA2 LTEMP.
SP89	Excavated material from Sediment Basin Extent (concrete and bricks from historical footings)	Concrete	190	Suitable for re-use on site under hardstand. Alternatively, any visible asbestos present at ground surface to be managed as per unexpected finds procedure outlined in AA2 LTEMP.

Stockpile ID	Source of material	Material type	Volume (m^3)	Assessment Outcome
SP97	Concrete slabs AECs from Stage 2 area	Concrete footings, uncrushed	13	Suitable for re-use on site under hardstand. Alternatively, any visible asbestos present at ground surface to be managed as per unexpected finds procedure outlined in AA2 LTEMP.

8.2 Stockpile management between AA2 and AA3

As reported in the Validation report due to the remediation site layout, soils requiring treatment via biopiling from Stage 2 AA2 were required to be transported to the 'Material Screening and Handling Area' within the footprint of Audit Area 3 (AA3).

Figure 11 below, extracted from the Validation report provided a schematic of material movements between AA2 and AA3. The location of and status of stockpiles within AA2 and AA3 are shown on Figure F7 (extracted from ERM, 2022b) in **Appendix A-1**. The details of the stockpiles management are provided in **Appendix C-1** as Table 9, Stockpile Register.

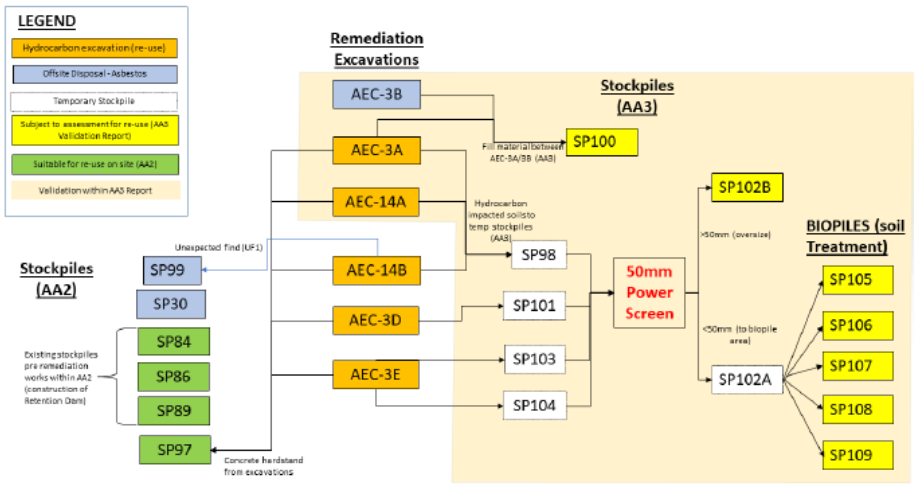


Figure 11 On-site excavated material movement schematic

ERM reported the following in the Validation report, regards the on-site movement of stockpiles:

- A surveyed in-situ volume of 3,151.54 m^3 of soil was excavated from excavations AEC-14B, AEC-3D and AEC-3E (AA2) to the soil screening and material handling area, located within AA3, as part of remediation works.
- This material, along with excavated material from AA3 excavations AEC-3A and AEC-14A, which had a combined in-situ surveyed volume of 3,389.36 m^3 were processed through a power-screen to separate grain sizes >50 mm (oversize) from material suitable for biopiling (<50 mm).
- The combined in-situ volume of 6540.24 m^3 removed from the above excavations bulked to an estimated volume of 8,937 m^3 once excavated, segregated and screened, as follows:
  - SP97 (Concrete from remediation excavations): 413 m^3
  - SP99 (unexpected find from AEC-14B – disposed off-site): approximately 10 m^3
  - SP102B (Oversized soil material >50 mm not sent to biopiles): 3,724 m^3
  - Biopiles SP105, SP106, SP107, SP108 and SP109 (contaminated soils material screened to <50mm): Approximately 4800 m^3

ERM, 2022b that the combination of materials from AA2 and AA3 excavations was required to be undertaken during the screening process to form stockpiles of optimum size for biopiling. Due to this process, an estimation of an exact volume of material sent to biopiles from individual excavations

within AA2 was not possible. Given the overall volume balance of materials excavated from AA2 and AA3 to that stockpiled on site, all excavated contaminated material from remediation works is accounted for and has been managed appropriately.

Due to the physical location of soil segregation, biopiling and resultant stockpiles within the AA3, validation of this material and a description of remediation processes undertaken will be undertaken within a separate validation report for AA3.

8.3 Auditor discussion – AA2 Stockpile management

The auditor noted that 12 stockpiles within the Stage 2 area were assessed in the Stage 2 Stockpile report. The outcomes of this assessment were discussed in the SAR that accompanied the SAS nº 065-2127799B.

The auditor was satisfied with the management undertaken by ERM in regards the movement of stockpiles between AA2 and AA3. As noted by ERM in the Validation report, biopiling and resultant stockpiles within the AA3, the complied validation of stockpiles including the description of remediation processes undertaken will be presented in the Validation report for AA3.

The auditor considered that the number of primary and second samples collected from stockpiles SP84 and SP86 met the minimum ratio as presented in Table 22. The auditor noted that samples were not collected for the analysis of CoPC due to the nature (majority was concrete from slabs from AECs) and oversize of material. ACM clearance certificates were issued by a Licenced Asbestos Assessor. Copies of these certificates were presented in the Validation report (Appendix O).

9. Consent Condition B22 – Groundwater monitoring events

As required by Condition B22 of the Development Consent for the Project (SSD 9302), a groundwater monitoring program (GWMP) was developed for implementation during and post-remedial works.

The groundwater monitoring data collected as part of the GWMP were presented by ERM in the following reports:

– Clyde Western Area Remediation Project - Stage 2 Groundwater Monitoring – Remediation Phase – Month 1, dated 8 November 2021 (the **Remediation GME 1**).
– Clyde Western Area Remediation Project - Stage 2 Groundwater Monitoring – Remediation Phase – Month 2, dated 20 December 2021 (the **Remediation GME 2**).

9.1 GWMP requirements

The groundwater monitoring strategy as outlined within the Stage 2 GWMP details the following requirements:

– Weekly gauging of wells BH2/10, MW98/4, MW11/20, MW11/19, MW12/03 and MW11/15 located within the excavation area. This was completed on the following dates:
  (a) 27 September 2021 (month 1)
  (b) 12, 18 and 22 October 2021 (month 1)
  (c) 27 October 2021 (month 2)
  (d) 3, 15 and 18 November 2021 (month 2)
– Monthly pH sampling (laboratory analysis) in wells BH2/10, MW98/4, MW11/20, MW11/19, MW12/03 and MW11/15 located within the excavation area. This was completed on the following dates:
  (a) 12 October 2021 (month 1)
  (b) 15 November 2021 (month 2)

The objective of the aforementioned works was to monitor water levels, pH and LNAPL (presence/ thickness). The weekly gauging was required during remediation works to monitor the potential for LNAPL mobilisation.

The monitoring strategy also outlined the following requirement:

– Monthly gauging and sampling for pH of down-gradient groundwater monitoring wells, MW12/20, MW18/23 and MW12/21, during excavation works, completed on the following dates:
  (a) 12 October 2021 (month 1)
  (b) 15 November 2021 (month 2)

The objective of this additional monitoring was to demonstrate that the off-site groundwater conditions had not been adversely impacted by remedial works or causing environmental harm to the Duck River, and monitor potential for LNAPL mobilisation from remedial works area. The collection of pH data was used to assess the potential generation of acidic conditions due to variation in water table and potential oxidation of potential acid sulfate soils (PASS). The potential presence of PASS was previously considered by ERM to be low based on assessments leading to the Stage 2 GWMP.

9.2 Consent Condition B22 - Groundwater monitoring results

9.2.1 Baseline monitoring

Baseline testing for pH was undertaken on 8 July 2021, prior to commencement of excavation works at the following 10 selected wells: BH2/10, MW98/4, MW11/15, MW11/18, MW11/19, MW11/20, MW12/03, MW12/20, MW18/23 and, MW12/21. The baseline monitoring data is summarised in **Table 23**.

Table 23 Baseline results

Well ID	pH	Groundwater Depth (m BTOC)	LNAPL Thickness
BH210	4.52	0.934	No LNAPL detected
MW98/4	4.84	0.64	No LNAPL detected
MW11/15	4.75*	1.515	No LNAPL detected
MW11/18	4.60*	0.965	No LNAPL detected
MW11/19	5.07*	0.462	No LNAPL detected
MW11/20	5.68	0.745	No LNAPL detected
MW12/03	6.52	0.88	No LNAPL detected
MW12/20	6.63*	1.682	No LNAPL detected
MW18/23	6.21*	1.264	No LNAPL detected
MW12/21	7.36*	1.495	No LNAPL detected

Note:

(*) Baseline pH data on 8 July 2021 not collected. Baseline data generated using historical average pH.

9.2.2 Remediation GME 1 outcome

ERM reported that increases in groundwater levels observed in MW11/15 and MW12/03 were likely due to rainfall events leading up to gauging event(s). Groundwater monitoring levels in remaining wells recorded levels similar to the baseline levels.

ERM concluded that when comparing the pre-remediation southeastern groundwater flow direction, as shown on Figure F2 (extracted from ERM, 2022c) in **Appendix A-2** to the remediation phase groundwater flow direction shown on Figure F3 (extracted from ERM, 2022c) in **Appendix A-2**, the groundwater flow appeared to change to a southerly groundwater flow during month 1 of remediation.

LNAPL was not detected in the subject wells prior to remedial works and was not detected throughout the month 1 monitoring, indicating that remedial works did not appear to be mobilising LNAPL.

ERM reported that comparisons between baseline pH data to the month 1 remediation phase pH data indicated no observable acidification of groundwater conditions. The pH laboratory analysis is summarised in **Appendix C-2** (extracted from ERM, 2022c).

Data collected during remedial works in month 1 did not indicate any adverse change to groundwater conditions or environmental harm to the Duck River. As such, contingency actions as per the GWMP were not required.

9.2.3 Remediation GME 2 outcome

Fluctuations in the recorded groundwater levels were considered likely due to the weather conditions (including significant rainfall) leading up to and during the monitoring period. The observed groundwater levels were generally considered minor variations of the baseline levels, with the

exception of results from MW11/20. The groundwater level within MW11/20 was observed to have increased significantly and is presumed due to the seepage of rainwater and water trucks, as it was observed the well cap was not properly sealed.

When the pre-remediation southeastern groundwater flow direction (Figure F2 extracted from ERM, 2022d, **Appendix A**) was compared to the remediation phase groundwater flow direction (Figure F3 extracted from ERM, 2022d, **Appendix A**) there appears to have been more southerly groundwater flow direction during month 2 of remediation. The observed change in groundwater flow direction was considered by ERM to be likely due to the large variation in rainfall events throughout the month 2 monitoring schedule. The change in groundwater flow and the updated flow direction was not considered to alter the potential for COPC mobilisation via groundwater to potential receptors.

ERM reported that comparisons between baseline pH data to the month 2 remediation phase pH data indicated no observable acidification of groundwater conditions. The pH laboratory analysis is summarised in **Appendix C-4** (extracted from ERM, 2022d).

LNAPL was not detected in the subject wells prior to remedial works and was not detected in the month 2 monitoring, indicating that the remedial works did not appear to be mobilising LNAPL.

Data collected during remedial works did not indicate any adverse change to groundwater conditions or environmental harm to the Duck River. As such, contingency actions as per the GWMP were not required.

9.3 Ongoing groundwater monitoring

ERM reported that previous groundwater monitoring across the Western Area indicated stable to decreasing concentrations of TRH and BTEX in groundwater. No human health and ecological risks from dissolved phase groundwater concentrations have been identified in AA2.

As outlined in the Stage 2 Groundwater Monitoring Program (GWMP), ongoing groundwater monitoring requirements were to be limited to downgradient boundary monitoring locations adjacent to Duck River. ERM considered that this approach was appropriate as no significant changes in groundwater conditions within the vicinity of excavation areas were recorded post-remediation. Therefore, ERM concluded that there was no requirement for ongoing groundwater monitoring within AA2.

9.4 Auditor discussion – Consent Condition B22 – Groundwater monitoring events

The auditor considered that the GMEs carried out by ERM were completed in accordance with the GWMP requirements discussed in **Section 5.10**.

As noted by the auditor (email included in **Appendix B**), ERM missed one sampling event in the weeks commencing 4 October 2022 and 15 November 20222. ERM explained (as presented in the letter in **Appendix B**) that the omission of those events that did not compromise the monitoring program, based on the following lines of evidence:

- Low permeability clay soils, and lack of LNAPL in monitoring wells prior to and following the monitoring period. Thus, the lack of gauging data (two rounds) collected within this weekly period was not considered to be material in the context of assessing potential short-term risks to sensitive receptors (i.e. Duck River).

The auditor agreed that comparison between baseline pH data to the remediation data from months 1 and 2 indicated no observable acidification of groundwater conditions.

The auditor noted that LNAPL was not mobilised due the excavation works, as it was not observed in either of the GMEs completed by ERM.

The auditor considered that the groundwater fluctuations recorded during the remediation of AA2 were not significant and were likely to be associated with the heavy rain that occurred during September and October 2021.

10. Evaluation of quality assurance and quality control

This section of the SAR provides an evaluation of the QA/QC procedures relevant to the validation program conducted by ERM with reference to ASC NEPM.

The field and laboratory QA/QC measures presented by ERM in its Validation report have been compared to the relevant requirements listed in the Consultant Guidelines to gauge the integrity of the data set used to validate the remedial works.

A copy of the auditor's assessment of QA/QC measures presented by ERM is provided within **Appendix D** of this SAR.

10.1 Auditor Discussion – Evaluation of QA/QC

The auditor considered that the level of QA/QC provided by ERM was sufficient to meet the objectives of the validation program.

Sample locations were appropriate to validate the effectiveness of the excavation of contaminated soils in AA2 that could present risks to future site users as well as characterise the remainder of the site that could not be accessed when the site was operational. A suitable number and type of samples were selected to characterise the unexpected finds.

The analyses of all soil samples (both as part of the validation of remedial excavations and the validation characterisation program) have been conducted by laboratories certified by the NATA, and the contaminants of concern has been previously identified at the Stage 2 AA2.

The auditor deemed that the data presented in the Validation report was sufficiently precise, accurate, representative, complete and comparable.

The auditor considered that the overall quality of data and their presentation are of an adequate standard to support the conclusions that ERM made regarding the suitability of AA2.

11. Conceptual site model – post remediation

Based on the outcomes of the validation program and considering the most recent results from the assessments carried out in 2021, ERM updated the CSM for the AA2 as per discussion bellow.

11.1 Former potential sources and CoPc

ERM considered that the primary sources of soil impacts formerly included the refinery processing infrastructure which has been decommissioned/removed from the Stage 2 Area. It is noted that all soils associated with CoPC that could present a vapour intrusion risk were removed.

Contamination by PFAS has been undertaken during the preparation of the PFAS CSM and mass flux assessment prepared by ERM in 2018. The results of this assessment indicated that testing for PFAS from soil leachate and groundwater in the WARP were not considered to represent a risk to on- and off-site receptors. Therefore, PFAS was not considered a CoPC.

11.2 Extent of residual impacts

Following completion of remediation works, the following residual sources of contamination are known to exist within AA2:

– Residual hydrocarbon impacted soil – limited to presence of observed hydrocarbon impacts exceeding TRH Management Limits:
  - Lot 59 - SB18/12 (0.5-1.5 m), HA19/06 (1.5 m), BH12/34 (0.6 m), SB18/16 (0.3 m), TP18/15 (0.9 m), BH12/35 (0.1 m), HA19/04 (0.4 m), HA19/05 (0.3 m) and TP19/37 (0.2 m).
  - Lot 60 - TP18/31 (0.7-2.4 m), TP20/21 (0.8 m), TP20/22 (1.5 m), TP20/23 (1.5 m), TP18/29 (2.2-3 m), TP21/11 (0.5 m), TP20/25 (0.7 m), TP19/35 (0.1 m) and SB1B (0.5 m).
  - Lot 63 - TP20/24 (1.0 m), TP19/16 (0.8 m), TP19/20 (1.0 m), MW12/03 (1.0 m), TP21/23 (0.2-3.1 m), TP21/74 (1.0-2.5 m), 3D_C2_S (0.5 m), 3D_C4_S (0.5 m), 3D_C5_E (0.5 m), 3D_C5_S (0.5 m) and 3E-E3-S (1.0 m).
  - Proposed road (AA2) - located immediately adjacent to reported soil impacts at HA19/06 (1.5 m), BH12/34 (0.6 m), TP18/31 (0.7-2.4 m), TP20/21 (0.8 m), TP20/22 (1.5 m), TP20/23 (1.5 m), TP20/25 (0.7 m), TP20/24 (1.0 m).
– Residual sludge within drainage network, within the pipes and pits outlined in pink in Figure F5 (extracted from ERM, 2022b) in **Appendix A-1**.
– Asbestos cement conduit which was identified and remain in-situ within the vicinity of the AEC-3e excavation.

11.3 Receptors

The following key information was noted by ERM in the AA2 Validation report:

Groundwater beneficial use assumption

– Beneficial groundwater users (potable or non-potable) were not considered a potential receptor given the absence of registered extraction bores down gradient of the WARP, poor natural background quality of groundwater and likely low yields.

On-site ecological receptors assumptions

– Current on-site employees and contractors are subject to Viva Energy's Health, Safety and Environment controls which restrict on-site workers potential exposure to soil contamination. Therefore, potentially complete SPR linkages are currently considered managed. However, future

land users would not be subject to the same controls and thus, remediation or management of any potentially SPR linkage would be required.

– Given the extensive coverage of the WARP in concrete hardstand and limited available on-site habitat, on-site ecological receptors were not further considered in the CSM. Given the proposed slab- on-grade commercial/industrial future land use, ecological on-site receptors were also not considered in the CSM under future development scenarios.

Off-site ecological receptors assumption

– The nearest off-site ecological receptor is the Duck River, bordering the Stage 2 Area to the south, and the Parramatta River, which adjoins the Duck River to the north-east. Due to the estuarine nature of these river systems and receipt of runoff from multiple industrial catchment areas, these Duck and Parramatta Rivers are consistent slightly to moderately disturbed marine ecosystem, as per the ANZG (2018) Guidance.

11.4 Source pathway receptor linkages

Based on the Tier 2 assessment undertaken in the HHERA and subsequent investigations carried out in 2020 and 2021 the below source pathway receptors (SPR) linkages were considered relevant by ERM to the specific AECs setting in AA2 and may constitute a risk to redevelopers works and future commercial/IMW receptors:

– Inhalation of asbestos fibres by future on site commercial workers, construction workers and intrusive maintenance workers from bonded asbestos fibres liberated during future excavation works or exposed at the ground surface.

Residual soil impacts and LNAPL which have been identified to not present a risk to human health or

– Identification of areas of aesthetic impact (staining, sheen, LNAPL) for appropriate waste management, odour management during future excavations.
– Prevention of groundwater extraction on site.
– Unexpected finds (e.g. asbestos).

ERM identified that within AA2 there were location where COPCs exceeded Management Limits. No unacceptable risk associated with these soils was identified, but it was recognised that they need to be managed owing to aesthetic consideration if managed appropriately (i.e. odorous, stained or containing non-volatile LNAPL).

The LTEMP for Stage 2 AA2 identified these areas and nominated management procedures including (but not limited to) waste management, air quality/odour management and unexpected finds protocols if these soils are disturbed during future intrusive works in these areas.

On the basis that an LTEMP has been prepared and that all identified soils that could pose a vapour intrusion risk were removed during the remedial works, the potential SPR linkages were considered by ERM to be incomplete.

11.5 Auditor discussion – Conceptual site model post remediation

The auditor noted that the post remediation CSM developed by ERM for the AA2 was based on the validation results and implementation of the AA2 LTEMP.

The CoPCs that need to be managed under the AA2 LTEMP are for aesthetic reasons given that ERM presented sufficient lines of evidence that there are no human health and/or environmental exposure risks associated with the residual hydrocarbons in site soils or groundwater.

The auditor considered that sufficient data has been gathered in GMEs conducted over the past eight years to demonstrate that hydrocarbon impacts to groundwater quality are either localised

and have little migration potential or at levels that do not pose an unacceptable risk to human health or the off-site environment (noting that there are no environmental receptors on-site).

It is the auditor's opinion that the refined CSM developed by ERM considered site specific attributes (including the site geology, groundwater behaviour and soil and groundwater data) and was largely prepared in accordance with the relevant guidelines and presented sufficient information to assess potential risks within AA2.

12. AA2 Long-term environmental management plan

12.1 Objective of AA2 LTEMP

The AA2 LTEMP summarises environmental conditions at the site, and provides a mechanism to inform the Land Custodian, workers and managers of the potential risks to human health and / or the environment arising from contact with residual soil contamination that need to be managed.

The objectives of the AA2 LTEMP are as follows:

– Outline methods and procedures that will avoid and/or mitigate adverse effects on human health and/or the environment.
– Provide a methodology for the appropriate environmental management of excavation works that may encounter residual contaminated soil.
– Provide environmental requirements for the sourcing and placement of backfill material.
– Present safety measures / considerations for dealing with potentially contaminated soil
– Outline restrictions to potential future land uses.

12.2 Nature of the residual contamination

ERM reported in the AA2 LTEMP that following completion of soil remedial works within AA2, the following residual contamination may be present:

– Hydrocarbon impacted soils - *limited to aesthetic considerations (presence of hydrocarbon staining and/or odours) which may be identified during future intrusive works*.
– Following soil remediation works, asbestos has not been identified above criteria for the proposed land-use. However, given the long history of industrial land use and surrounding industries, the possibility of discovering isolated asbestos as an unexpected find during further intrusive excavations within the Management Area cannot be precluded. This applies to all proposed Lots subject to this SAR.

The location and extent of residual contamination within AA2 is illustrated on Figure F2 in **Appendix A-4** (extracted from ERM, 2022c).

12.3 AA2 LTEMP Enforceability

All requirements are legally enforceable via condition B10(a) and (b) of the Development Consent (State Significant Development 9302), as issued under Section 4.38 of the Environmental Planning and Assessment Act 1979 (the 'EP&A Act'), as outlined below:

– *B10. Upon completion of the Site Audit Statement and Site Audit Report, the Applicant must: (a) Implement the approved LTEMP (b) Provide evidence to the Planning Secretary that the LTEMP is listed on the relevant planning certificate for the land, issued under section 10.7 of the EP&A Act.*

Additionally, as required by condition B10 (b) of the Development Consent, Parramatta Council will be requested to add a notation to the planning certificate for the AA2 (Stage 2 Area) under section 10.7(5) of the EP&A Act that the property is subject to the AA2 LTEMP.

12.4 AA2 LTEMP Public Notification

Notification of the AA2 LTEMP will be placed on the Section 10.7(5) planning certificate.

12.5 Actions required under AA2 LTEMP

ERM reported in the AA2 LTEMP that based on the nature and extent of residual contamination identified within the AA2 Stage 2 Area the following management controls are required:

– Non-Intrusive works – No management controls are required
– Intrusive Excavation Works – Implementation of environmental management controls as detailed in Section 6 of the AA2 LTEMP.

12.6 Auditor discussion – AA2 LTEMP

Section 3.4.6 of the *Auditor guidelines* requires the following conditions to be met for an EMP to be accepted by an auditor as a means of managing site contamination:

a) *The EMP has been reviewed by the auditor*

The AA2 LTEMP has been reviewed by the auditor. The auditor considers that the LTEMP had been prepared in a manner consistent with relevant NSW EPA made or approved guidelines.

b) *The EMP can reasonably be made to be legally enforceable, for example because compliance with it is a requirement of a notice under the CLM Act or of development consent conditions issued by the relevant consent authority*

The AA2 LTEMP is legally enforceable through condition B10(a) of the Development Consent (State Significant Development 9302).

c) *There will be appropriate public notification of any restrictions applying to the land to ensure that potential purchasers or other interested individuals are aware of the restrictions, for example appropriate notations on a planning certificate issued under s.149(2) of the Environmental Planning and Assessment Act or a covenant registered on the title to land under s.88B of the Conveyancing Act 1919.*

The AA2 LTEMP will be noted on the planning certificate under section 10.7 of the EP&A Act as required by condition B10(b) of the Development Consent, notifying of the restrictions applying to the land to ensure that potential purchasers or other interested individuals are aware of the restrictions. The auditor informed Parramatta Council that notation needed to be made on the Section 10.7. A copy of Council's response (along with that provided by the NSW EPA) is presented in Appendix B of this report.

d) *There is no off-site migration of contamination from the site which is the subject of the site audit, or where there is off-site migration or its potential, that contamination within the site is managed or monitored so it does not present an unacceptable risk to either the on-site or off-site environments*

Based on the data presented in the AA2 Validation report (ERM, 2022b) and Remediation GMEs 1 and 2 reports (ERM, 2022d and ERM, 2022e), the auditor agreed there was no evidence of off-site migration of contamination from the AA2. Based on the refined CSM post-remediation prepared by ERM (ERM, 2022b), the potential risks associated with the residual impacts are low and acceptable for either future on-site receptor and off-site human (commercial/industrial) and ecological (Duck River) receptors.

The auditor noted that the AA2 LTEMP appropriately identified the residual contamination and provided an adequate description of the objectives, scope of works, roles and responsibilities of parties involved in the implementation and management of the AA2 LTEMP.

A copy of the LTEMP prepared by ERM is presented in **Appendix E**.

13. Other Considerations

13.1 Ecological considerations

Based on the historical reports, the off-site migration of residual LNAPL in groundwater or dissolved phase petroleum hydrocarbons has not been demonstrated to be at levels that could potentially cause risk to the identified environmental/ecological receptors. As previously discussed in the PFAS CSM and mass flux assessment prepared by ERM, testing for PFAS from soil leachate and groundwater in the WARP had demonstrated that PFAS in groundwater did not represent an unacceptable risk to on- and off-site receptors.

13.2 Aesthetic impacts

ERM included the TRH Management Limits as trigger levels for future site management considerations (aesthetics impacts).

Residual aesthetic impacts will be managed via the AA2 LTEMP discussed in **Section 12**.

13.3 Chemical mixtures

ERM did not specifically examine potential additive or synergistic effects of chemical mixtures in the AA2 Validation report. Cumulative impacts from chemical present at the site had however been evaluated in the HHERA (ERM 2020b).

13.4 Potential migration

Previous groundwater investigations had demonstrated that there was little to no migration of CoPC from the site to the nearest receptor (Duck River). The outcomes of Remediation GME 1 (ERM, 2022d) and GME 2 (ERM, 2022e) there is no potential off-site migration to AA3 (down gradient of AA2) neither to off-site nearest ecological receptor (Duck River).

In addition, the monitoring data completed during the remedial activities did not identify any change to groundwater quality in relation to residual immobile LNAPL or pH conditions compared with the baseline monitoring.

13.5 Auditor discussion – Other considerations

The auditor noted that the WARP was a petroleum refinery process area mostly covered in hardstand and it would not be expected that the presence, or protection, of ecological receptors would be relevant at such facilities. Additionally, the primary sources of contamination within the AA2 were aboveground. In relation to potential off site migration of contaminants, ERM reported groundwater concentrations of CoPC within adopted trigger levels for ecological receptors at delineation wells down gradient of the AA2.

In relation to aesthetic impacts, as noted by ERM, LNAPL is unlikely to be encountered during routine use of AA2 or subsurface maintenance activities. On-site intrusive maintenance works, where needed, will be managed under the AA2 LTEMP and/or workplace health and safety procedures. Odours may be encountered in some areas of AA2 if excavations are undertaken, as discussed in the AA2 LTEMP (a copy is attached in **Appendix E**). The chemicals associated with these odours have been assessed as not presenting an unacceptable exposure risk to site users.

Although not specifically discussed in the AA2 Validation report, potential chemical mixtures are not relevant in relation to human health risks as these were assessed as part of the HHERA (ERM, 2021b) used to inform the scope of the remedial works.

14. Compliance with regulatory requirements

In evaluating the adequacy of the soil remedial and validation works and whether the site is suitable for commercial/industrial land use, the decision-making process for assessing urban redevelopment sites (Appendix A of the *Auditor Guidelines*) has been followed. In using this process, the auditor has considered the information presented earlier in the SAR. **Table 24** presents this assessment.

Table 24 Decision making process for assessing urban redevelopment sites

EPA's requirements	Auditor 's comments
All site assessment, remediation and validation reports follow the applicable guidelines.	The AA2 Validation report prepared by ERM contained the key elements required by the Consultant Guidelines for such reports.
Any aesthetic issues relating to soils have been adequately addressed.	The auditor noted that residual contaminated soils, if encountered, could have a hydrocarbon odour. However, exposure to odorous soils would only occur if there was an excavation and has been demonstrated not to pose an unacceptable human health risk. This situation is not likely to be encountered under general activities at the site and will otherwise be managed under the LTEMP discussed in **Section 12**.
Soils have been assessed against health-based investigation levels and potential migration of contamination from soils to groundwater has been considered.	Soil sampling data was compared to validation criteria (based on NSW EPA endorsed guideline values or SSTLs derived as part of the HHERA) or ASC NEPM Management Limits.
Groundwater (where relevant) has been assessed against health-based investigation levels and, if required, any potential impacts to buildings and structures from the presence of contaminants considered.	Groundwater monitoring was conducted as part of the remediation and validation process, as required by Condition of Consent B22. The data from the remediation GMEs 1 and 2 indicate that the remedial activities did not affect the groundwater quality neither promoted LNAPL mobilisation. In addition, groundwater historical data had demonstrated that there were no unacceptable health risks posed by the recorded concentrations of the CoPC to human health or the environment.
Hazard ground gases (where relevant) have been assessed against relevant health-based investigation levels and screening values.	Hazardous ground gases associated with hydrocarbon contamination were assessed as part of the remedial planning and execution.
Any issues relating to local area background soil concentrations that exceed relevant investigation levels have been adequately addressed in the site assessment reports.	Not applicable.
The impacts of chemical mixtures have been assessed.	Risks associated with chemical mixtures were not explicitly commented upon by ERM. However, the COPC were assessed as part of the HHERA (used to identify site specific risks of exposure) which would have considered cumulative risks of exposure to all identified chemicals.
Any potential ecological risks have been assessed.	Ecological risks had previously been evaluated in the groundwater monitoring programs that had been completed leading up to the remedial works. No ecological risks were identified to the key receptor, i.e. Duck River to the south of the WARP.
Any evidence of, or potential for, migration of contaminants from the site has been appropriately addressed, including potential risks to off-site receptors, and reported to the site owner or occupier.	The potential migration of contaminants has been assessed (principally via groundwater monitoring) and the risks of exposure deemed to be low and acceptable.

EPA's requirements	Auditor 's comments
The site management strategy (where relevant) is appropriate including post-remediation environmental plans.	Site management protocols were presented and discussed in **Section 14** of this SAR. The auditor considered that the LTEMP is suitable for the proposed industrial/commercial land uses and that there is appropriate public notification and legal enforceability.

Table 25 presents a summary of the conditions of SSD Nº 9302 (that were incorporated in the GWMP and other relevant documentation) and the auditor's assessment of compliance and risk to human health and the environment based on the data collected during the validation program.

Table 25 Summary of the conditions of SSD9302 and auditor's assessment

SSD Condition	Definition	Auditor comments
B22(b)	Include a program to monitor groundwater levels and quality during remediation works and following demobilisation	Groundwater monitoring was conducted by ERM during and following remedial works. The monitoring showed that there was a rise in the groundwater levels, but this was attributed to rainfall events and was not considered to influence the risk profile. Neither notable changes to pH in groundwater nor LNAPL was not recorded at any of the monitoring points.
B22(e)	Include trigger levels for investigating potential adverse impacts to the Duck River, including triggers for indicating if further remediation of groundwater is required	Appropriate trigger levels were nominated for the evaluation of data collected during the groundwater monitoring program. The concentrations of the majority of COPC were less than the level of reporting and all recorded concentrations were less than the trigger levels listed in the GWMP.
B22 (f)	Outline contingency actions to be implemented if monitoring indicates that natural attenuation is not occurring, or groundwater is having an adverse impact on the Duck River	Although MNA has not been demonstrated to be influencing the hydrocarbon concentrations, the majority are less than LOR and all are less than the nominated trigger levels. The silica gel clean-up analysis has shown that biodegradation of the hydrocarbons is occurring. The data that has been collected as part of the GWMP program, coupled with the data collected over the past ten years has shown that there is no unacceptable risk of exposure to human and health and the environment.
B22(g)	Monitor the effectiveness of management measures and contingency actions for reducing impacts	Neither management measures nor contingency actions were required during remediation. Groundwater monitoring was conducted during and after remediation: around excavation areas and at the down gradient site boundary. The data has shown that remediation has not affected groundwater quality and the risk to human health and the environment remains low and acceptable. The auditor noted that the most recent data set of CoPC detected in groundwater as well as the absence of LNAPL, have demonstrated there to be no unacceptable risks to on and off-site receptors.
B22(h)	Procedures for reporting changes to groundwater conditions that have the potential to create unacceptable risks to the Duck River.	

15. Audit conclusions

Remediation of AEC-3d, AEC-3e and AEC-14b was necessary to address the presence of soil contamination within AA2 that may affect human health and to enable the land to be used for commercial/industrial purposes. The approach to remediate AA2 was presented in the Stage 2 RAP that was subject to a site audit (as summarised by the site auditor in SAS 065-2127799 issued on 13 August 2021).

It is the auditor's opinion that based on the remedial and validation results discussed in this SAR, the AA2 within Stage 2 Area is suitable for commercial/industrial land uses, subject to implementation of the approved AA2 LTEMP. A copy of the AA2 LTEMP is presented in **Appendix E**.

The AA2 LTEMP prepared by ERM was reviewed and is considered to have been prepared in a manner consistent with NSW EPA made or endorsed guidelines. The auditor confirms that the four key requirements of an EMP (as listed in Section 3.4.6 of the Auditor Guidelines) have been met. The following residual contamination may be present that must be managed via the LTEMP:

– Hydrocarbon impacted soils - limited to aesthetic considerations (presence of hydrocarbon staining and/or odours) which may be identified during future intrusive works.
– While asbestos has not been identified above criteria for the proposed land-use, the long history of industrial land use and surrounding industries, it cannot be precluded that asbestos could be an unexpected find during further intrusive excavations within the Management Area. This applies to all proposed Lots subject to this SAR.

This SAR also confirms, as required by condition B7 of the Development Consent, that:

– the remedial works approved under the Development Consent have been completed in accordance with the remediation objectives listed in the Stage 2 RAP; and
– potential risks to human health and the environment have been addressed in accordance with the objectives of the Stage 2 RAP.

16. Disclaimer

This SAR and accompanying SAS have been prepared in accordance with relevant provisions of the Contaminated Land Management Act 1997.

This Report:

– Has been prepared the auditor and his support team as indicated in the appropriate sections of this SAR ("GHD") for Viva Energy.
– May be used and relied on by Viva Energy.
– May be used by and provided to the NSW EPA and the relevant planning authority for the purpose of meeting statutory obligations in accordance with the relevant sections of the.
– May be provided to other third parties but such third parties use of or reliance on the SAR is at their sole risk, as this SAR must not be relied on by any person other than those listed above without the prior written consent of GHD.
– May only be used for the purpose as stated in **Section 1.2** of the SAR (and must not be used for any other purpose).

GHD and its servants, employees and officers (including the auditor) otherwise expressly disclaim responsibility to any person other than Viva Energy arising from or in connection with this SAR.

To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by GHD and the SAR are excluded unless they are expressly stated to apply in this Report.

The services undertaken by the auditor, his team and GHD in connection with preparing this SAR:

– Were undertaken in accordance with current profession practice and by reference to relevant guidelines made or approved by the NSW EPA.
– The opinions, conclusions and any recommendations in this SAR are based on assumptions made by the auditor, his team and GHD when undertaking services and preparing the SAR ("Assumptions"), as specified throughout this SAR.
– GHD and the auditor expressly disclaim responsibility for any error in, or omission from, this SAR arising from or in connection with any of the Assumptions being incorrect.
– Subject to the paragraphs in this section of the SAR, the opinions, conclusions and any recommendations in this SAR are based on conditions encountered and information reviewed at the time of preparation of this SAR and are relevant until relevant legislations changes, at which time, GHD expressly disclaims responsibility for any error in, or omission from, this SAR arising from or in connection with those opinions, conclusions and any recommendations.

The auditor and GHD have prepared this SAR on the basis of information provided by Viva Energy and others who provided information to GHD (including Government authorities), which the auditor and GHD have not independently verified or checked ("Unverified Information") beyond the agreed scope of work.

The auditor and GHD expressly disclaim responsibility in connection with the Unverified Information, including (but not limited to) errors in, or omissions from, the SAR, which were caused or contributed to by errors in, or omissions from, the Unverified Information.

This SAR and SAS should be read in full, and no excerpts are taken to be representative of the findings of this SAR.

The opinions, conclusions and any recommendations in this SAR are based on information obtained from, and testing (if undertaken as specified in this SAR) undertaken at or in connection with previous reports.

Although reasonable care has been used to assess the extent to which the data collected from site is representative of the overall site condition and its beneficial uses, investigations undertaken in respect of this SAR are constrained by the particular conditions as discussed in this SAR.

Site conditions may change after the date of this SAR. The auditor and GHD expressly disclaim responsibility:

– Arising from, or in connection with, any change to the site conditions.
– To update this SAR if the site conditions change.

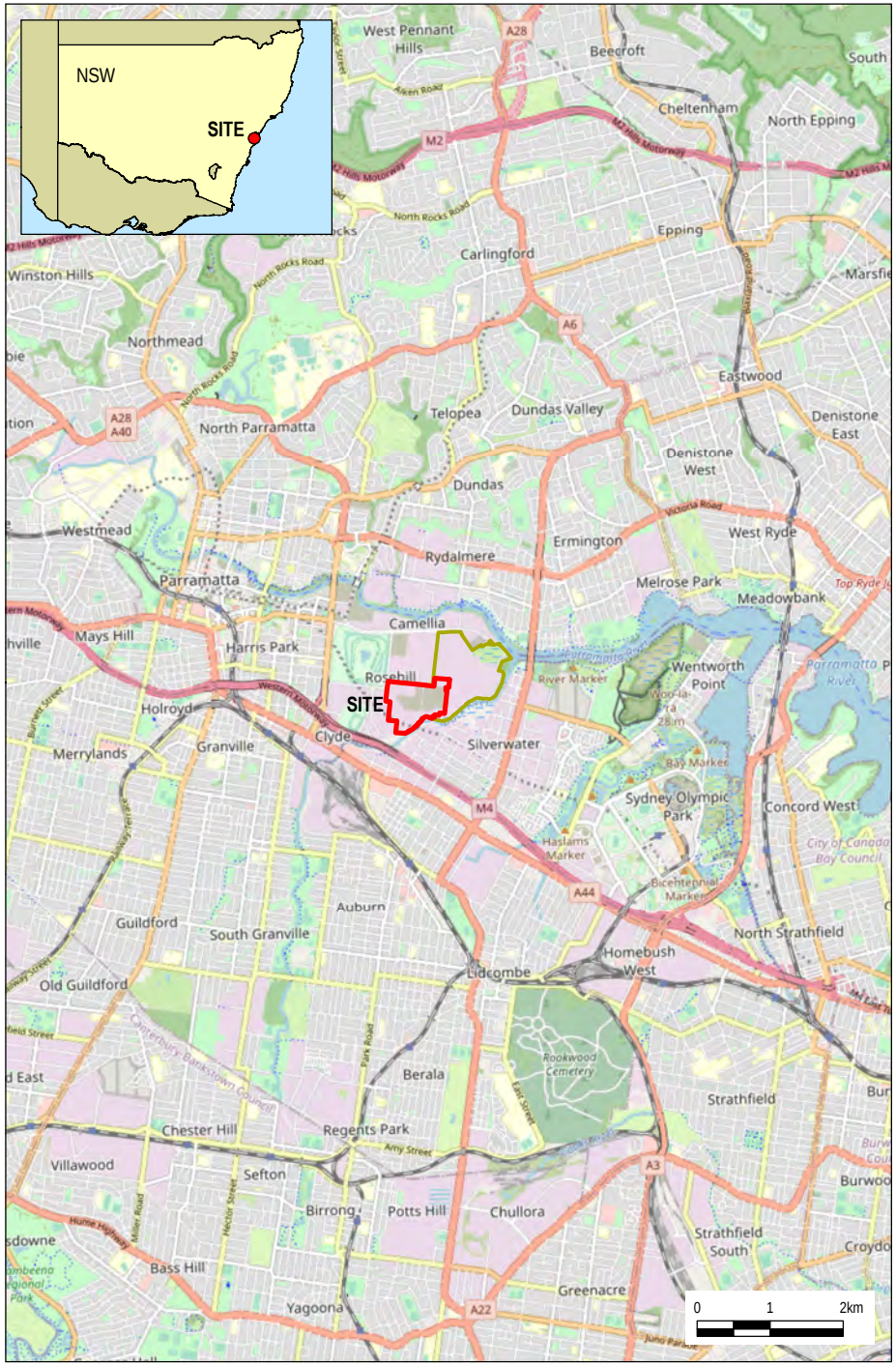
These Disclaimers should be read in conjunction with the entire SAR and no excerpts are taken to be representative of the findings of this SAR.

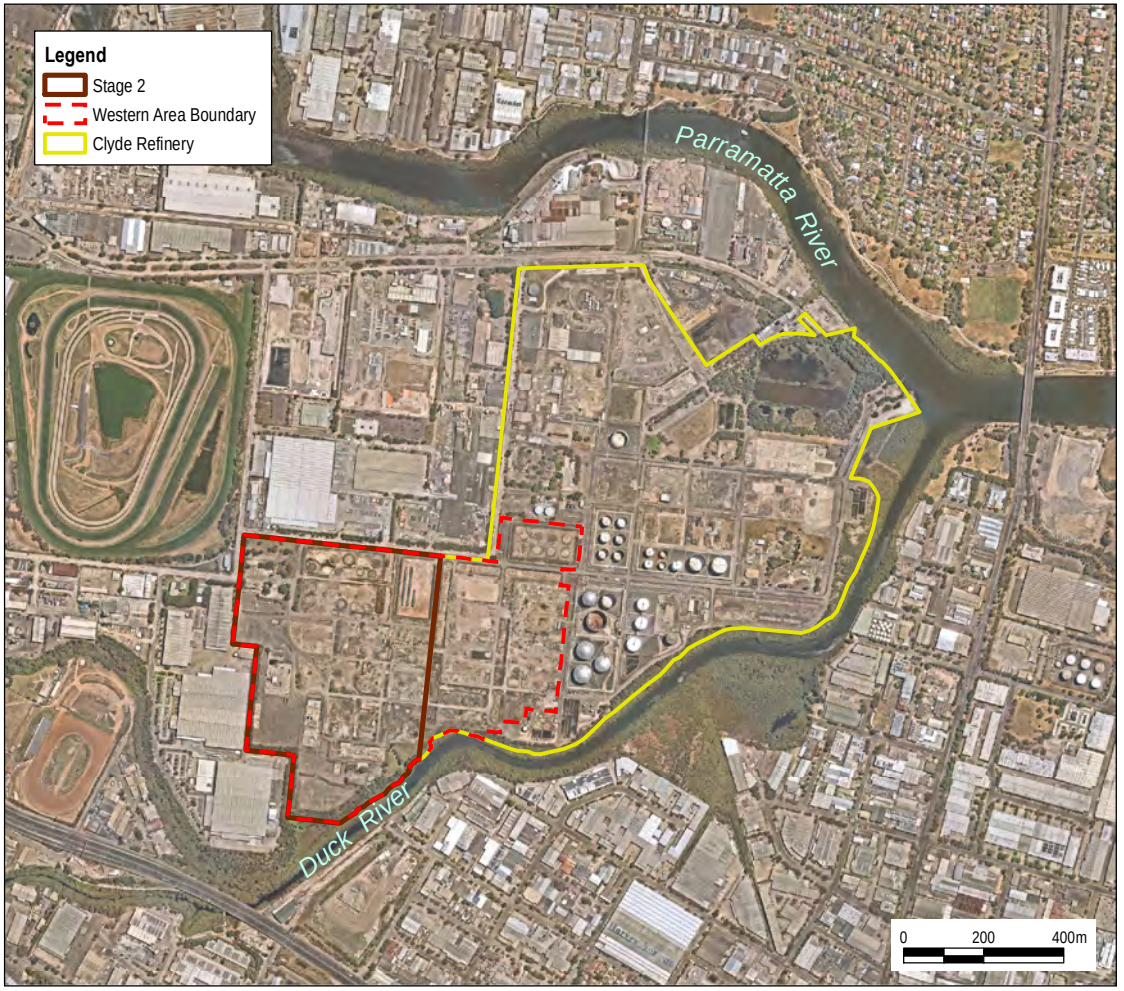
Appendices

Appendix A

Figures

Appendix A-1 Figures from Validation report





General Area Land Use:
Industrial
General Hydrogeology of Locality:
1. Soil Type:
Residual clay with minor silt and sand
2. Depth to aquifer:
1.0-3.0m bgs

Aquifer Usage:
Not known beneficial onsite extraction
Potentially Sensitive Receptors:
- Parramatta River (north eastern boundary)
- Duck River (southern boundary)

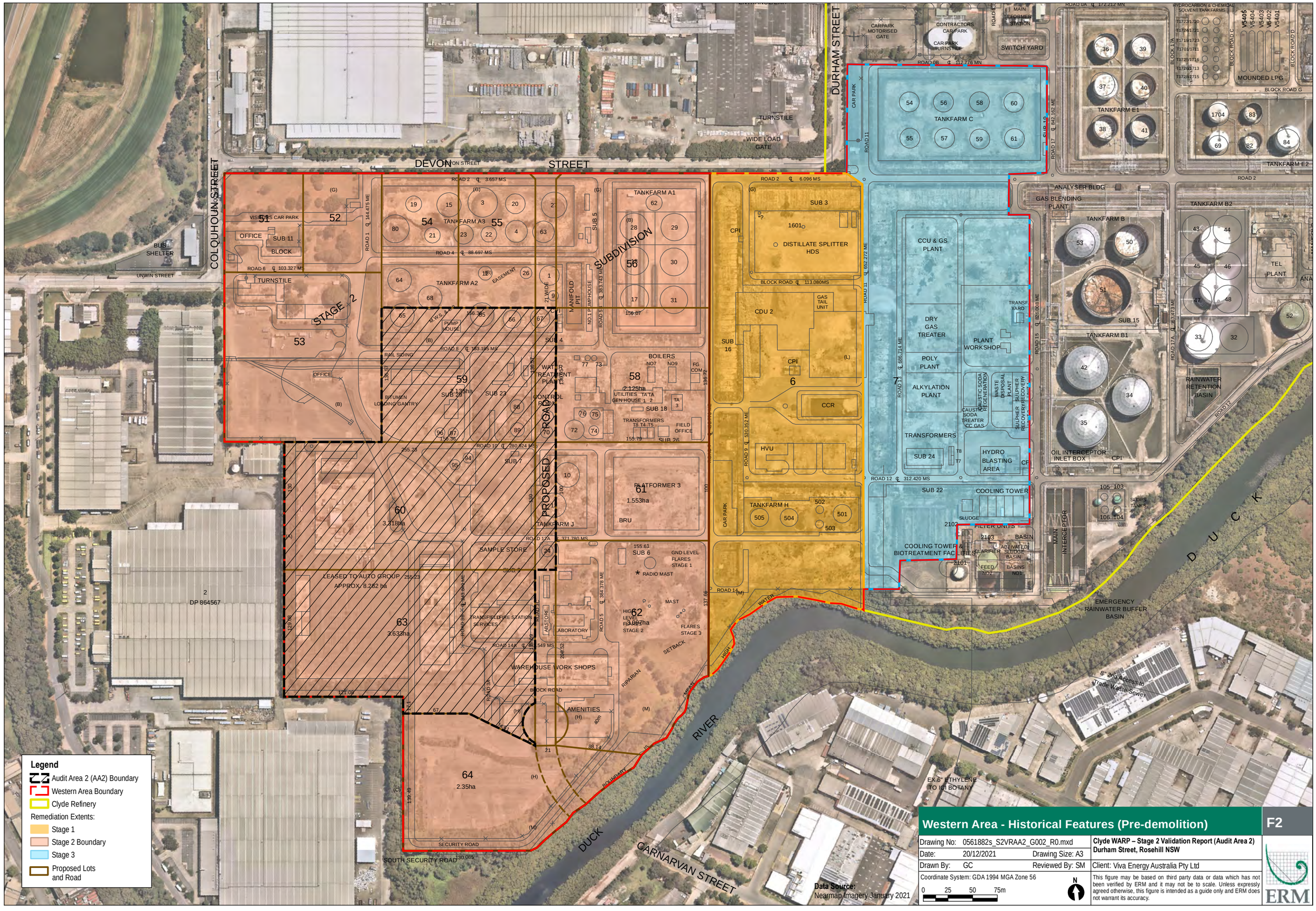
Source:
Nearmap Imagery January 2021
Locality: Esri, OpenStreetMap 2021

Site Locality

F1

Drawing No:	0561882s_S2VRAA2_G001_R0.mxd		**Clyde WARP – Stage 2 Validation Report (Audit Area 2) Durham Street, Rosehill NSW**
Date:	20/12/2021	Drawing Size: A4	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd
Coordinate System: GDA 1994 MGA Zone 56		N	This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

ERM


DURHAM STREET
COLQUHOUN STREET
DEVONSHIRE STREET
UNWIN STREET
CARPARK MOTORISED GATE
CONTRACTORS CAR PARK
CAR PARK TURNSTILE
MAIN TRANSFORMER STATION
SWITCH YARD
ROAD 0A ℄ 172.212 MN
ROAD 0B ℄ 112.776 MN
HYDROCARBON & CHEMICAL SOLVENT TANKFARMS
MOUNDED LPG
BLOCK ROAD G
TANKFARM E1
TANKFARM E2
TANKFARM C
TURNSTILE
WIDE LOAD GATE
BUS SHELTER
VISITORS CAR PARK
OFFICE
SUB 11
BLOCK
STAGE 2
SUBDIVISION
TANKFARM A1
TANKFARM A2
TANKFARM A3
MANIFOLD PIT
PUMPHOUSE
EASEMENT
PUMP HOUSE
RAIL SIDING
BITUMEN LOADING GANTRY
WATER TREATMENT PLANT
CONTROL ROOM
BOILERS
UTILITIES GEN HOUSE
TRANSFORMERS
FIELD OFFICE
SUB 18
SUB 23
SUB 26
SUB 28
PROPOSED ROAD
PLATFORMER 3
1.553ha
BRU
TANKFARM J
SAMPLE STORE
LEASED TO AUTO GROUP APPROX. 8.282 ha
TRANSFIELD FIRE STATION SERVICES
LABSTORE
LABORATORY
WAREHOUSE WORK SHOPS
AMENITIES
SECURITY ROAD
SOUTH SECURITY ROAD
SUB 3
1601
DISTILLATE SPLITTER HDS
CDU 2
GAS TAIL UNIT
SUB 16
CCR
HVU
SUB 4
SUB 5
SUB 6
GND LEVEL FLARES STAGE 1
RADIO MAST
HIGH LEVEL FLARES STAGE 2
FLARES STAGE 3
MAST
CCU & GS PLANT
DRY GAS TREATER
POLY PLANT
ALKYLATION PLANT
TRANSFORMERS
SUB 24
PLANT WORKSHOP
CAUSTIC SODA REGENERATION
CAUSTIC SODA TREATER
CC GAS
WASTE DISPOSAL PLANT
SULPHER RECOVERY
SULPHER RECOVERY
HYDRO BLASTING AREA
TRANSF YARD
ANALYSER BLDG
GAS BLENDING PLANT
TANKFARM B
TANKFARM B1
TANKFARM B2
SUB 15
TEL PLANT
RAINWATER RETENTION BASIN
OIL INTERCEPTOR INLET BOX
SUB 22
COOLING TOWER
SLUDGE
FILTER UNITS
BASIN
COOLING TOWER & BIOTREATMENT FACILITIES
CLARIFIER
ACTIVATED SLUDGE BASIN
FEED BASINS NO2
FEED BASINS NO1
MAIN INTERCEPTOR
SLOPS TANKS
TANKFARM H
CAR PARK
EMERGENCY RAINWATER BUFFER BASIN
8" 2nd Access to Trade Waste Sewer
EX 6" ETHYLENE TO ICI BOTANY
DUCK RIVER
DUCK
CARNARVAN STREET
WATER
HIGH
SETBACK
RIPARIAN
ARTERIAL
BOUNDARY
2 DP 864567
60 3.318ha
61 1.553ha
62 3.287ha
63 3.632ha
64 2.35ha
59 2.135ha
58 2.125ha
Legend
Audit Area 2 (AA2) Boundary
Western Area Boundary
Clyde Refinery
Remediation Extents:
Stage 1
Stage 2 Boundary
Stage 3
Proposed Lots and Road
Data Source:
Nearmap Imagery January 2021
Western Area - Historical Features (Pre-demolition)
F2
Drawing No: 0561882s_S2VRAA2_G002_R0.mxd
Date: 20/12/2021
Drawing Size: A3
Drawn By: GC
Reviewed By: SM
Coordinate System: GDA 1994 MGA Zone 56
0 25 50 75m
N
Clyde WARP – Stage 2 Validation Report (Audit Area 2)
Durham Street, Rosehill NSW
Client: Viva Energy Australia Pty Ltd
This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.
ERM

Stockpile Location (centroid)		
Stockpile ID	Eastings	Northings
SP30	317990.55	6255063.99
SP31	318027.27	6255056.47
SP36	317975.98	6254978.08
SP37	318015.09	6254938.89
SP41	317929.30	6254816.08
SP42	317960.39	6254801.35

Coord. Sys.: GDA 1994, MGA Zone 56

Remediation Extents			
Area	Point ID	Eastings	Northings
AEC-3d	15	317861.71	6254862.73
	16	317889.90	6254859.37
	17	317889.20	6254844.95
	18	317860.45	6254847.77
AEC-3e	19	317890.65	6254750.25
	20	317891.71	6254763.79
	21	317933.24	6254760.33
	22	317931.22	6254727.52
	23	317926.69	6254726.06
	24	317908.95	6254727.44
	25	317889.20	6254730.13
AEC-14b	42	317970.39	6255049.05
	43	317995.05	6255046.71
	44	317985.35	6254967.01
	45	317983.46	6254967.15
	46	317993.02	6255045.00
	47	317970.24	6255047.18

Coord. Sys.: GDA 1994, MGA Zone 56

Remediation Area of Concern	Estimated In-situ Volume (m^3)	Area (m^2)	Excavation Depth (m)
AEC-3d	842	421	2
AEC-3e	1400	1400	1
AEC-14b	192	192	1

Legend

- Audit Area 2 (AA2) Boundary
- Stage 2 Boundary
- Clyde Refinery
- Western Area Boundary
- Biopiling Area (Tankfarm A1)

Revised Extent of Remediation:

- Excavation/On-site Biopiling for Re-use

Stockpile Land Use Suitability:

- Disposal from Site
- Suitable for Reuse (subject to visual clearance or LTEMP)
- Unrestricted Reuse Onsite
- Lot Subdivision Boundaries (SSD 10459)

Data Source:
Nearmap Imagery January 2021

AA2 Features (Post-Demolition)

F3

Drawing No:	0561882s_S2VRAA2_G003_R0.mxd		**Clyde WARP – Stage 2 Validation Report (Audit Area 2)** **Durham Street, Rosehill NSW**
Date:	25/03/2022	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

0 25 50 75m

N

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

ERM

Analytes	TRH Aliphatic/Aromatic Split											TRH Silica Gel Cleanup			BTEX	Naphthalene	TRH NEPM (2013)				
	TRH >C6-C8 Aliphatic - 1	TRH >C8-C10 Aliphatic - 2	TRH >C10-C12 Aliphatic - 3	TRH >C12-C16 Aliphatic - 4	TRH >C16-C21 Aliphatic - 5	TRH >C21-C35 Aliphatic - 6	TRH >C8-C10 Aromatic - 7	TRH >C10-C12 Aromatic - 8	TRH >C12-C16 Aromatic - 9	TRH >C16-C21 Aromatic - 10	TRH >C21-C35 Aromatic - 11	TRH >C10-C16 Silica Gel Cleanup - 12	TRH >C16-C34 Silica Gel Cleanup - 13	TRH >C34-C40 Silica Gel Cleanup - 14	Benzene - 15	Naphthalene - 16	TRH C6-C10 Fraction - 17	TRH C6-C10 less BTEX - 18	TRH >C10-C16 Fraction less N - 19	TRH >C16-C34 Fraction - 20	TRH >C34-C40 Fraction - 21
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
Clyde WARP SSTL (Direct Contact - Commercial)	1200000	24000	24000	24000	470000	470000	9500	9500	9500	7100	7100				400	9800		28000	17000	27000	27000
Clyde WARP SSTL (Direct Contact - Construction Worker)	310000	62000	62000	62000	370000	370000	25000	25000	25000	18000	18000				1200	67000		69000	45000	64000	64000
Clyde WARP SSTL (Direct Contact - IMW)	3700000	740000	740000	740000	4400000	4400000	300000	300000	300000	220000	220000				15000	810000		830000	540000	770000	770000
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																					
0-0.99m	480	760	430	4300			110	280	430						3.2	NL		600	NL		
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																					
1-1.99m	610	980	600	8300			150	430	2800						3.2	NL		770	NL		
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																					
2-3.99m	880	1400	980	17000			230	750	5100						3.2	NL		NL	NL		
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																					
4-6m	1400	2200	1800	33000			420	1400	9800						3.2	NL		NL	NL		
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)	NL	NL	NL	NL			NL	NL	NL						NL	NL		NL	NL		
Clyde WARP SSTL (Vapour Intrusion - IMW)	NL	NL	NL	NL			NL	NL	NL	NL	NL				NL	NL		NL	NL		
NEPM (1999) Management Limits - Commercial/Industrial (coarse)												1000	3500	10,000			700				

	Depth (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
TP21/105	1.0	<10	17	390	450	420	58	<1	210	280	360	62	280	400	<100	<0.1	5.2	310	310	744.8	1100	200
	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.5	<20	<20	<50	<100	<100

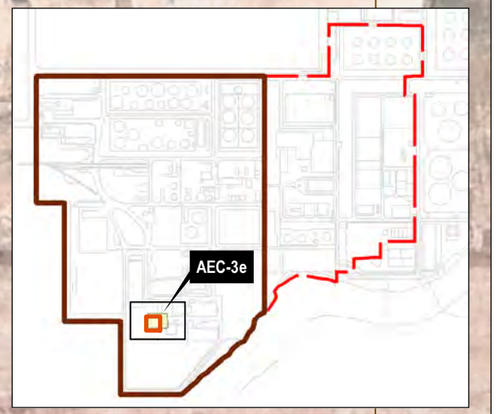
	Depth (m)	12	13	14	15	16	17	18	19	20	21
TP21/103	0.5	140	130	<100	<0.1	<0.5	<20	<20	180	230	<100
	2.0	<50	<100	<100	<0.2	<1	<10	<20	<50	<100	<100

	Depth (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
TP21/104	0.2	<10	40	14	55	24	21	<1	<10	23	36	32	-	-	-	<0.1	<0.5	<20	<20	<50	<100	<100
	1.0	160	240	3100	3100	2600	360	16	800	1200	1700	310	1100	1400	250	<1	17	1300	1300	1883	1900	350
	1.5	59	170	390	450	400	56	13	170	220	270	48	360	290	<100	0.1	4.3	380	370	325.7	470	<100

	Depth (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
TP21/102	1.0	80	270	470	520	480	65	27	890	1100	1400	210	2000	1700	270	<0.1	14	630	610	1186	2000	310
	2.0	170	290	260	300	260	30	39	410	560	680	110	260	310	<100	<0.1	6.8	290	280	823.2	1200	190

Legend

- Stage 2 Boundary
- Western Area Boundary
- AEC-3e Revised Excavation Extent
- Former AEC-3e Excavation Extent
- Test Pit



TP21/78 - PID
1.2ppm @ 0.3m bgl
1.0ppm @ 1.0m bgl
0.3ppm @ 2.0m bgl

Remediation Extents			
Area	Point ID	Eastings	Northings
Former AEC-3e	19	317890.65	6254750.25
	20	317891.71	6254763.79
	21	317933.24	6254760.33
	22	317931.22	6254727.52
	23	317926.69	6254726.06
	24	317908.95	6254727.44
	25	317889.20	6254730.13

Coord. Sys.: GDA 1994, MGA Zone 56

Remediation Extents			
Area	Point ID	Eastings	Northings
Revised AEC-3e	A	317887.47	6254756.34
	B	317917.30	6254753.19
	C	317914.16	6254723.36
	D	317884.32	6254726.50

Coord. Sys.: GDA 1994, MGA Zone 56

Remediation Area of Concern	Estimated In-situ Volume (m^3)	Excavation Area (m^2)	Excavation Depth (m bgl)
Former AEC-3e	1400	1400	1
Revised AEC-3e	1350	900	1.5

Data Source:
Nearmap imagery August 2021

AEC-3e - Delineation Test Pits and Revised Excavation Extent

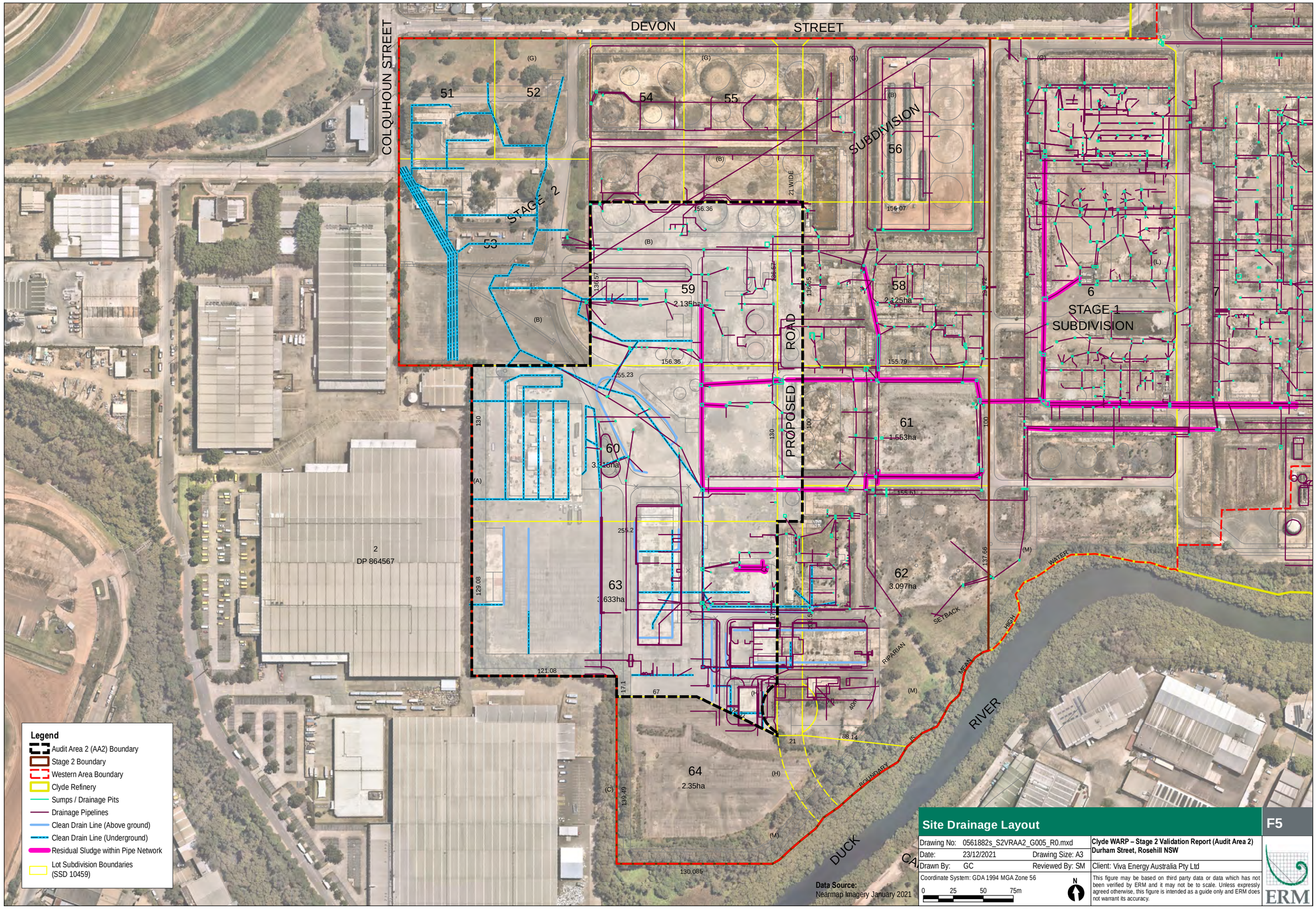
F4

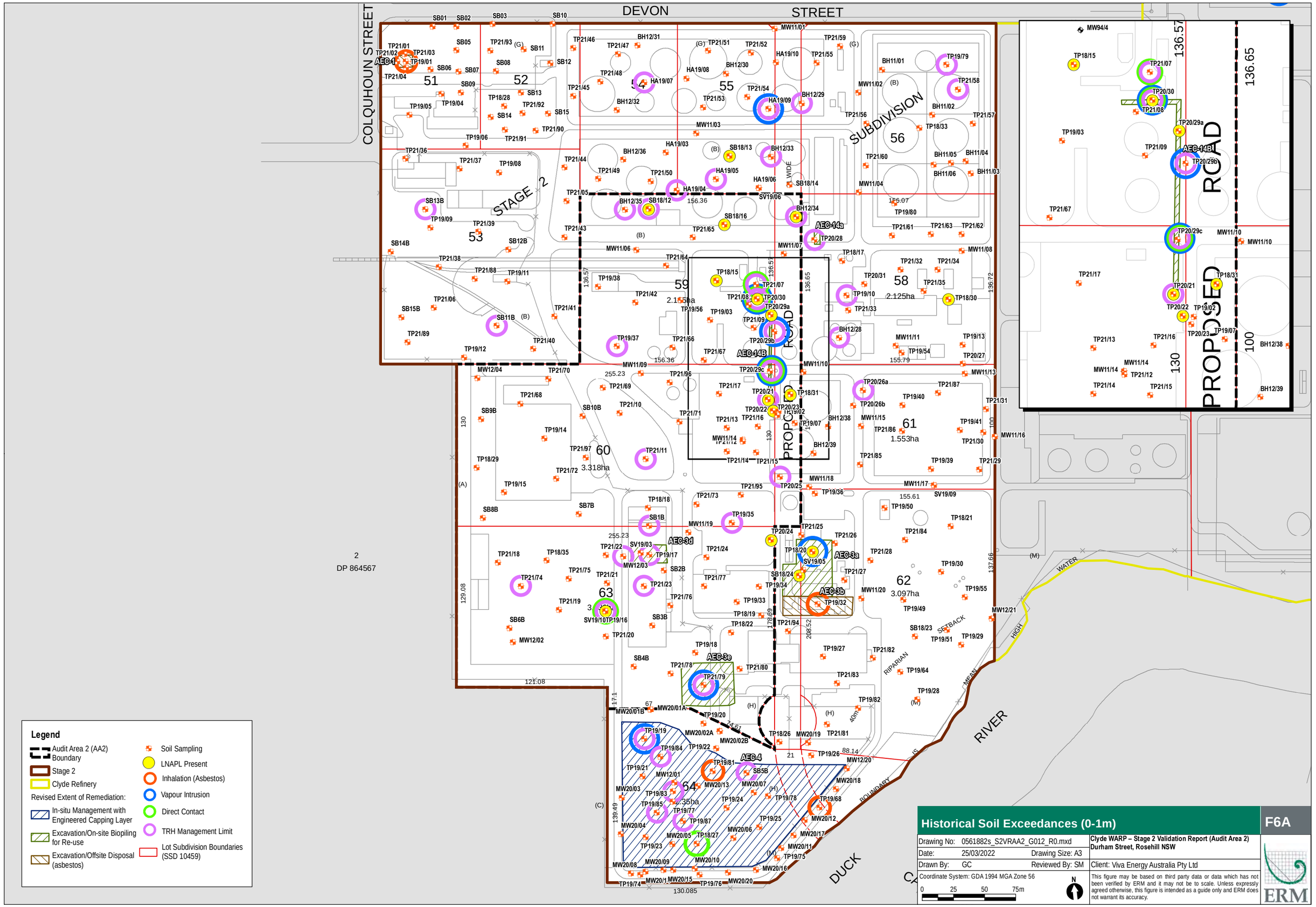
Drawing No: 0561882s_S2VRAA2_G004_R0.mxd	**Clyde WARP – Stage 2 Validation Report (Audit Area 2) Durham Street, Rosehill NSW**
Date: 20/12/2021 Drawing Size: A3	
Drawn By: GC Reviewed By: SM	Client: Viva Energy Australia Pty Ltd
Coordinate System: GDA 1994 MGA Zone 56	This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

0 2.5 5 7.5m

N

ERM


DEVON STREET
COLQUHOUN STREET
SUBDIVISION
STAGE 2
STAGE 1 SUBDIVISION
PROPOSED ROAD
51
52
53
54
55
56
58
2.325ha
59
2.135ha
60
3.331ha
61
1.553ha
62
3.097ha
63
3.633ha
64
2.35ha
6
7
2
DP 864567
21 WIDE
RIVER
DUCK
WATER
HIGH
MEAN
SETBACK
RIPARIAN
BOUNDARY
156.36
156.07
155.79
155.61
155.23
136.57
136.65
136.72
255.2
129.08
121.08
139.49
130.085
88.14
137.66
Legend
Audit Area 2 (AA2) Boundary
Stage 2 Boundary
Western Area Boundary
Clyde Refinery
Sumps / Drainage Pits
Drainage Pipelines
Clean Drain Line (Above ground)
Clean Drain Line (Underground)
Residual Sludge within Pipe Network
Lot Subdivision Boundaries (SSD 10459)
Data Source:
Nearmap Imagery January 2021
Site Drainage Layout
F5
Drawing No: 0561882s_S2VRAA2_G005_R0.mxd
Date: 23/12/2021
Drawing Size: A3
Drawn By: GC
Reviewed By: SM
Coordinate System: GDA 1994 MGA Zone 56
0 25 50 75m
N
Clyde WARP – Stage 2 Validation Report (Audit Area 2)
Durham Street, Rosehill NSW
Client: Viva Energy Australia Pty Ltd
This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.
ERM


DEVON STREET
COLQUHOUN STREET
SUBDIVISION
STAGE 2
PROPOSED ROAD
AEC-1
AEC-14B
AEC-14a
AEC-8d
AEC-8a
AEC-8b
AEC-8e
AEC-4
51
52
53
54
55
56
58
59
60
61
62
63
64
2.125ha
1.553ha
3.318ha
3.097ha
2.35ha
2
DP 864567
RIVER
DUCK
WATER
RIPARIAN
SETBACK
HIGH
MEAN
BOUNDARY
Legend
Audit Area 2 (AA2) Boundary
Stage 2
Clyde Refinery
Revised Extent of Remediation:
In-situ Management with Engineered Capping Layer
Excavation/On-site Biopiling for Re-use
Excavation/Offsite Disposal (asbestos)
Soil Sampling
LNAPL Present
Inhalation (Asbestos)
Vapour Intrusion
Direct Contact
TRH Management Limit
Lot Subdivision Boundaries (SSD 10459)
Historical Soil Exceedances (0-1m)
F6A
Drawing No: 0561882s_S2VRAA2_G012_R0.mxd
Clyde WARP – Stage 2 Validation Report (Audit Area 2)
Durham Street, Rosehill NSW
Date: 25/03/2022
Drawing Size: A3
Drawn By: GC
Reviewed By: SM
Client: Viva Energy Australia Pty Ltd
Coordinate System: GDA 1994 MGA Zone 56
0 25 50 75m
This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.
ERM

COLQUHOUN STREET

DEVON STREET

SUBDIVISION

PROPOSED ROAD

STAGE 2

2
DP 864567

RIVER

DUCK CREEK

WATER

SETBACK

HIGH

MEAN

RIPARIAN

BOUNDARY

51 52 53 54 55 56 57 58 59 60 61 62 63

2.155ha 3.318ha 3.632ha 2.125ha 1.553ha 3.097ha 3.45ha

AEC-1 AEC-14a AEC-14B AEC-9d AEC-9a AEC-9b AEC-9e AEC-4

Legend

- Audit Area 2 (AA2) Boundary
- Stage 2
- Clyde Refinery

Revised Extent of Remediation:

- In-situ Management with Engineered Capping Layer
- Excavation/On-site Biopiling for Re-use
- Excavation/Offsite Disposal (asbestos)

- Soil Sampling Location
- LNAPL Present
- Inhalation (Asbestos)
- Vapour Intrusion
- Direct Contact
- TRH Management Limit
- Lot Subdivision Boundaries (SSD 10459)

Historical Soil Exceedances (1-2m)

F6B

Drawing No:	0561882s_S2VRAA2_G013_R0.mxd		**Clyde WARP – Stage 2 Validation Report (Audit Area 2) Durham Street, Rosehill NSW**
Date:	25/03/2022	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

0 25 50 75m

N

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ERM

Historical Soil Exceedances (2-4m)

F6C

Drawing No:	0561882s_S2VRAA2_G014_R0.mxd		Clyde WARP – Stage 2 Validation Report (Audit Area 2) Durham Street, Rosehill NSW
Date:	25/03/2022	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

0 25 50 75m

N

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ERM

Legend

- Audit Area 2 (AA2) Boundary
- Stage 2
- Clyde Refinery

Revised Extent of Remediation:

- In-situ Management with Engineered Capping Layer
- Excavation/On-site Biopiling for Re-use
- Excavation/Offsite Disposal (asbestos)
- Soil Sampling Location
- LNAPL Present
- Inhalation (Asbestos)
- Vapour Intrusion
- Direct Contact
- TRH Management Limit
- Lot Subdivision Boundaries (SSD 10459)

DEVON STREET

COLQUHOUN STREET

STAGE 2

SUBDIVISION

STAGE 1 SUBDIVISION

PROPOSED ROAD

RIVER

DUCK CREEK

WATER

SETBACK

HIGH

MEAN

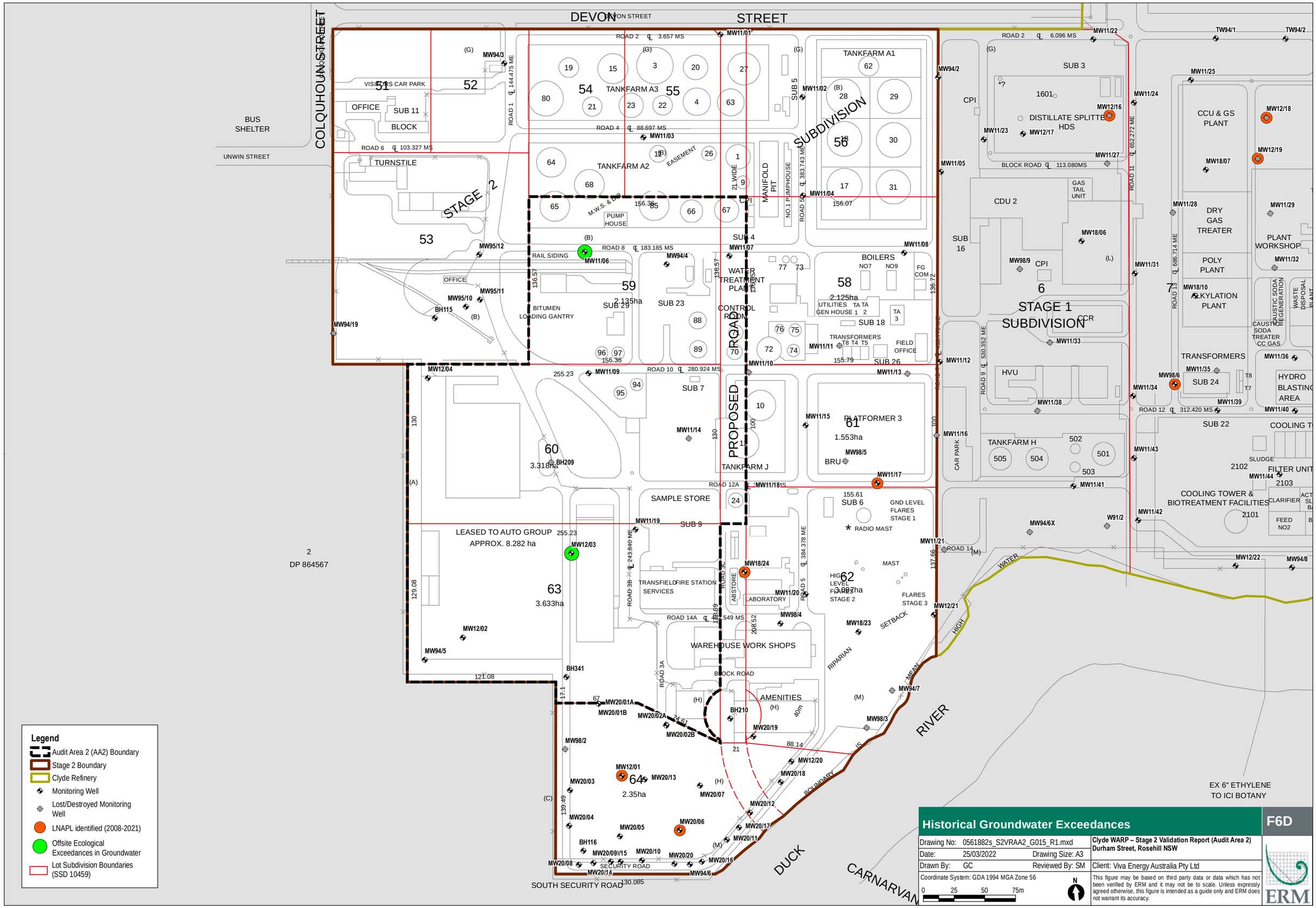
RIPARIAN

BOUNDARY

51 52 53 54 55 56 58 59 60 61 62 63 6 7

2.155ha 3.318ha 3.632ha 2.125ha 1.553ha 3.097ha

2
DP 864567


DEVON STREET
COLQUHOUN STREET
UNWIN STREET
BUS SHELTER
VISITORS CAR PARK
OFFICE
SUB 11
BLOCK
TURNSTILE
STAGE 2
SUBDIVISION
TANKFARM A1
TANKFARM A2
TANKFARM A3
MANIFOLD PIT
NO.1 PUMPHOUSE
SUB 5
SUB 4
PUMP HOUSE
EASEMENT
21 WIDE
M.W.S. & D.B.
RAIL SIDING
OFFICE
BITUMEN LOADING GANTRY
WATER TREATMENT PLANT
CONTROL ROOM
BOILERS
NO7
NO9
FG COM
UTILITIES
GEN HOUSE 1
TA 2
TA 3
SUB 18
TRANSFORMERS T8 T4 T5
FIELD OFFICE
SUB 26
SUB 23
SUB 29
SUB 7
SUB 9
PROPOSED ROAD
PLATFORMER 3
1.553ha
BRU
TANKFARM J
SAMPLE STORE
SUB 6
GND LEVEL FLARES STAGE 1
RADIO MAST
MAST
HIGH LEVEL FLARES STAGE 2
FLARES STAGE 3
TRANSFIELD SERVICES
FIRE STATION
ABSTORE
ABORATORY
WAREHOUSE WORK SHOPS
BLOCK ROAD
AMENITIES
SETBACK
RIPARIAN
MEAN
HIGH
WATER
RIVER
DUCK
CARNARVAN
BOUNDARY
SOUTH SECURITY ROAD
SECURITY ROAD
LEASED TO AUTO GROUP
APPROX. 8.282 ha
2
DP 864567
EX 6" ETHYLENE TO ICI BOTANY
SUB 3
1601
DISTILLATE SPLITTER HDS
CPI
CDU 2
GAS TAIL UNIT
SUB 16
STAGE 1 SUBDIVISION
CCR
HVU
CAR PARK
TANKFARM H
SUB 24
SUB 22
CCU & GS PLANT
DRY GAS TREATER
POLY PLANT
ALKYLATION PLANT
CAUSTIC SODA REGENERATION
WASTE DISPOSAL
CAUSTIC SODA TREATER CC GAS
PLANT WORKSHOP
TRANSFORMERS
HYDRO BLASTING AREA
COOLING TOWER & BIOTREATMENT FACILITIES
SLUDGE
FILTER UNIT
CLARIFIER
FEED NO2
2101
2102
2103
ROAD 1
ROAD 2
ROAD 3
ROAD 4
ROAD 5
ROAD 6
ROAD 8
ROAD 9
ROAD 10
ROAD 11
ROAD 12
ROAD 12A
ROAD 13
ROAD 14
ROAD 14A
BLOCK ROAD
Legend
Audit Area 2 (AA2) Boundary
Stage 2 Boundary
Clyde Refinery
Monitoring Well
Lost/Destroyed Monitoring Well
LNAPL identified (2008-2021)
Offsite Ecological Exceedances in Groundwater
Lot Subdivision Boundaries (SSD 10459)
Historical Groundwater Exceedances
F6D
Drawing No: 0561882s_S2VRAA2_G015_R1.mxd
Date: 25/03/2022
Drawing Size: A3
Drawn By: GC
Reviewed By: SM
Coordinate System: GDA 1994 MGA Zone 56
0 25 50 75m
Clyde WARP – Stage 2 Validation Report (Audit Area 2) Durham Street, Rosehill NSW
Client: Viva Energy Australia Pty Ltd
This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.
ERM

Analytes	TRH >C8-C10 Aliphatic	Benzene	Naphthalene
Units	mg/m³	ppmv	ppmv
Clyde WARP SSTL - SV VI - Commercial 0.15m	4200	18	14

SV19/07	Naphthalene
	20.5

SV19/05	TRH >C8-C10 Aliphatic	Benzene
	5350	383

Legend

- Audit Area 2 (AA2) Boundary
- Stage 2 Boundary
- Clyde Refinery
- Monitoring Well
- Lost/Destroyed Monitoring Well
- Soil Vapour Well
- Lot Subdivision Boundaries (SSD 10459)

Historical Soil Vapour Exceedances

F6E

Drawing No:	0561882s_S2VRAA2_G016_R0.mxd		Clyde WARP – Stage 2 Validation Report (Audit Area 2) Durham Street, Rosehill NSW
Date:	25/03/2022	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

0 25 50 75m

N

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ERM

Analytes	TRH Silica Gel Cleanup	TRH NEPM (2013)	PAH
	TRH >C10-C16 Silica Gel Cleanup	TRH >C10-C16 Fraction	Benzo(a)pyrene TEQ (medium bound)
Units	mg/kg	mg/kg	mg/kg
Clyde WARP SSTL (Direct Contact - Commercial)		17000	40
NEPM (1999) Management Limits - Commercial/Industrial (coarse)	1000		

Remediation Area of Concern	Estimated In-situ Volume (m^3)	Excavation Area (m^2)	Excavation Depth (m bgl)
Former AEC-14b	192	192	1
Revised AEC-14b	841	561	1.5

Remediation Extents			
Area	Point ID	Eastings	Northings
Former AEC-14b	42	317970.39	6255049.05
	43	317995.05	6255046.71
	44	317985.35	6254967.01
	45	317983.46	6254967.15
	46	317993.02	6255045.00
	47	317970.24	6255047.18

Coord. Sys.: GDA 1994, MGA Zone 56

Remediation Extents			
Area	Point ID	Eastings	Northings
Revised AEC-14b	A	317982.07	6254968.72
	B	317982.35	6254976.36
	C	317982.69	6254979.42
	D	317983.93	6254982.56
	E	317984	6254983.76
	F	317983.59	6254990.02
	G	317983.06	6254992.43
	H	317983.43	6254995.04
	I	317983.77	6254997.56
	J	317984.26	6254999.41
	K	317984.75	6255001.87
	L	317985.4	6255005.62
	M	317985.56	6255011.51
	N	317988.16	6255020.41
	O	317988.33	6255022.41
	P	317988.34	6255024.41
	Q	317989.55	6255029.46
	R	317990.09	6255031.04
	S	317991.67	6255036.08
	T	317991.96	6255039.18
	U	317992.25	6255041.84
	W	317992.12	6255043.58
	X	317990.36	6255043.91
	Y	317987.74	6255044.33
	Z	317985.1	6255044.82
	AA	317982.59	6255045.24
	AB	317978.85	6255045.97
	AC	317976.23	6255046.3
	AD	317972.81	6255046.93
	AE	317969.97	6255047.09
	AF	317970.21	6255049.67
	AG	317974.25	6255049.95
	AH	317981.14	6255048.7
	AI	317983.88	6255048.28
	AJ	317995.68	6255046.68
	AK	317997.48	6255046.3
	AL	317997.4	6255043.97
	AM	317994.59	6255043.99
	AN	317994.43	6255042.23
	AO	317994.29	6255039.63
	AP	317993.98	6255035.78
	AQ	317993.82	6255032.73
	AR	317993.58	6255030.44
	AS	317993.05	6255027.54
	AT	317991.51	6255010.12
	AU	317990.6	6255005.16
	AV	317991.1	6254982.92
	AW	317991.28	6254977.54
	AX	317991.3	6254975.6
	AY	317991.29	6254969.5
	AZ	317991.42	6254965.52
	BA	317991.26	6254964.4
	BB	317990.13	6254964.41
	BC	317987.73	6254964.53
	BD	317983.34	6254964.71
	BE	317981.94	6254965.21

Coord. Sys.: GDA 1994, MGA Zone 56

14B-1-B	Depth (m)	Benzo(a)pyrene TEQ (medium bound)
	1.0	47
14B-1-B-RV	1.5	0.6

14B-5-E	Depth (m)	TRH >C10-C16 Silica Gel Cleanup
	0.5	1100
14B-5-E-RV	0.5	<50

14B-8-B	Depth (m)	TRH >C10-C16 Silica Gel Cleanup	TRH >C10-C16 Fraction
	1.0	1600	-
14B-8-B-RV	1.5	-	<50

14B-10-W	Depth (m)	Benzo(a)pyrene TEQ (medium bound)
	0.5	41
14B-10-W-RV	0.5	0.6

Former orientation of unexpected find (conduit suspected of containing asbestos)

Legend

- Audit Area 2 (AA2) Boundary
- Stage 2
- Western Area Boundary
- Clyde Refinery
- Former AEC-14b Excavation Extent
- AEC-14b Revised Excavation Extent

Stockpiles:

- Disposal from Site (Removed)
- Suitable for Reuse (subject to visual clearance or LTEMP)
- Unrestricted Reuse
- Monitoring Well
- Lost/Destroyed Monitoring Well
- Soil Sampling
- Test Pit Location
- Test Pit (Visual Observation)
- Validation Sample
- Lot Subdivision Boundaries (SSD 10459)

Data Source: Nearmap imagery October 2021

AEC-14b and SP30 Validation Sampling Locations

F7

Drawing No: 0561882s_S2VRAA2_G007_R1.mxd
Date: 25/03/2022 Drawing Size: A3
Drawn By: GC Reviewed By: SM
Coordinate System: GDA 1994 MGA Zone 56
0 5 10 15m

Clyde WARP – Stage 2 Validation Report (Audit Area 2)
Durham Street, Rosehill NSW

Client: Viva Energy Australia Pty Ltd

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ERM

Analytes	TRH Silica Gel Cleanup
	TRH >C10-C16 Silica Gel Cleanup
Units	mg/kg
NEPM (1999) Management Limits - Commercial/Industrial (coarse)	1000

Remediation Area of Concern	Estimated In-situ Volume (m^3)	Excavation Area (m^2)	Excavation Depth (m bgl)
Former AEC-3d	842	421	2
Revised AEC-3d	944	472	2

Remediation Extents			
Area	Point ID	Eastings	Northings
Revised AEC-3d	A	317885.25	6254844.94
	B	317880.99	6254845.47
	C	317875.46	6254845.96
	D	317874.00	6254846.14
	E	317866.67	6254847.03
	F	317865.89	6254847.11
	G	317860.37	6254847.63
	H	317860.50	6254849.43
	I	317860.76	6254853.20
	J	317860.91	6254855.24
	K	317861.27	6254859.51
	L	317861.54	6254861.40
	M	317861.72	6254862.79
	N	317863.51	6254863.78
	O	317865.42	6254863.64
	P	317866.55	6254863.55
	Q	317867.86	6254863.44
	R	317876.51	6254862.46
	S	317877.78	6254862.33
	T	317886.02	6254861.54
	U	317887.16	6254861.36
	V	317888.52	6254861.12
	W	317889.53	6254860.79
	X	317889.91	6254859.38
	Y	317889.61	6254853.76
	Z	317889.42	6254848.70
	AA	317889.21	6254844.83
	AB	317887.90	6254844.55
	AC	317886.63	6254844.74

Coord. Sys.: GDA 1994, MGA Zone 56

Remediation Extents			
Area	Point ID	Eastings	Northings
Former AEC-3d	15	317861.71	6254862.73
	16	317889.90	6254859.37
	17	317889.20	6254844.95
	18	317860.45	6254847.77

Coord. Sys.: GDA 1994, MGA Zone 56

3D_C2_S	Depth (m)	TRH >C10-C16 Silica Gel Cleanup
	0.5	1200

3D_C4_S	Depth (m)	TRH >C10-C16 Silica Gel Cleanup
	0.5	1600

3D_C5_S	Depth (m)	TRH >C10-C16 Silica Gel Cleanup
	0.5	1600

3D_C5_E	Depth (m)	TRH >C10-C16 Silica Gel Cleanup
	0.5	1100

Legend

- Audit Area 2 (AA2) Boundary
- Stage 2
- Western Area Boundary
- Clyde Refinery
- Former AEC-14b Excavation Extent
- AEC-3d Revised Excavation Extent
- Monitoring Well
- Soil Vapour Well
- Soil Sampling Location
- Test Pit Location
- Validation Sample
- Lot Subdivision Boundaries (SSD 10459)

Data Source:
Nearmap Imagery October 2021

AEC-3d Validation Sampling Locations

F8

Drawing No:	0561882s_S2VRAA2_G008_R0.mxd		Clyde WARP – Stage 2 Validation Report (Audit Area 2) Durham Street, Rosehill NSW
Date:	25/03/2022	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

0 2.5 5 7.5m

N

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ERM

Analytes	TRH Silica Gel Cleanup
	TRH >C10-C16 Silica Gel Cleanup
Units	mg/kg
NEPM (1999) Management Limits - Commercial/Industrial (coarse)	1000

Remediation Area of Concern	Estimated In-situ Volume (m^3)	Excavation Area (m^2)	Excavation Depth (m bgl)
Former AEC-3e	1400	1400	1
Revised AEC-3e	936	936	1

Remediation Extents			
Area	Point ID	Eastings	Northings
Revised AEC-3e	A	317903.53	6254724.46
	B	317899.79	6254724.92
	C	317895.75	6254725.30
	D	317886.85	6254726.17
	E	317885.69	6254726.32
	F	317884.28	6254726.49
	G	317885.22	6254739.57
	H	317885.42	6254740.92
	I	317886.23	6254747.41
	J	317886.89	6254752.94
	K	317887.06	6254754.23
	L	317887.36	6254756.35
	M	317899.51	6254755.09
	N	317900.41	6254754.99
	O	317908.72	6254754.30
	P	317917.79	6254753.61
	Q	317917.84	6254751.28
	R	317917.73	6254750.31
	S	317917.12	6254744.58
	T	317916.78	6254740.54
	U	317916.61	6254737.46
	V	317916.02	6254733.11
	W	317915.10	6254726.11
	X	317914.99	6254725.37
	Y	317914.62	6254723.29
	Z	317911.96	6254723.53
	AA	317909.67	6254723.74
	AB	317907.42	6254724.02
	AC	317906.01	6254724.19

Coord. Sys.: GDA 1994, MGA Zone 56

Remediation Extents			
Area	Point ID	Eastings	Northings
Former AEC-3e	19	317890.65	6254750.25
	20	317891.71	6254763.79
	21	317933.24	6254760.33
	22	317931.22	6254727.52
	23	317926.69	6254726.06
	24	317908.95	6254727.44
	25	317889.20	6254730.13

Coord. Sys.: GDA 1994, MGA Zone 56

Starting point and direction of unexpected find – suspected asbestos conduit (Approx coordinates: E 317854, N 6254830)

3E-E3-S	Depth (m)	TRH >C10-C16 Silica Gel Cleanup
	1.0	1000

Legend

- Audit Area 2 (AA2) Boundary
- Stage 2
- Western Area Boundary
- Clyde Refinery
- Former AEC-14b Excavation Extent
- AEC-3d Revised Excavation Extent
- Monitoring Well
- Soil Sampling Location
- Test Pit Location
- Test Pit (Visual Observation)
- Validation Sample
- Lot Subdivision Boundaries (SSD 10459)

Data Source:
Nearmap Imagery October 2021

AEC-3e Validation Sampling Locations

F9

Drawing No:	0561882s_S2VRAA2_G009_R0.mxd		Clyde WARP – Stage 2 Validation Report (Audit Area 2) Durham Street, Rosehill NSW
Date:	25/03/2022	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

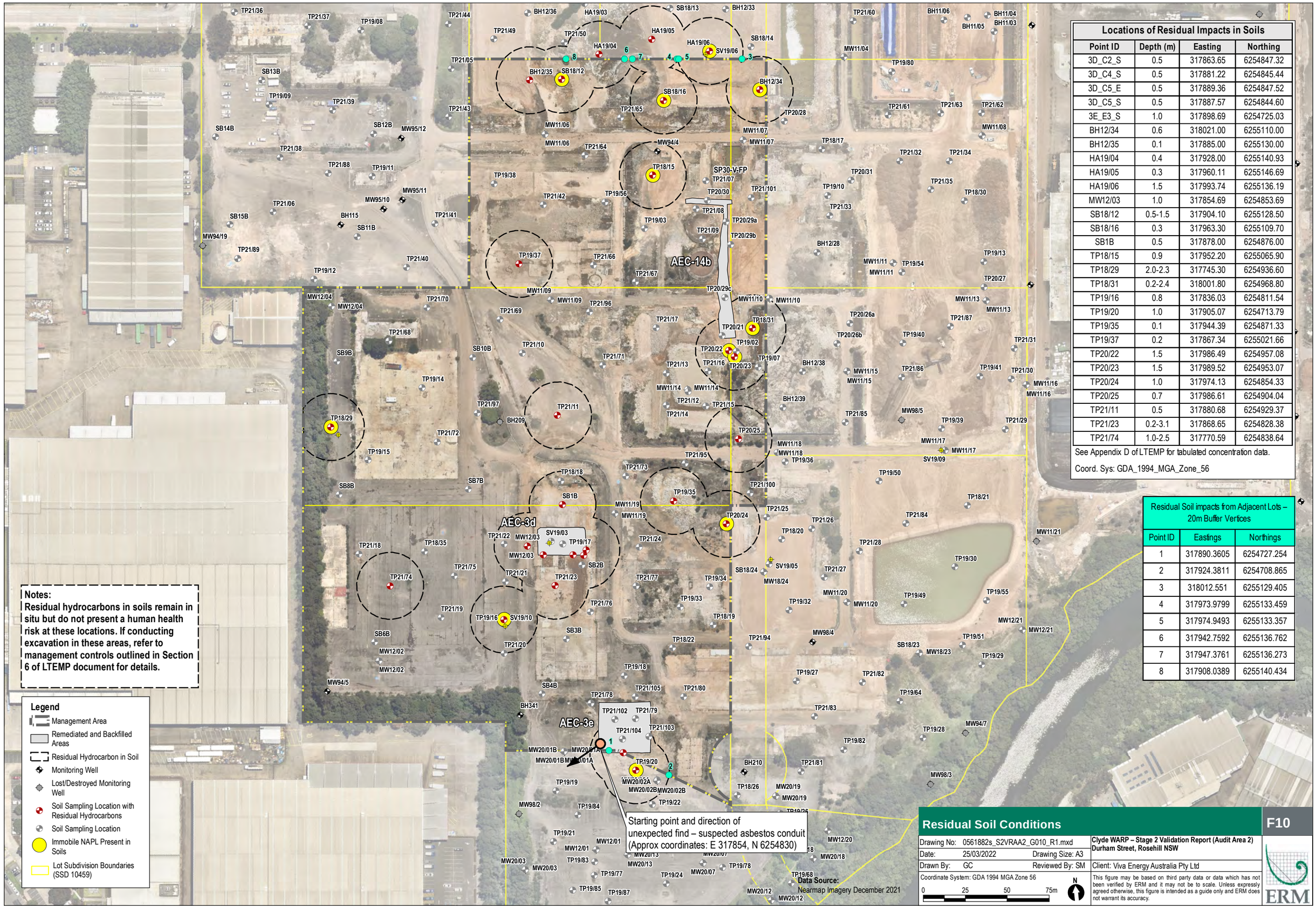
Coordinate System: GDA 1994 MGA Zone 56

0 2.5 5 7.5m

N

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

ERM



Locations of Residual Impacts in Soils			
Point ID	Depth (m)	Easting	Northing
3D_C2_S	0.5	317863.65	6254847.32
3D_C4_S	0.5	317881.22	6254845.44
3D_C5_E	0.5	317889.36	6254847.52
3D_C5_S	0.5	317887.57	6254844.60
3E_E3_S	1.0	317898.69	6254725.03
BH12/34	0.6	318021.00	6255110.00
BH12/35	0.1	317885.00	6255130.00
HA19/04	0.4	317928.00	6255140.93
HA19/05	0.3	317960.11	6255146.69
HA19/06	1.5	317993.74	6255136.19
MW12/03	1.0	317854.69	6254853.69
SB18/12	0.5-1.5	317904.10	6255128.50
SB18/16	0.3	317963.30	6255109.70
SB1B	0.5	317878.00	6254876.00
TP18/15	0.9	317952.20	6255065.90
TP18/29	2.0-2.3	317745.30	6254936.60
TP18/31	0.2-2.4	318001.80	6254968.80
TP19/16	0.8	317836.03	6254811.54
TP19/20	1.0	317905.07	6254713.79
TP19/35	0.1	317944.39	6254871.33
TP19/37	0.2	317867.34	6255021.66
TP20/22	1.5	317986.49	6254957.08
TP20/23	1.5	317989.52	6254953.07
TP20/24	1.0	317974.13	6254854.33
TP20/25	0.7	317986.61	6254904.04
TP21/11	0.5	317880.68	6254929.37
TP21/23	0.2-3.1	317868.65	6254828.38
TP21/74	1.0-2.5	317770.59	6254838.64

See Appendix D of LTEMP for tabulated concentration data.

Coord. Sys: GDA_1994_MGA_Zone_56

Residual Soil impacts from Adjacent Lots – 20m Buffer Vertices		
Point ID	Eastings	Northings
1	317890.3605	6254727.254
2	317924.3811	6254708.865
3	318012.551	6255129.405
4	317973.9799	6255133.459
5	317974.9493	6255133.357
6	317942.7592	6255136.762
7	317947.3761	6255136.273
8	317908.0389	6255140.434

Notes:
Residual hydrocarbons in soils remain in situ but do not present a human health risk at these locations. If conducting excavation in these areas, refer to management controls outlined in Section 6 of LTEMP document for details.

Legend
- Management Area
- Remediated and Backfilled Areas
- Residual Hydrocarbon in Soil
- Monitoring Well
- Lost/Destroyed Monitoring Well
- Soil Sampling Location with Residual Hydrocarbons
- Soil Sampling Location
- Immobile NAPL Present in Soils
- Lot Subdivision Boundaries (SSD 10459)

Residual Soil Conditions

F10

Drawing No:	0561882s_S2VRAA2_G010_R1.mxd		Clyde WARP – Stage 2 Validation Report (Audit Area 2) Durham Street, Rosehill NSW
Date:	25/03/2022	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

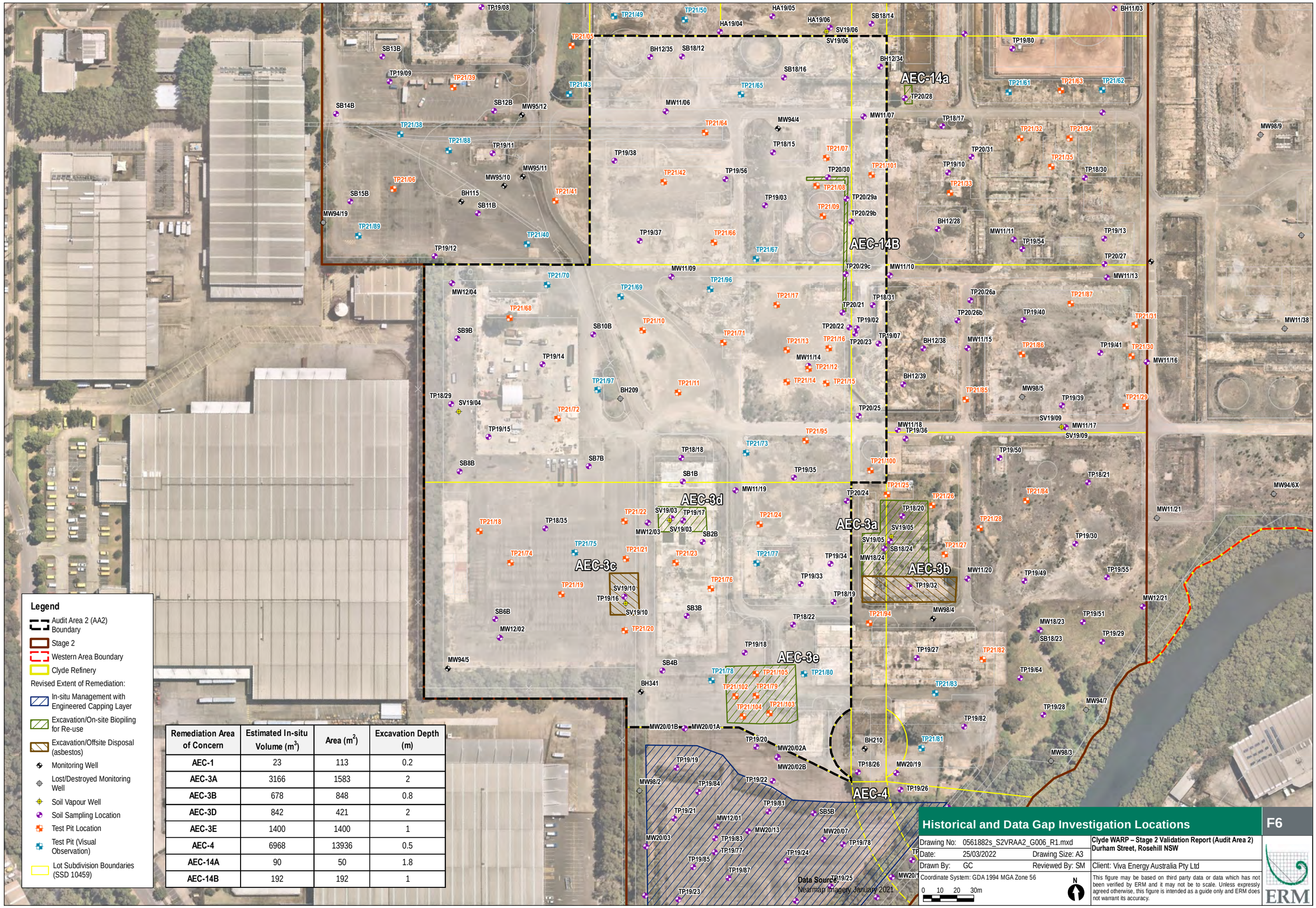
Coordinate System: GDA 1994 MGA Zone 56

0 25 50 75m

N

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ERM



Remediation Area of Concern	Estimated In-situ Volume (m^3)	Area (m^2)	Excavation Depth (m)
AEC-1	23	113	0.2
AEC-3A	3166	1583	2
AEC-3B	678	848	0.8
AEC-3D	842	421	2
AEC-3E	1400	1400	1
AEC-4	6968	13936	0.5
AEC-14A	90	50	1.8
AEC-14B	192	192	1

Historical and Data Gap Investigation Locations

F6

Drawing No:	0561882s_S2VRAA2_G006_R1.mxd		Clyde WARP – Stage 2 Validation Report (Audit Area 2) Durham Street, Rosehill NSW
Date:	25/03/2022	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd
Coordinate System: GDA 1994 MGA Zone 56			This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

ERM

Stockpile Location (centroid)		
Stockpile ID	Eastings	Northings
SP32	317967.80	6254921.00
SP33	317970.40	6254975.00
SP34	317968.70	6254971.00
SP35	317982.80	6254955.00
SP36	317974.90	6254983.00
SP37	318016.60	6254942.00
SP39	317966.80	6254946.00
SP41	317929.20	6254819.00
SP42	317959.30	6254807.00
SP43	317948.70	6254978.00
SP84	317939.80	6254978.00
SP86	317942.70	6254936.00
SP89	317931.30	6254940.00
SP90	317996.60	6255139.00
SP96	317872.20	6255158.00
SP97	317950.40	6254880.00

Coord. Sys.: GDA 1994, MGA Zone 56

Legend

- Audit Area 2 (AA2) Boundary
- Stage 2 Boundary
- Clyde Refinery
- Western Area Boundary
- Biopiling Area (Tankfarm A1)
- Soil Screening/ Segregation Area
- Stockpile Location (centroid)
- Stockpile Sample

Stockpiles (Post Remediation):

- Subject to Further Assessment (Audit Area 3)
- Suitable for Reuse (subject to visual clearance or LTEMP)
- Unrestricted Re-use Onsite
- Lot Subdivision Boundaries (SSD 10459)

Data Source:
Nearmap Imagery January 2021

Stockpile Locations – Post Remediation

F11

Drawing No:	0561882s_S2VRAA2_G011_R1.mxd		Clyde WARP – Stage 2 Validation Report (Audit Area 2) Durham Street, Rosehill NSW
Date:	25/03/2022	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

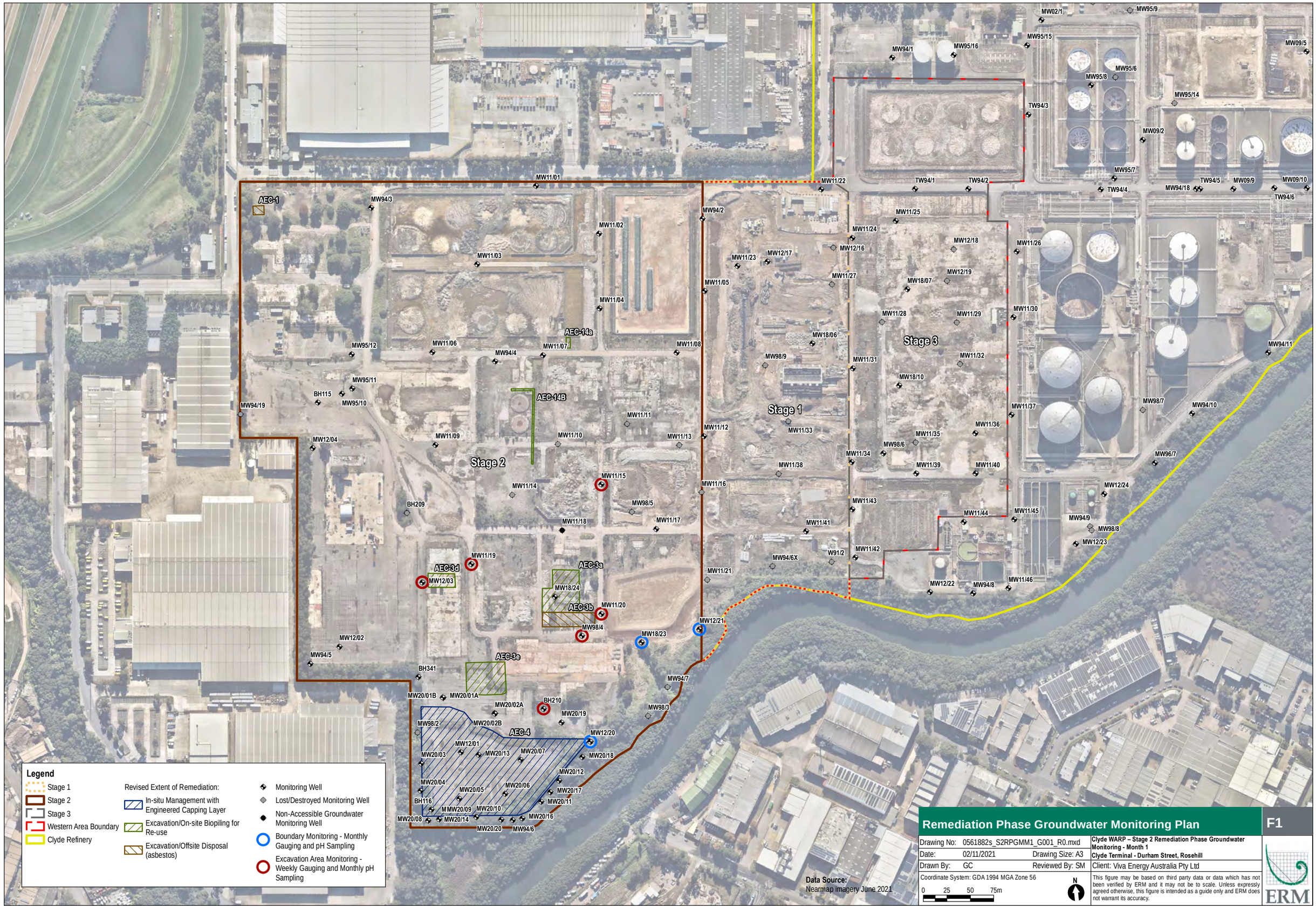
0 25 50 75m

N

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ERM

Appendix A-2 Figures from Remediation GME 1 report



Remediation Phase Groundwater Monitoring Plan

F1

Drawing No:	0561882s_S2RPGMM1_G001_R0.mxd		Clyde WARP – Stage 2 Remediation Phase Groundwater Monitoring - Month 1 Clyde Terminal - Durham Street, Rosehill
Date:	02/11/2021	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

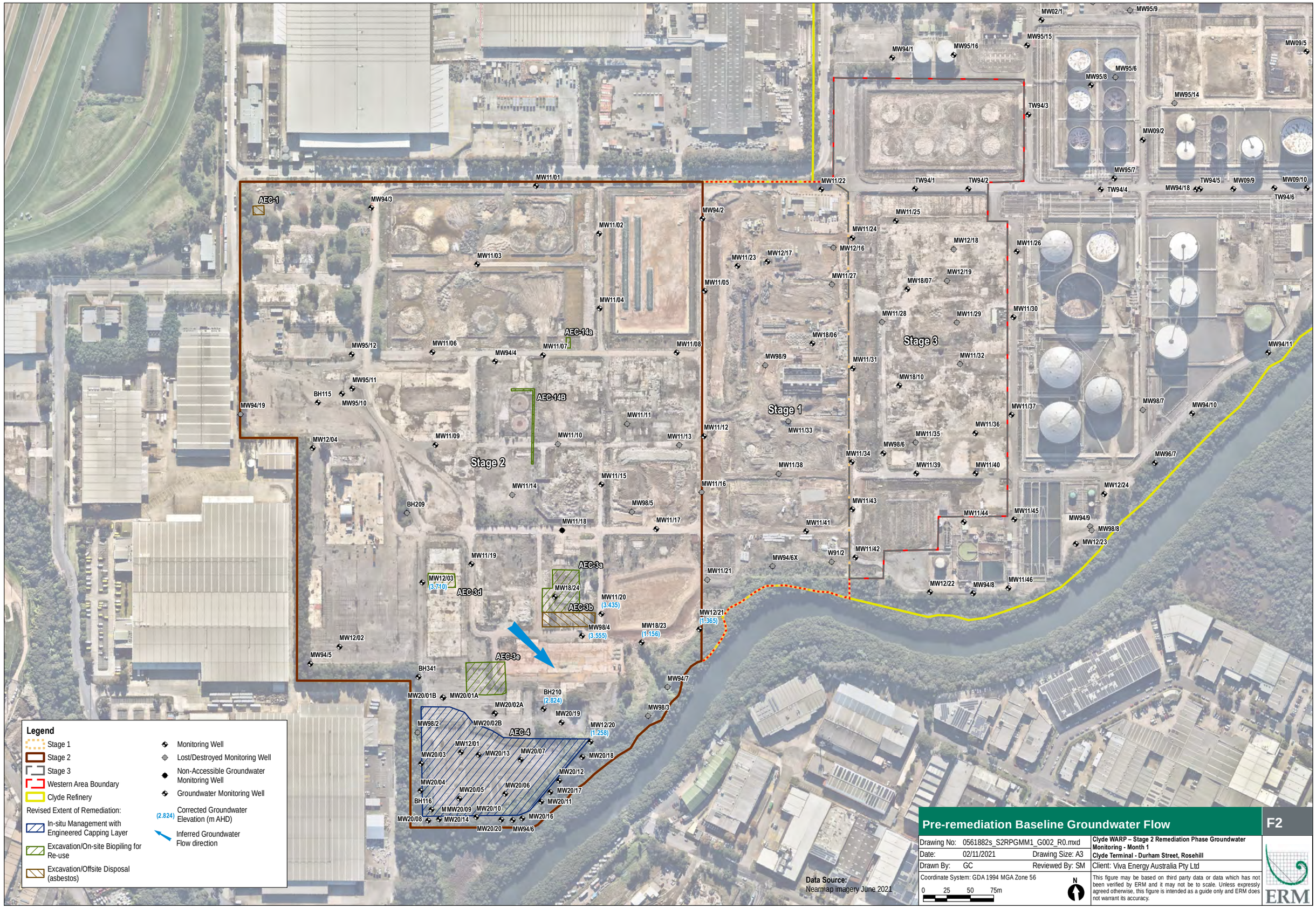
Coordinate System: GDA 1994 MGA Zone 56

0 25 50 75m

N

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ERM



Pre-remediation Baseline Groundwater Flow

F2

Drawing No:	0561882s_S2RPGMM1_G002_R0.mxd		Clyde WARP – Stage 2 Remediation Phase Groundwater Monitoring - Month 1 Clyde Terminal - Durham Street, Rosehill
Date:	02/11/2021	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

0 25 50 75m

N

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ERM









Legend

- Stage 1
- Stage 2
- Stage 3
- Western Area Boundary
- Clyde Refinery

Revised Extent of Remediation:

- In-situ Management with Engineered Capping Layer
- Excavation/On-site Biopiling for Re-use
- Excavation/Offsite Disposal (asbestos)

- Monitoring Well
- Lost/Destroyed Monitoring Well
- Non-Accessible Groundwater Monitoring Well
- Groundwater Monitoring Well

(2.824) Corrected Groundwater Elevation (m AHD)

Inferred Groundwater Flow direction

Data Source:
Nearmap imagery June 2021

Remediation Phase Groundwater Flow Monitoring

F3

Drawing No:	0561882s_S2RPGMM1_G003_R0.mxd		**Clyde WARP – Stage 2 Remediation Phase Groundwater Monitoring - Month 1** **Clyde Terminal - Durham Street, Rosehill**
Date:	02/11/2021	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

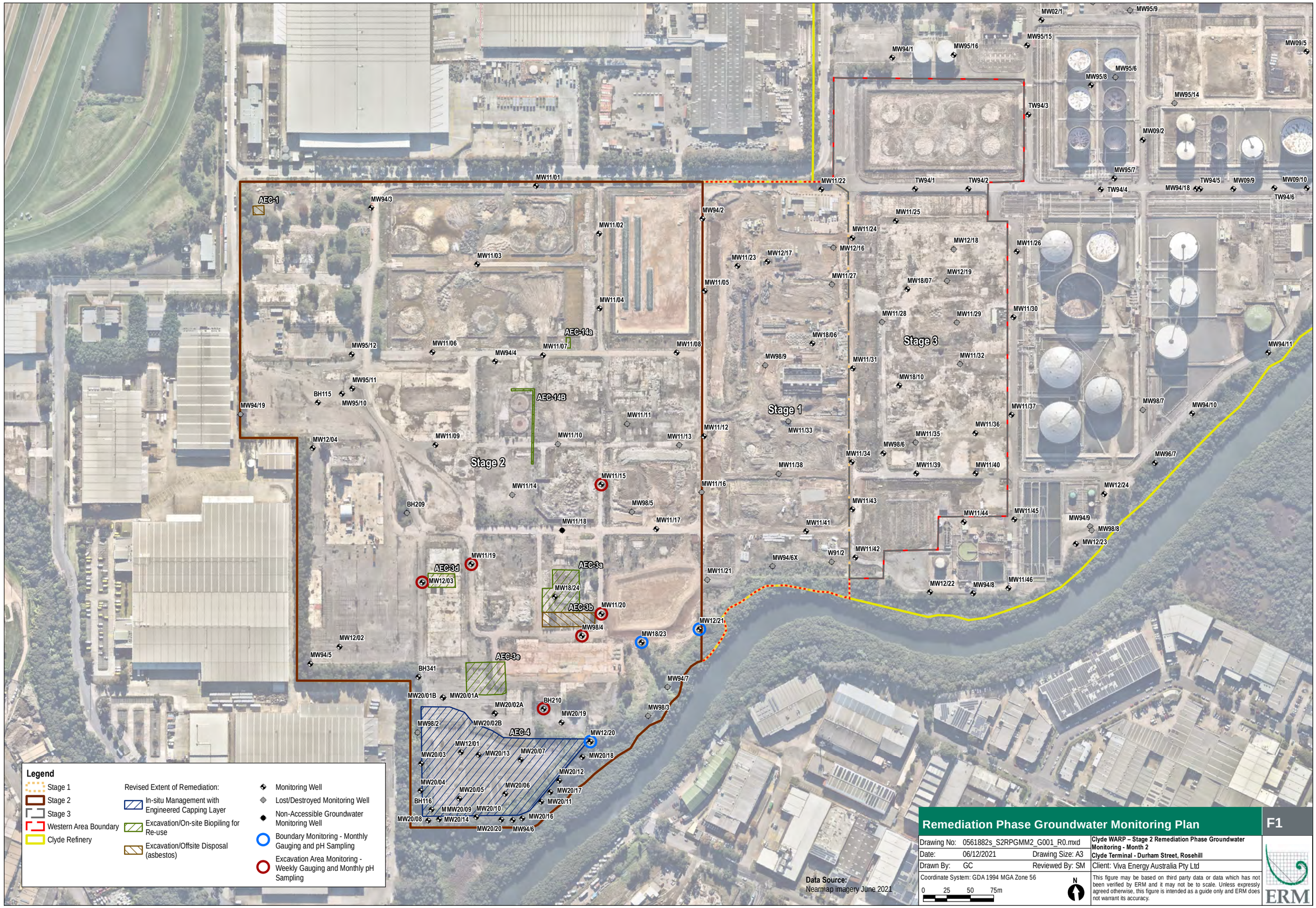
0 25 50 75m

N

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ERM

Appendix A-3 Figures from Remediation GME 2 report



Remediation Phase Groundwater Monitoring Plan

F1

Drawing No:	0561882s_S2RPGMM2_G001_R0.mxd		Clyde WARP – Stage 2 Remediation Phase Groundwater Monitoring - Month 2 Clyde Terminal - Durham Street, Rosehill
Date:	06/12/2021	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

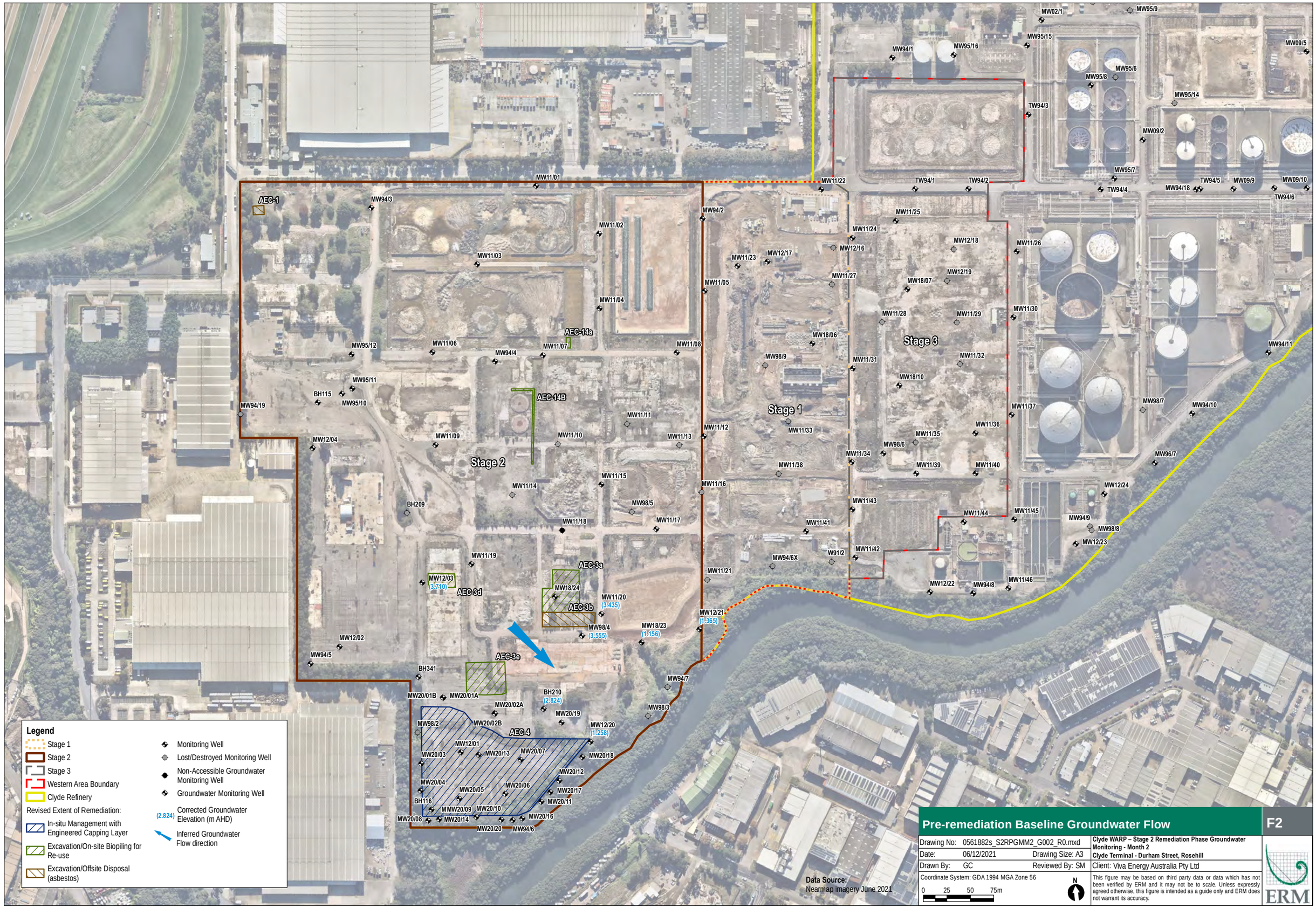
Coordinate System: GDA 1994 MGA Zone 56

0 25 50 75m

N

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ERM



Pre-remediation Baseline Groundwater Flow

F2

Drawing No:	0561882s_S2RPGMM2_G002_R0.mxd		Clyde WARP – Stage 2 Remediation Phase Groundwater Monitoring - Month 2 Clyde Terminal - Durham Street, Rosehill
Date:	06/12/2021	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

0 25 50 75m

N

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ERM

27 October 2021



3 November 2021



15 November 2021



18 November 2021



Legend

- Stage 1
- Stage 2
- Stage 3
- Western Area Boundary
- Clyde Refinery

Revised Extent of Remediation:

- In-situ Management with Engineered Capping Layer
- Excavation/On-site Biopiling for Re-use
- Excavation/Offsite Disposal (asbestos)

- Groundwater Monitoring Well
- Lost/Destroyed Monitoring Well
- Non-Accessible Groundwater Monitoring Well

(2.824) Corrected Groundwater Elevation (m AHD)

Inferred Groundwater Flow direction

Data Source:
Nearmap imagery June 2021

Remediation Phase Groundwater Flow Monitoring

F3

Drawing No:	0561882s_S2RPGMM2_G003_R0.mxd		Clyde WARP – Stage 2 Remediation Phase Groundwater Monitoring - Month 2 Clyde Terminal - Durham Street, Rosehill
Date:	06/12/2021	Drawing Size: A3	Client: Viva Energy Australia Pty Ltd
Drawn By:	GC	Reviewed By: SM	

Coordinate System: GDA 1994 MGA Zone 56

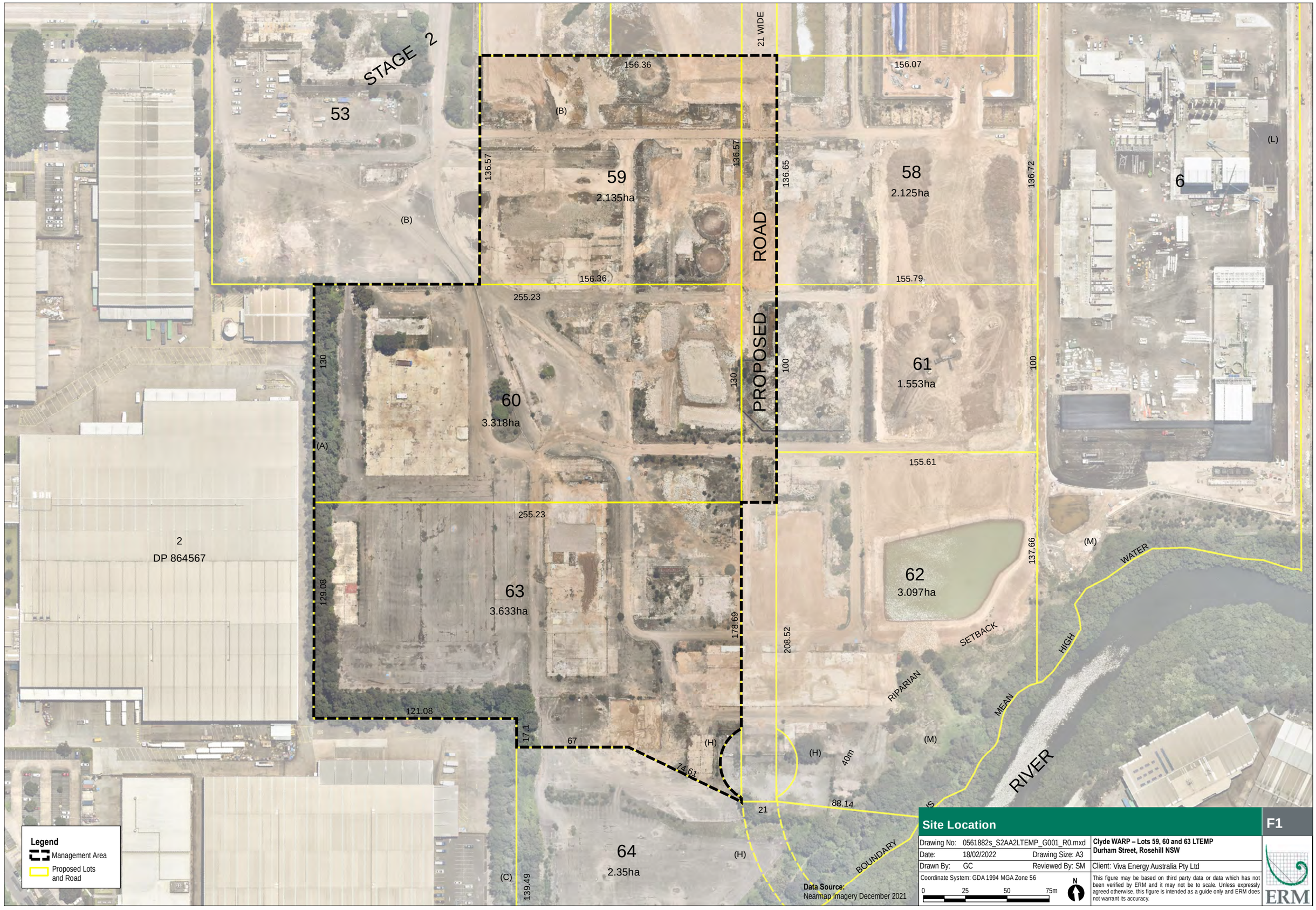
0 25 50 75m

N

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ERM

Appendix A-4 Figures from AA2 LTEMP

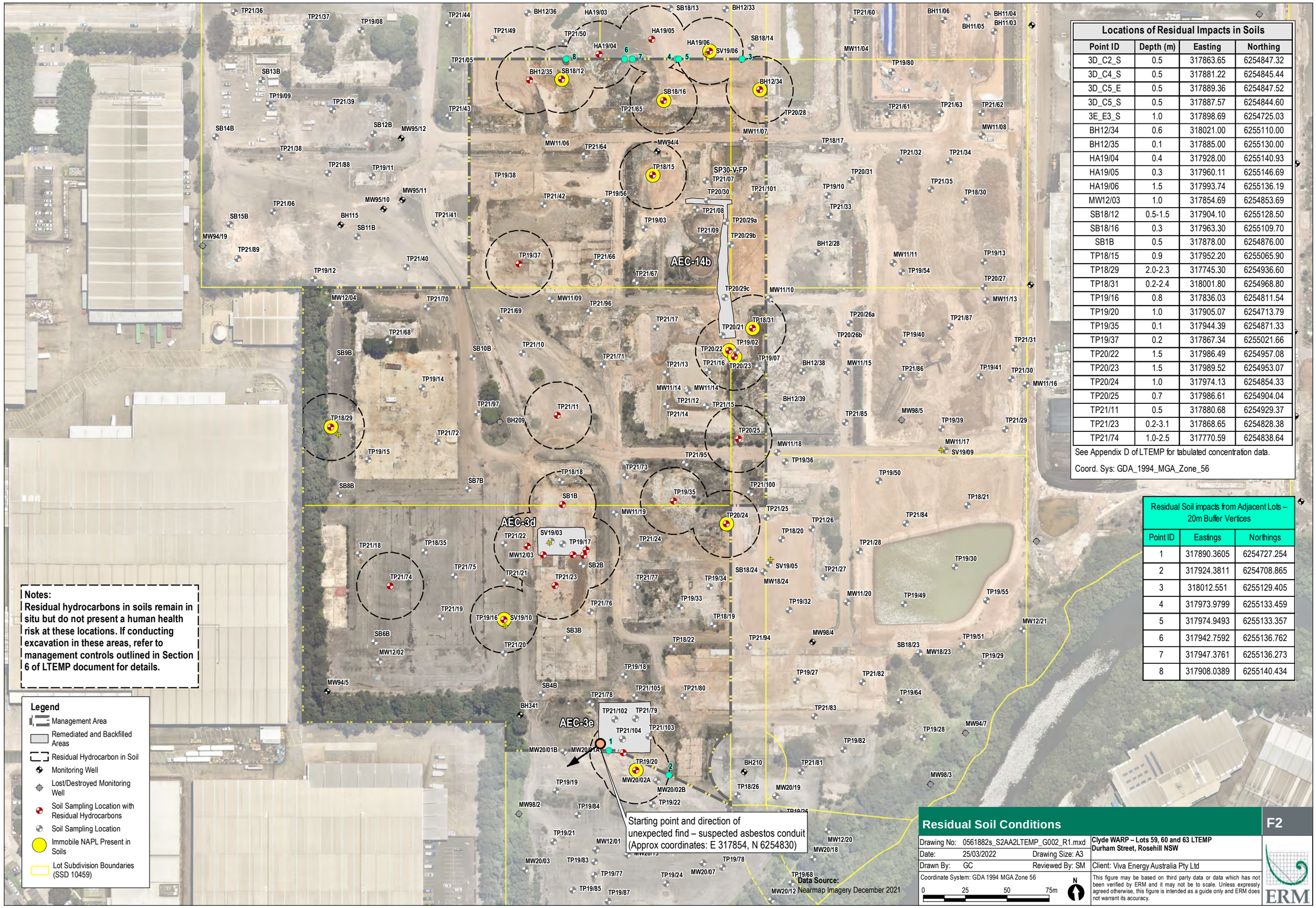


Site Location

F1

Drawing No:	0561882s_S2AA2LTEMP_G001_R0.mxd		**Clyde WARP – Lots 59, 60 and 63 LTEMP Durham Street, Rosehill NSW**
Date:	18/02/2022	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd
Coordinate System: GDA 1994 MGA Zone 56			This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

ERM



Locations of Residual Impacts in Soils			
Point ID	Depth (m)	Easting	Northing
3D_C2_S	0.5	317863.65	6254847.32
3D_C4_S	0.5	317881.22	6254845.44
3D_C5_E	0.5	317889.36	6254847.52
3D_C5_S	0.5	317887.57	6254844.60
3E_E3_S	1.0	317898.69	6254725.03
BH12/34	0.6	318021.00	6255110.00
BH12/35	0.1	317885.00	6255130.00
HA19/04	0.4	317928.00	6255140.93
HA19/05	0.3	317960.11	6255146.69
HA19/06	1.5	317993.74	6255136.19
MW12/03	1.0	317854.69	6254853.69
SB18/12	0.5-1.5	317904.10	6255128.50
SB18/16	0.3	317963.30	6255109.70
SB1B	0.5	317878.00	6254876.00
TP18/15	0.9	317952.20	6255065.90
TP18/29	2.0-2.3	317745.30	6254936.60
TP18/31	0.2-2.4	318001.80	6254968.80
TP19/16	0.8	317836.03	6254811.54
TP19/20	1.0	317905.07	6254713.79
TP19/35	0.1	317944.39	6254871.33
TP19/37	0.2	317867.34	6255021.66
TP20/22	1.5	317986.49	6254957.08
TP20/23	1.5	317989.52	6254953.07
TP20/24	1.0	317974.13	6254854.33
TP20/25	0.7	317986.61	6254904.04
TP21/11	0.5	317880.68	6254929.37
TP21/23	0.2-3.1	317868.65	6254828.38
TP21/74	1.0-2.5	317770.59	6254838.64

See Appendix D of LTEMP for tabulated concentration data.

Coord. Sys: GDA_1994_MGA_Zone_56

Residual Soil impacts from Adjacent Lots – 20m Buffer Vertices		
Point ID	Eastings	Northings
1	317890.3605	6254727.254
2	317924.3811	6254708.865
3	318012.551	6255129.405
4	317973.9799	6255133.459
5	317974.9493	6255133.357
6	317942.7592	6255136.762
7	317947.3761	6255136.273
8	317908.0389	6255140.434

Notes:
Residual hydrocarbons in soils remain in situ but do not present a human health risk at these locations. If conducting excavation in these areas, refer to management controls outlined in Section 6 of LTEMP document for details.

Legend
- Management Area
- Remediated and Backfilled Areas
- Residual Hydrocarbon in Soil
- Monitoring Well
- Lost/Destroyed Monitoring Well
- Soil Sampling Location with Residual Hydrocarbons
- Soil Sampling Location
- Immobile NAPL Present in Soils
- Lot Subdivision Boundaries (SSD 10459)

Residual Soil Conditions

F2

Drawing No:	0561882s_S2AA2LTEMP_G002_R1.mxd		Clyde WARP – Lots 59, 60 and 63 LTEMP Durham Street, Rosehill NSW
Date:	25/03/2022	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

0 25 50 75m

N

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ERM

Pit ID	Eastings	Northings
10-P1	317926.61	6254984.92
10-P12	317994.22	6254981.93
10-P3	317925.36	6254968.58
10-P4	317945.50	6254965.54
14-P11	317933.82	6255050.73
9-P1	317918.59	6254898.02
9-P2	317978.39	6254891.69
9-P26	317942.31	6254830.34
9-P27	317965.70	6254828.00
9-P3	317998.76	6254889.58

PCS: GDA 1994 MGA Zone 56

Notes:
Residual hydrocarbon sludge in drainage lines – refer to management controls as per Section 6 of LTEMP during any excavation/demolition work in these areas.

Legend
- Management Area
- Sumps / Drainage Pits
- Drainage Pipelines
- Residual Sludge within Pipe Network
- Pit Location
- Lot Subdivision Boundaries (SSD 10459)

Data Source: Nearmap Imagery December 2021

Residual Drainage Infrastructure

F3

Drawing No:	0561882s_S2AA2LTEMP_G003_R0.mxd		Clyde WARP – Lots 59, 60 and 63 LTEMP Durham Street, Rosehill NSW
Date:	18/02/2022	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

0 25 50 75m

N

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ERM

M.G.A

STAGE 3

DEVON STREET

COLQUHOUN STREET

UNWIN STREET

STAGE 2

51 | 52 | 54 | 55 | 53 | 59 2.135ha | 56 | 58 2.125ha | 6 STAGE 1 SUBDIVISION | 7

60 3.318ha | 61 1.553ha | 63 3.633ha | 62 3.097ha | 64 2.35ha

21 WIDE PROPOSED ROAD

SUBDIVISION

156.36 | 156.07 | 255.23 | 155.79 | 155.61 | 136.57 | 136.55 | 136.72 | 130 | 100 | 178.69 | 208.52 | 137.66 | 129.08 | 121.08 | 17.1 | 67 | 74.61 | 88.14 | 40m | 130.085 | 139.49

(A) (B) (C) (G) (H) (L) (M)

WATER

HIGH MEAN SETBACK RIPARIAN

RIVER

DUCK

BOUNDARY

CARNARVAN STREET

2
DP 864567

NSW GOVERNMENT | Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No: SSD-10459

Granted on: 31 January 2021

Signed: JF Sheet No: 4 of 44

NOTES:
1. ALL DIMENSIONS SHOWN HEREON ARE APPROXIMATE AND SUBJECT TO FINAL SURVEY
2. NO CADASTRAL SURVEY HAS BEEN UNDERTAKEN

(A) EASEMENT TO DRAIN WATER 10.2 & 13.4 WIDE (AC 424785)
(B) EASEMENT 6.095 WIDE (B309159) – SYDNEY WATER PIPELINE
(C) EASEMENT TO DRAIN WATER 13.4 WIDE (AC424784)
(G) PROPOSED EASEMENT FOR SERVICES 5 WIDE
(H) RIGHT OF ACCESS 21 WIDE AND VARIABLE WIDTH
(L) EASEMENT FOR OVERLAND FLOW 5 WIDE
(M) EASEMENT FOR PEDESTRIAN ACCESS 40 WIDE & VARIABLE WIDTH

20 0 40 100 140m
SCALE 1:1500

CLIENT
VE PROPERTY PTY LTD

PROJECT
PLAN OF PROPOSED SUBDIVISION OF LOT 57 OF STAGE 2 OF SUBDIVISON OF LOT 100 IN DP1168951 STAGE 3

NOTES
The title boundaries shown hereon were not marked at the time of survey and have been determined by plan dimensions only and not by field survey.

Services shown hereon have been located where possible by field survey. If not able to be so located, services have been plotted from the records of relevant authorities where available and have been noted accordingly on the plan. Where such records do not exist or are inadequate a notation has been made hereon.

Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.

8	GKO	23/11/2020	LOT 61 & 62 AMENDED
7	GKO	11/11/2020	AMEND RIPARIAN SETBACK & (H)
6	GKO	02/11/2020	LANDSCAPE SETBACK REMOVED
5	GKO	29/10/2020	PLAN AMENDED
4	GKO	20/10/2020	LOT BOUNDARIES AMENDED
3	GKO	24/07/2020	EASEMENTS DETAIL ADDED
2	GKO	17/07/2020	EASEMENT AMENDED
1	GKO	22/06/2020	INITIAL ISSUE

SYM	CODE	DESCRIPTION
	BIN	BIN
	BM	BENCH MARK
	BO	BOLLARD
	DJM	DRAINAGE MANHOLE
	EFP	ELEC FUSE BOX
	ELP	ELEC GARDEN LIGHT
	EL	ELEC GREEN PILLAR
	LP	ELEC LIGHT POLE
	EP	ELECT SINGLE PIT
	SPL	ELEC STAY POLE
	PP	ELEC POWER POLE
	ELP	ELEC POLE/LIGHT
TRANS		ELE POLE/TRANSFORM
	FD	FUEL DIP
	GM	GAS MAIN
	GMR	GAS METER
	GAS	GAS VALVE
	AG	GATE
	GUL	GULLY PIT
	HYD	HYDRANT
	BOR	BOREHOLE

SYM	CODE	DESCRIPTION
	OFM	OPTICAL FIBRE MARKER
	OFP	OPTICAL FIBRE PIT
	TM	PALM TREE
	SE	SEAT
	TS	SHRUB
	TCA	TELSTRA PIT
	SLH	SEWER LAMP HOLE
	SMH	SEWER MANHOLE
	SVP	SEWER VENT PIPE
	SI	SIGN
	BUS	BUS STOP SIGN
	T	TREE
	SGL	TRAFFIC LIGHT
	SCL	TRAFFIC CONTROLLER
	SJX	TRAFFIC JUNCTION BOX
	US	UNKNOWN SERVICE
	WAV	WATER AIR VALVE
	WMR	WATER METER
	WEP	WATER PUMP
	WSV	WATER STOP VALVE
	WTF	WATER TAP

Symbols shown are indicative only. The symbol size and orientation does not necessarily represent the real size or orientation of the feature.

DRAINAGE PIPE U/G
DRAIN
ELECT. CABLE A/G
ELEC. CABLE U/G
GAS PIPE
FENCE LINE
SEWERAGE PIPE
TELSTRA CABLE
WATER PIPE

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HEIGHT DATUM: AHD	LOCAL AUTHORITY: CITY OF PARRAMATTA
HEIGHT ORIGIN: N/A	SCALE: 1:1500 (A1)
MERIDIAN: 56	CONTOUR INTERVAL: N/A
CO-ORD SYSTEM: MGA	SURVEYOR: N/A — DATE OF SURVEY: -
CCAD FILE: 74707 ver 9 final subdivision	DRAWN: SF/CLP — DATE: 23/11/2020
AUTOCAD FILE: SY074707.000.13.8	CHECKED: GKO — DATE: 23/11/2020
ARCHIVE FILE: SY074707.000.13.6	APPROVED: GKO — DATE: 23/11/2020
PLAN NUMBER: SY074707.000.13.8	SHEET 1 OF 1

Appendix A-5 Survey Plan

M.G.A

STAGE 3

DEVON STREET

COLQUHOUN STREET

UNWIN STREET

STAGE 2

51 | 52 | 54 | 55 | 53 | 59 2.135ha | 56 | 58 2.125ha | 6 STAGE 1 SUBDIVISION | 7

60 3.318ha | 61 1.553ha | 63 3.633ha | 62 3.097ha | 64 2.35ha

21 WIDE PROPOSED ROAD

SUBDIVISION

156.36 | 156.07 | 255.23 | 155.79 | 155.61 | 136.57 | 136.55 | 136.72 | 130 | 100 | 178.69 | 208.52 | 137.66 | 129.08 | 121.08 | 17.1 | 67 | 74.61 | 88.14 | 40m | 130.085 | 139.49

(A) (B) (C) (G) (H) (L) (M)

WATER

HIGH MEAN SETBACK RIPARIAN

RIVER

DUCK

BOUNDARY

CARNARVAN STREET

2
DP 864567

NSW GOVERNMENT | Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No: SSD-10459

Granted on: 31 January 2021

Signed: JF Sheet No: 4 of 44

NOTES:
1. ALL DIMENSIONS SHOWN HEREON ARE APPROXIMATE AND SUBJECT TO FINAL SURVEY
2. NO CADASTRAL SURVEY HAS BEEN UNDERTAKEN

(A) EASEMENT TO DRAIN WATER 10.2 & 13.4 WIDE (AC 424785)
(B) EASEMENT 6.095 WIDE (B309159) – SYDNEY WATER PIPELINE
(C) EASEMENT TO DRAIN WATER 13.4 WIDE (AC424784)
(G) PROPOSED EASEMENT FOR SERVICES 5 WIDE
(H) RIGHT OF ACCESS 21 WIDE AND VARIABLE WIDTH
(L) EASEMENT FOR OVERLAND FLOW 5 WIDE
(M) EASEMENT FOR PEDESTRIAN ACCESS 40 WIDE & VARIABLE WIDTH

20 0 40 100 140m
SCALE 1:1500

CLIENT
VE PROPERTY PTY LTD

PROJECT
PLAN OF PROPOSED SUBDIVISION OF LOT 57 OF STAGE 2 OF SUBDIVISON OF LOT 100 IN DP1168951 STAGE 3

NOTES
The title boundaries shown hereon were not marked at the time of survey and have been determined by plan dimensions only and not by field survey.

Services shown hereon have been located where possible by field survey. If not able to be so located, services have been plotted from the records of relevant authorities where available and have been noted accordingly on the plan. Where such records do not exist or are inadequate a notation has been made hereon.

Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.

8	GKO	23/11/2020	LOT 61 & 62 AMENDED
7	GKO	11/11/2020	AMEND RIPARIAN SETBACK & (H)
6	GKO	02/11/2020	LANDSCAPE SETBACK REMOVED
5	GKO	29/10/2020	PLAN AMENDED
4	GKO	20/10/2020	LOT BOUNDARIES AMENDED
3	GKO	24/07/2020	EASEMENTS DETAIL ADDED
2	GKO	17/07/2020	EASEMENT AMENDED
1	GKO	22/06/2020	INITIAL ISSUE

SYM	CODE	DESCRIPTION
	BIN	BIN
	BM	BENCH MARK
	BO	BOLLARD
	DJM	DRAINAGE MANHOLE
	EFP	ELEC FUSE BOX
	ELP	ELEC GARDEN LIGHT
	EL	ELEC GREEN PILLAR
	LP	ELEC LIGHT POLE
	EP	ELECT SINGLE PIT
	SPL	ELEC STAY POLE
	PP	ELEC POWER POLE
	ELP	ELEC POLE/LIGHT
TRANS		ELE POLE/TRANSFORM
	FD	FUEL DIP
	GM	GAS MAIN
	GMR	GAS METER
	GAS	GAS VALVE
	AG	GATE
	GUL	GULLY PIT
	HYD	HYDRANT
	BOR	BOREHOLE

SYM	CODE	DESCRIPTION
	OFM	OPTICAL FIBRE MARKER
	OFP	OPTICAL FIBRE PIT
	TM	PALM TREE
	SE	SEAT
	TS	SHRUB
	TCA	TELSTRA PIT
	SLH	SEWER LAMP HOLE
	SMH	SEWER MANHOLE
	SVP	SEWER VENT PIPE
	SI	SIGN
	BUS	BUS STOP SIGN
	T	TREE
	SGL	TRAFFIC LIGHT
	SCL	TRAFFIC CONTROLLER
	SJX	TRAFFIC JUNCTION BOX
	US	UNKNOWN SERVICE
	WAV	WATER AIR VALVE
	WMR	WATER METER
	WEP	WATER PUMP
	WSV	WATER STOP VALVE
	WTF	WATER TAP

Symbols shown are indicative only. The symbol size and orientation does not necessarily represent the real size or orientation of the feature.

DRAINAGE PIPE U/G
DRAIN
ELECT. CABLE A/G
ELEC. CABLE U/G
GAS PIPE
FENCE LINE
SEWERAGE PIPE
TELSTRA CABLE
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PLAN NUMBER: SY074707.000.13.8	SHEET 1 OF 1

Appendix B

Site Audit Documentation

Client: Viva Energy
Project: 2127799 - Stage 2 Remediation - AA2
Report: **Clyde WARP Stage 2 AA2 Validation Report**

Requirement in NSW EPA (2020)	Information Presented?	Location in Document	Auditor Comments (version dated 16/03/2022)	ERM responses	Auditor's review of report version 04/04/2022 Was the required information presented (Final assessment)
Document Control					
Date, version number, author and reviewer (including certification details) and who commissioned the report	✓	Pages 3 and 4 of PDF	The auditor notes that signatures must be included in the final version of the report.	NA	✓
Executive Summary					
Background	✓	Page i	Please refer to the auditor's comments in the following sections and update the Executive Summary accordingly.	minor updates as required	✓
Objectives of the investigation	✓	Page i		minor updates as required	✓
Scope of works	✓	Page i		minor updates as required	✓
Where appropriate, a summary of keyfindings, observations and sampling results	✓	Page iii		minor updates as required	✓
Summary of conclusions and recommendations	✓	Page iv		minor updates as required	✓
Objectives					
Objectives of the remediation and validation	✓	Sections 1.3 and 1.4	Addressing hydrocarbon impacts in shallow soil: It is necessary to clarify that only hydrocarbon impacts that pose potential risks to future commercial/industrial receptors are the focus of the remediation (as per the HHERA). LNAPL within soils and TRH Management below criteria will be managed as aesthetic issues under the LTEMP.	added paragraph to section 1.4 to clarify this	✓
Site Identification					
Site name or description	✓	Section 2, Table 2-2	No further action required.	NA	✓
Street address (street number & name,suburb), town/city	✓	Section 2, Table 2-2	No further action required.	NA	✓
Property description	✓	Section 2, Table 2-2	No further action required.	NA	✓
Current certificates of title	NA	NA	NA	NA	NA
Latitude, longitude (centre of site, or site corner for regular shapes)	✓	Survey Plan	Although this information was not presented in Section 2 of the Validation report, it is available in the survey plan. Therefore, the auditor considers this omission minimal. No further action is required.	NA	✓
Current owner(s)	✓	Section 2, Table 2-2	No further action required.	NA	✓
Current occupier(s)	✓	Section 2, Table 2-2	No further action required.	NA	✓
Site area	✓	Section 2, Table 2-2	No further action required.	NA	✓
Local government authority	✓	Section 2, Table 2-2	No further action required.	NA	✓
Current zoning (planning)	✓	Section 2, Table 2-2	No further action required.	NA	✓
Locality map	✓	Figures 1 and 2	No further action required.	NA	✓
Trigger for assessment (e.g. change in land use)	✓	Section 1.1	Although this information was not presented in Section 2 of the report, it was discussed in Section 1.1. No further action required.	NA	✓
Site History					
A summary is enough if detailed information was included in an available reference previous report	✓	Section 3.1	A figure showing the historical infrastructure in AA2 should be presented. The Validation report should be a stand alone document.	Reference to Figure 2 is provided which contains historical infrastructure described within this section. For clarity additional reference to Figure 2 has been added up front in first paragraph of section 3.1.1	✓
Site Condition and Surrounding Environment					
A summary is enough if detailed information was included in an available reference previous report	✓	Section 3.2	1 - ERM stated the following "*Stockpile SP37 (soil containing asbestos; however, has been deemed suitable for site re-use based on asbestos quantification analysis provided in Stage 2 Stockpile Validation Report (ERM, 2021b)* ." The rationale supporting why soil containing asbestos was deemed suitable for re-use should be presented. This is key information, and this report should be a stand alone document. 2 - The proposed road description prior to remediation was not included in Section 3.2.	1 - The purpose of this section is to provide an overview of which remediation areas and features were present within each lot prior to remediation commencement. Detail and rationale for the suitability of SP37 is provided in section 3.7.5. For clarity, a statement has been added to the first paragraph of section 3.2 stating "Specific details relating to the assessment of these areas or features are provided within Section 3.7 and 3.8 2 - Noted, section 3.2 updated to include the portion of proposed road within AA2	✓
Previous results					

Brief summary of previous results	✔	Sections 3.6 and 3.7	1 - The groundwater sampling network discussed in this section should be presented on a figure, including recent groundwater exceedances and LNAPL occurrence (if any). 2 - Table 3-3 - The term "NA' should be defined. 3 - It is not clear from Table 3-3 the minimum number of samples needed per lot to meet the guidelines, the number of samples collected and why additional samples were not needed. 4 - Section 3.6.2 - Clarify whether the reference to "AA1" is correct. 5 - Table 3-4 - The minimum groundwater wells recommended in NSW EPA guidelines should be presented. Please refer to the auditor comment requesting a figure showing monitoring the well network.	1 - Noted, reference added to Figure 6D 2- Footnote added to table to clarify that hotspot diameter is less relevant than sample spacing given the elongated alignment of the proposed roadway 3- Table 3-3 to be updated with sampling design guideline numbers and rationale for sample numbers in each lot. 4- This should refer to the Stage 2 ESA report - not AA1 site suitability. Text updated accordingly 5- Update to Section 3.6.3.2 *"The Sample Design Guidelines (NSW EPA, 1995) note that Procedures B (Number of samples to determine the average concentration) and Procedure D (determining 95% UCL of the arithmetic average concentration) may be used to determine appropriate number of groundwater sampling points. Averaging of groundwater concentrations is not considered appropriate for the assessment of potential exposure risk from groundwater on-site. The assessment of groundwater within the wider Clyde Refinery and Terminal Footprint 'the Site', Western Area and AA2 has been undertaken in accordance with Section 2 of the Guidelines for the Assessment and Groundwater Contamination (NSW DEC, 2007). Given the understanding of the hydrogeological conditions and development of a detailed CSM (including assessment by "Appropriately qualified and experienced groundwater professionals") the level of assessment achieved is considered appropriate."*	✔
			6 - Section 3.6.3.3 - Clarify whether the reference "AA1" is correct. 7 - A figure showing the location of soil vapour bores and the locations where VOC concentrations exceeded nominated criteria (if any) should be presented. 8 - A figure showing exceedances, including the depth of where exceedances were recorded should be presented. 9 - The proposed road exceedances were not included in Table 3-5. 10 - The following statement should be reviewed for consistency with the LNAPL discussion presented in Section 3.7.4 Given the difficulty in consistent visual identification and description of LNAPL within the soil profile, NEPM TRH' Management Limits' (Commercial/Industrial, coarse soils) have been applied to soil analytical data, noting that soil concentrations above these criteria may indicate the potential for the formation of LNAPL.	6- Reference to AA1 is a typographical error, amended to AA2 7- Noted, included as new figure 6E 8- Historical exccedance figures presented in the Stage 2 RAP will be modified (where appropriate) for relevance to AA2. 9- Noted. Table amended to include proposed road exceedances (where appropriate) 10- text reviewed and updated for consistency between sections	✔
			11 - Section 3.7.2 - Insufficient information portraying the groundwater characterisation of AA2 has been provided. For example, which nearby wells have demonstrated no groundwater migration of LNAPL? Residual LNAPL within AA2 was observed in which wells? What was the apparent thickness of LNAPL observed? Do this residual LNAPL pose any potential risks, or it is acting as a source for the dissolved phase hydrocarbons ? "Groundwater monitoring of nearby wells has demonstrated no downgradient migration of LNAPL from these isolated areas. Associated dissolved phase concentrations are limited in extent and are delineated within the Stage 2 boundary." 12 - Section 3.7.2 - Down gradient delineation of the above COPCs has been demonstrated via samples from downgradient monitoring wells with results below the relevant criteria. Based on these monitoring results, potential risks to off-site receptors (Duck River) are considered unlikely. Same comment than above regarding insufficient information, further lines of evidence should be provided. 13 - Section 3.7.4 - The hexavalent chromium exceedance should be shown in Figure 10 14 - A review of the following statement is necessary, as LNAPL cannot be identified sole by TRH results. TRH exceedances indicate a potential for LNAPL formation that may or not may occur (as is the case for AA2). "LNAPL has been identified visually or via TRH management limit exceedances as limited to shallow soils within Lots 59, 60, 63 and the proposed road'. 15 - Table 3-2 - This table needs to be updated, as this report is not the Detailed RAP report.	11- To clarify - no LNAPL has been identified in groundwater monitoring wells within AA2 and this is clearly stated within the document. The statement regarding other locations with LNAPL within Stage 2 Area was provided for completeness and context of surrounding areas. All other monitoring wells within the monitoring well network aside from those listed have indicated no LNAPL in groundwater. Reference to the groundwater well network figure will be added. The statement regarding other locations within Stage 2 Area was provided for completeness and context of surrounding areas. ERM will review this section and update with extra detail requested by the auditor. 12- To be amended as per above response for item 11 13 - Noted - to be include on historical groundwater exceedance figure 14 - The original statement highlighted LNAPL identified visually OR via TRH management limit exceedances. Minor amendment to "LNAPL has been identified visually (within the soil profile during investigation, or via concentrations of TRH management limit exceedances as being limited to shallow soils within Lots 59, 60, 63 and the proposed road" 15 - Updated to remove reference to detailed RAP and focus on how each report was incorporated into the CSM	✔
Conceptual Site Model					
Refer to CSM checklist	✔	Section 8	NA	NA	✔
Remediation Application					

A summary of the remediation plan	x	Section 5.1	1 - Although a summary of the remediation is presented in Section 5.1, clarification regarding the stockpiles management and subsequent validation is required. 2 - There is a need to discuss the AEC-3e Delineation Investigation in Section 1.5 (scope of works). Why was this assessment required? Was this assessment noted in the Stage 2 RAP?	1 - Onsite Materials tracking and characterisation methodology added to Section 5.5 2 - Section 1.2.2 updated to include delineation works in report scope. This assessment was required for further delineation of hotspot impacts and to confirm remedial extent prior to excavation and formed a validation requirement of the Stage 2 RAP	✓
Remediation objectives and criteria including a table listing all selected remediation criteria and references	✓	Section 1.4	Section 1.4 - The remediation objectives and strategy were discussed in Section 1.4, while the remediation goals were presented in Tables at the end of the report - no further comments. 2 - Remediation criteria for asbestos (unexpected findings) need to be included in Section 5.2.1.	1 - No changes required 2- Updated accordingly	✓
Description of remedial activities (e.g. volumes and characteristics of material treated or disposed, design or permanent treatment installations, etc.)	✓	Section 6	Additional information regarding stockpile management and validation is required.	New Section 6.8 has been included with requested information (Stockpiles Remaining in AA2)	✓ - refer to ERM's letter clarification.
Deviations of Remediation Action Plan	✓	Section 5.3	NA	NA	✓
Plans showing areas remediated and areas of residual contamination or subsurface structures	✓	Figures F4 to F11	The depth of residual contamination must be presented.	Presented in updated figure 10 (residual impacts)	✓
Summary and evidence (e.g. documentation) of compliance with regulatory requirements set by the regulatory authority and local government	✓	Sections 1.6 and 5.4	The required environmental approvals are discussed in Section 1.6. The Licenses and Approvals were discussed in Section 5.4.	NA	✓
Contractor reports	✓	Appendix O	The Asbestos Clereance Certificate for the footprint of SP 30 is required per the Stage 2 RAP.	NA	✓
Field inspection checklists and photolog (as appropriate)	x	Appendix C	A photographic log was included in Appedix C. However it is incomplete.	Updated photo log added to revised report	✓
Dates of operations	✓	Section 5	The period of remediation was discussed in Section 5.	NA	✓
Quantity of material treated and/or disposed	x	Section 7	The volume of material that was sent to be treated (biopile), and the volume of material remaining within AA2 that is suitable for use is not clear. The auditor notes that laboratory analysis and further assessment of the stockpiles (test pits) are required for characterisation, as per the Stage 2 RAP and NSW EPA guidance.	New section 7.2 (On-site Excavated Material Tracking) created to provide an overview of contaminated material tracked from hydrocarbon excavations to AA3. All excavated soil material from excavations AEC-3D, AEC-3E and AEC-14B were sent for screening and processing into biopiles within AA3. Ultimate destination of material from AA2 hydrocarbon excavations is to SP102B (oversized screened material) or biopiles SP105- SP109, all of which are situated within AA3. Given their location outside of AA2 and ongoing biopiling process, characterisation of this material will be undertaken within the AA3 validation report.	✓
Sampling and Analysis Plan and Sampling Methodology					
Refer to SAQP checklist	✓	Section 4	Refer to the auditor comments presented in the SAQP and QA/QC checklists.	NA	NA
Validation Results and Discussion					
Summary of all results, in a table that:					
· show all essential details such as sample identification numbers and sampling depth	✓	Section 6	No further action required.	NA	✓
· show remediation assessment criteria	✓	Tables	No further action required.	NA	✓
· highlight all results exceeding any remediation criteria (not just the highest)	✓	Tables and Figures	No further action required.	NA	✓
Sample descriptions for all media where applicable (e.g. soil, sediment, surface water, groundwater, biota)	✓	Section 6	The auditor notes that the remediation focus is the hydrocarbon contaminated soils.	NA	✓
Site plans or excavation logs showing all sample locations, photoionisation detector results, lithology changes and field observations (if appropriate).	✓	Figures F4 to F11, Appendix D and Section 6	Figures F4 to F11 - Presented the site plans, excavation areas, residual impacts plan. Appendix D - Field documentation, PID, litologies and other observations.	NA	✓
Site plan(s) showing the extent of soil and groundwater contamination exceeding remediation criteria for each sampling depth, including sample identification numbers and sampling depths of all samples analysed (clearly mark concentrations of contaminants remaining on site)	✓	Figures F5, F10 and F11	Figure F5 - Shows the site drainage layout that requires management under the LTEMP. Figure F10 - Shows the residual soil contamintion that require management under the LTEMP. However the depth of residual impacts must be included. Figure F11 - Shows the Stockpile locations that remain in AA2 post - remediation. However, further information regarding stockpiles is required.	Figure F10 has been amended and is consistent with revised AA2 LTEMP figure 2 Figure F11 - No changes required, additional information provided within revised report as requested in commentary above.	✓
Follow appropriate statistical procedures when comparing site data with the investigation and screening levels. Refer to in ASC NEPM Schedule B1 sections 2, 3 and 4	✓	Section 4.2	Please clarify whether UCL 95% was adopted (or will be adopted) during the stockpile validation.	Adoption of UCL 95% for stockpile validation not required given all individual reported results were below site assessment criteria for reuse.	✓
Quality Assurance and Quality Control Data Evaluation					
Assessment of the implementation of the validation plan from the remedial action plan, with justification for departures (if necessary)	x	Section 6.10 and Appendix G	Please refer to the auditor's comments in the QA/QC checklist.	NA	NA
Details of a statistical analysis of validation results and evaluation against the remediation criteria	NA	NA	NA	NA	NA
Logs for each sample collected	✓	Appendix D			
Identify and discuss ongoing management or monitoring (if required)	✓	Section 8.4	Sections 8.1 to 8.3 - Management of residual soil impacts that do not pose risks to future onsite receptors if not disturbed. Section 8.4 - Ongoing groundwater monitoring.	NA	✓
Waste management					
Waste classification reports in accordance with EPA Waste Classification Guidelines	✓	Section 7	No further action is required.	NA	✓
Summary of material handling and tracking and reconciliation of volumes or weight of soil removed from site and disposed off site	✓	Section 7	No further action is required.	NA	✓
Statements regarding materials being disposed via appropriately licenced facility or re-used under an order or exemption	✓	Section 7	No further action is required.	NA	✓

Confirmation that waste imported onto the site is lawful. Note: materials transported onto site will either need to meet the definition of virgin excavated natural material, or a resource recovery order and resource recovery exemption. In addition, materials imported onto the site must be adequately assessed as being appropriate for the final use of the site, including QA/QC evaluation of any sampling and analysis for material brought to site.	✓	To be confirmed	No further action is required.	All waste disposal and VENM import information provided in previous draft version	✓
Waste disposal dockets or other waste documentation for any disposed waste	✓	Appendix K	No further action is required.	NA	✓
Conclusions and Recommendations					
Summary of all findings	✓	Section 9	To be updated in accordance with the comments above	updated as required based on auditor comments	✓
Conclusions addressing the stated objectives	✓	Section 9		updated as required based on auditor comments	✓
Assumptions used in reaching the conclusions	✓	Section 9	To be updated in accordance with the comments above	updated as required based on auditor comments	✓
Extent of uncertainties in the results	NA	NA	NA	NA	NA
A clear-cut statement that the consultant considers the site to be suitable for the proposed use (where applicable)	✓	Section 9	To be updated in accordance with the comments above	NA	✓
A clear-cut statement of proposed limitations and constraints on the use of the site post remediation and proposed environmental management plan for long-term management of residual contamination at the site (where applicable)	✓	Section 9	To be updated in accordance with the comments above	updated as required based on auditor comments	✓
Recommendations for further work, if appropriate	NA	NA	NA	NA	NA
Clearly state any ongoing management or monitoring (if required)	✓	Section 9	To be updated in accordance with the comments above	updated as required based on auditor comments	✓
Other Comments					
Other auditor comments	NA	Section 1	1 - Figure 2 - Figure 2 presents information from WARP, not from the "Site" as defined in the Glossary. Therefore, a review of the first paragraph is necessary. 2 - While the auditor acknowledges that the linkage between AECs and Lots was presented in Section 3.7.1, for context. It would be beneficial to present this information at the beginning of the report.	1 - Reference to Figure 2 has been removed from Section 1 2 - This information has been added to section 1.4 (remediation objectives and Strategy)	✓
	NA	Section 1.2	It would be beneficial to clarify that the Stage 2 remediation have been subdivided into Audit Areas and that AA1 was completed in December 2021.	Extra paragraph on progressive validation of audit Areas added to this section.	✓
	NA	Section 1.5	1 - A statement clarifying why groundwater remediation is not necessary should be presented prior to the discussion of natural attenuation. 2 - ERM have stated the following "A previously classified asbestos stockpile deemed unsuitable for onsite re-use (SP30) was alsorequired to be disposed off-site to an appropriately licenced receiving facility." The reference to the document were such classification was discussed should be presented.	1 - Statement Added as requested 2 - Reference to Stage 2 Stockpiles report added	✓
	NA	Section 3.5	Clarification regarding groundwater depth within AA2 is necessary. ERM reported groundwater levels ranging between 0.5 to 2.0 mbgl (Table 3-1). Further, in Table 5-1, ERM reported that the depth of remediation ranged between 1.0 to 2.0 mbgl (Table 5-1); however, groundwater was not intercepted.	Clarification to be provided to groundwater depths within Table 3-1 with reference to operational GME reports detailing groundwater depths measured in wells surrounding excavations during remediation (0.6-1.9m). Small volumes of perched water were observed in the base and walls of some excavations but were not significant enough to require dewatering or specific management throughout excavation works.	✓
		Section 5.3.2	The location were the soils impacted with the product leaking from the sub-surface services stockpile (stockpile ID) needs to be presented.	SP104 (sent to biopile). Minor text update to clarify. New section 7.2 provides explanation of the on-site movement of material for biopiles.	✓
	NA	Table 6-14	Clarify where the analytical results attesting the suitability of the stockpiles is presented. It was mentioned in the DQOs that stockpiles would be validated for asbestos and CoPC.	Noted. Section 6.8 has been updated as per above comments to provide characterisation of stockpiles, where appropriate.	✓
		Table 3-5	The Proposed Road information should be presented in this table.	Table updated as per above comment 9 on 'brief summary of previous results'	✓
	NA	General comment	1 - The location in AA3 where the impacted material was sent for biopiling treatment should be presented in a figure. 2 - How does the groundwater monitoring fit into the validation process/LTEMP? 3 - How was a depth of 1.5 m selected, given the deeper sample was collected at 2.0? How was groundwater was not intercepted, asERM stated that groundwater levels within AA2 ranged between 0.5 to 2.0 mbgl. 4 - There is a need to justify why exceedances of management limits are not a problem. 5 - Hazard Ground Gases reference in Section 3.7.3 should be updated to 2020.	1 - Noted, this has been clarified within new section 6.2 (onsite material tracking) and has been presented on Figure 11. 2 - Groundwater monitoring was conducted within AA2 in accordance with the Stage 2 GWMP (and consent conditions) prior to and during remediation to confirm no impact to the Duck River requiring implementation of contingency measures (groundwater remediation) from remediation processes. The Stage 2 GWMP recommends a program of ongoing monitoring of wells situated along the downgraient boundary. These wells are situated outside of AA2 (Lot 64 and 62). As such, groundwater monitoring has little ongoing impact on the LTEMP for AA2 (no inclusion) and is limited to compliance/ confirmation of existing CSM during post remediation round (November 2021) 3 - Depth of 1.5m selected for AEC-3D based on anticipated depth of vadose zone (and therefore LNAPL source). 4 - Section 6.9 (Management Limits Discussion) provides justification of no risk associated with management limits in line with previous HHERA discussion, noting the collection of specific air monitoring data to rule out acute exposure hazards. 5 - Noted and amended	✓

	NA	Figure F10	1 -The lots in Figure F10 should be shown. 2 -The validation sampling should be presented for all AECs, not only AEC-3d. 3 - The conduit containing asbestos within AEC3d should be presented. 4 - The depth of LNAPL within soil should be presented. 5 -The depth of soils where expected aesthetic issues may be encontered should be presented. 6 - Areas where asbestos could be found, should be presented.	Comments 1-6 to be addressed via figure amendment (reproduction of Figure F2 from LTEMP 2 - Select locations for AEC-3D shown only as TRH management limit exceedances identified in these locations at the lateral extent of location. Validation sample locations have been shown on other figures. No amendment proposed here.	✔

Notes

NA	Not applicable
✔	Information presented as per NSW EPA (2020) checklist
x	Information not presented as per NSW EPA (2020) checklist

Client: **Viva Energy**
Project: 2127799 - WARP Clyde Stage 2 AA2
Report: **Section 8 of Clyde WARP Stage 2 AA2 Validation Report**

Requirement in NSW EPA (2020)	Information Presented?	Location in Document	Auditor Comments (version dated 15/02/2022)	ERM responses	Auditor's review of report version 04/04/2022 - Was the required information presented (Final assessment)
Regional and local geology, hydrogeology and hydrology	✔	Section 3.4 and 3.5	Clarification regarding groundwater depth within AA2 is necessary. ERM reported groundwater levels ranging between 0.5 to 2.0 mbgl (Table 3-1). Further, in Table 5-1, ERM reported that the depth of remediation ranged between 1.0 to 2.0 mbgl (Table 5-1); however, groundwater was not intercepted.	Clarification to be provided to groundwater depths within Table 3-1 with reference to operational GME reports detailing groundwater depths measured in wells surrounding excavations during remediation. Small volumes of perched water were observed in the base and walls of some excavations but were not significant enough to require dewatering or specific management throughout excavation works.	✔
List of potential contaminants of concern	✔	Table 8-1 in Section 8	Asbestos should be included in the CSM and a CoPC that will require management via LTEMP.	NA	✔
Potential and known sources of contamination (on and off-site)	✔	Table 8-1 in Section 8	The remaining CoPC following completion of remediation are listed in Table 8-1. No further action is required.	NA	✔
Mechanism of contamination (e.g. 'top down' spill, sub-surface release from tank or pipe, atmospheric, deposition etc.)	✔	Table 8-1 in Section 8	The potentially complete SPR Linkages presented a discussion regarding the remaining mechanism of contamination.	NA	✔
Potentially affected environmental media	✔	Table 8-1 in Section 8	No further action is required.	NA	✔
Actual or potential exposure pathways. Also consider preferential pathways for contaminant migration	✔	Table 8-1 in Section 8	No further action is required.	NA	✔
Consideration of spatial and temporal variations (e.g. weather)	NA	NA	NA	NA	NA
Actual or potential exposure pathways. Also consider preferential pathways for contaminant migration	✔	Table 8-1 in Section 8	No further action is required.	NA	✔
Human and ecological receptors	✔		There is no on-site potential ecological receptor within Stage 2 AA2. The site is proposed to be redeveloped into a commercial/industrial site. Based on the HHERA developed by ERM, there are no risks to off-site ecological receptors. The Potential for human health risks was assessed following completion of remediation and deemed by ERM to be low and acceptable. Residual aesthetic impacts that do not pose risks to future on-site receptors must be managed via LTEMP. No further action is required.	NA	✔
Frequency of exposure	NA	NA	NA	NA	NA
Linkage of source, pathway and receptor assessed in terms of potentially complete pathways and likelihood	✔	Table 8-1 in Section 8	No further action is required.	NA	✔
Discussion on multiple lines of evidence (for complex sites)	NA	NA	NA	NA	NA
Justification for the number of samples collected and analysed	✔	Sections 3.3, 3.4 and 3.5	Please refer to clarifications regarding Tables 3-4 and 3-5 presented in the Validation Checklist.	NA	✔
Data gap identification	✘	✘	Please include a statement regarding data gap identification. If data gaps are inexistent, this information should be presented.	Clarifying statement added to new section 8.4.5	✔
Sensitivity analysis where modelling is undertaken	NA	NA	NA	NA	NA

Notes

NA	Not applicable
✔	Information presented as per NSW EPA (2020) checklist
x	Information not presented as per NSW EPA (2020) checklist

Client: Viva Energy
Project: 2127799 - Stage 2 Remediation - AA2
Report: **Clyde WARP Stage 2 AA2 Validation Report**

Requirement in NSW EPA (2020)	Information Presented?	Location in Document	Relevant Quality Aspect (PARCC)	Auditor Comments (version dated 16/03/2022)	ERM responses	Auditor's review of report version 04/04/2022 Was the required information presented (Final assessment)
Sampling QA/QC						
Details of sampling team	x	NA	C Comparability C Completeness	Please include a statement for completeness.	Statement added to table G1 cross referencing individual field records for field personnel.	✔
Reference to sampling plan/method, including any deviations from it – sampling and analysis quality plan	x	NA	C Completeness	Please include a statement for completeness.	Table G3 within QAQC appendix G has been updated to reference the SAQP provided within the Stage 2 RAP and cross refernce RAP deviations discussion section 5.3 within the main body of the validation report.	✔
Any information that could be required to evaluate measurement uncertainty for subsequent testing (analysis)	NA	NA	P Precision A Accuracy	NA	NA	NA
Decontamination procedures carried out between sampling events	✔	Table G1, in Appendix G	P Precision A Accuracy R Representativeness	No further action is required.	NA	✔
Sampling Log: Logs for each sample collected, including date, time, location (with GPS coordinates if possible), sampler, duplicate samples, chemical analyses to be performed, site observations and weather/environmental (i.e. surroundings) conditions.	✔	Appendix D and Appendix F	R Representativeness C Completeness	Not all information was provided in the table, but adequate in light of complete report information such as sampling figures	NA	✔
Chain of custody fully identifying – for each sample – the sampler, nature of the sample, collection date, analyses to be performed, sample preservation method, departure time from the site and dispatch courier(s) (where applicable)	✔	Appendix M	C Comparability C Completeness	No further action is required.	NA	✔
Field quality assurance/quality control results (e.g. field blank, rinsate blank, trip blank, laboratory prepared trip spike)	✔	Table G1, in Appendix G	P Precision A Accuracy	No further action is required.	NA	✔
Sample splitting techniques – sub-sampling, containers/preservation (ensure unique ID for subsequent samples provided)	NA	NA	R Representativeness	NA	NA	NA
Statement of duplicate frequency	✔	Table G1, in Appendix G	P Precision R Representativeness	No further action is required.	NA	✔
Background sample results	NA	NA	C Comparability C Completeness	NA	NA	NA
Field instrument calibrations (when used)	✔	Appendix E	P Precision A Accuracy	No further action is required.	NA	✔
Laboratory QA/QC						
A copy of signed chain-of-custody forms acknowledging receipt date, time and temperature and identity of samples included in shipments	✔	Appendix M	C Comparability C Completeness	No further action is required.	NA	✔
Record of holding times and a comparison with method specifications	✔	Table G2, in Appendix G	C Comparability C Completeness	No further action is required.	NA	✔
Analytical methods used, including any deviations	✔	Table G2, in Appendix G	C Comparability C Completeness	No further action is required.	NA	✔
Laboratory accreditation for analytical methods used, also noting any methods used which are not covered by accreditation	✔	Table G2, in Appendix G	P Precision C Completeness	No further action is required.	NA	✔
Laboratory performance for the analytical method using inter-laboratory duplicates			C Comparability C Completeness	No further action is required.	NA	✔
Surrogates and spikes used throughout the full method process, or only in parts. Results are corrected for the recovery	✔	Table G2, in Appendix G	C Comparability C Completeness	No further action is required.	NA	✔
A list of what spikes and surrogates were run with their recoveries and acceptance criteria (tabulate)			A Accuracy C Comparability	No further action is required.	NA	✔
Practical quantification limits (PQL)	x	NA	C Comparability C Completeness	No further action is required. The LOR were presented were below the adopted criteria.	NA	NA
Reference laboratory control sample (LCS) and check results			C Completeness	No further action is required.	NA	✔
Laboratory duplicate results (tabulate)	✔	Table G2, in Appendix G	A Accuracy C Completeness	No further action is required.	NA	✔
Laboratory blank results (tabulate)	✔	Table G2, in Appendix G	A Accuracy C Completeness	No further action is required.	NA	✔
Evaluation of all quality assurance/control information listed above against the stated data quality objectives, including a quality assurance/control data evaluation	✔	Table G3 in Appendix G.	P Precision A Accuracy R Representativeness C Comparability C Completeness	No further action is required.	NA	✔

Notes

NA	Not applicable
✔	Information presented as per NSW EPA (2020) checklist
x	Information not presented as per NSW EPA (2020) checklist

Client: Viva Energy
Project: 2127799 - Stage 2 Remediation - AA2
Report: **Clyde WARP Stage 2 AA2 Validation Report**

Requirement in NSW EPA (2020)	Information Presented?	Location in Document	Auditor Comments (version dated 15/02/2022)	ERM responses	Auditor's review of report version 04/04/2022- Was the required information presented (Final assessment)
Assessment Criteria					
Table listing all selected assessment criteria and references	✓	Tables in the end of the report	No further action required.	NA	✓
Rationale for the selection of assessment criteria, including assumptions and limitations of the criteria (relevant to the assessment and current or proposed land use) and any deviations from approved guidelines.	✓	5.2.1	1 - Clarify whether the LNAPL presented at AEC-3d discussed in this section"removal of visible LNAPL) refers to LNAPL (sludge) within soil or LNAPL in groundwater? 2 - Clarify which methane risks this statement refers to, as it was previously reported that methane risks investigation concluded they the potential risks were very low and unlikely. 3 - Fourth bullet point - This statement needs to be reviewed. It was stated that there was no need to monitor for acute hazards during excavations. In addition, TRH concentrations in the last ten years did not contribute to the formation of LNAPL, as no "new" LNAPL was observed.	NA	✓
Rationale for any site-specific assessment criteria developed through a site-specific	✓	Section 5.2	Yes, assessed in the HHERA. No further action required.	NA	✓
Sampling and Analysis Strategy and Sampling Methodology					
Sampling and analysis data quality objectives:					
Step 1 - State the problem	✓	Section 4.2	The auditor notes that although groundwater management is part of the remediation purpose, groundwater monitoring will not be necessary for AA2. Therefore, this should be discussed in Step 1 after the following statement "to remediate the soil/soil vapour and manage groundwater within...".	Noted and footnote to this effect added	✓
Step 2 - Identify the decision/goal of the study	✓	Section 4.2	1 - Clarify why not all AECs requiring remediation were considered (only AEC3e was discussed in Step 2). 2 - LNAPL - It should be clear that the LNAPL mentioned in Step 2 (third bullet point) refer to LNAPL within shallow soil, not LNAPL in groundwater.	1 - Specfic data gap flagged in Stage 2 RAP for AEC-3E. Lateral extent of all other AEC excvations was well defined by pre-exisiting data points. Opportunity for reduction in excavation footprint was identified in the RAP 2 - noted and amended as requested	✓
Step 3 - Identify the information inputs	✓	Section 4.2	No further action is required.	NA	✓
Step 4 - Define the boundaries of the study	✓	Section 4.2	No further action is required.	NA	✓
Step 5 - Develop the analytical approach	✓	Section 4.2	1 - Clarify why not all AECs requiring remediation were considered (only AEC3e was discussed in Step 2). 2 - ERM stated the following "If concentrations of contaminants of concern in soil samples collected from representative excavated materials are reported equal to or below the adopted re-use criteria (Section 5), the material is suitable for on-site re-use." However, only VENM was re-used on-site. Shouldn't this analytical approach be reviewed? Otherwise, this matter should be discussed in the QA/QC assessment. 3 - ERM stated the following "Are building material stockpiles suitable for on-site re-use?" Clarify where the suitability of these stockpiles (other than that already assessed in 2020) will be presented, including the discussion of the CoPC and asbestos laboratory results.	1 - See above clarification for for Step 2. Explanatory text statement added referencing data gaps section of the Stage 2 RAP. 2 - While VENM has been used on site to backfill remedial excavations due to geotechnical purposes, this does not change the fact that excavated materials may be assessed as suitable for re-use (landforming) during later stages of site redevelopment. No changes to document considered warranted. 3 - Section 6.8 has been added to include assessment of additonal stockpiles as per previous comments. ERM notes building material stockpiles are not suject to laboratory analysis due to being comprised of oversized material. Laboratory analysis for confirmation of asbestos presence only undertaken of suspected ACM is identified through visual inspection of these piles by a LAA	✓
Step 6 - Specify performance or acceptance criteria	✓	Section 4.2	No further action is required.	NA	✓
Step 7 - Develop the plan for obtaining data	✓	Section 4.2	No further action is required.	NA	✓
Are the data quality objectives linked to the conceptual site model, and have they been updated with the conceptual site model?	x	Section 4.2	Please include a statement for completeness.	Statement Added to 2nd Paragraph of DQO section 4.2	✓
A strategy to achieve predetermined data quality objectives, including the sampling strategy and justification for the sampling design	✓	Through the report and Stage 2 RAP	No further action is required.	NA	✓
Procedures to be undertaken if the data does not meet the expected data quality objectives	NA	NA	NA	NA	NA
Refer to the updated conceptual site model and identified data gaps to determine sampling locations (to ensure sourcepathway- receptors have been considered)	x	Section 4.2	Please include a statement for competeness.	Statement Added to 2nd Paragraph of DQO section 4.2	✓
Consideration of existing production, residential or monitoring wells when determining groundwater sampling locations	✓	Section 4.2	Although this matter was not discussed in the DQOs, the auditor notes that the discussion regarding why there is no need to remediate/monitor groundwater was discussed in other sections of the Validation report. Therefore, the auditor is satisfied with the information presented and no further action is required.	Noted. No report changes required	✓
Data quality indicators Note: sampling and analysis quality plan including details of the required quality assurance/quality control samples for the project (e.g. field blank, rinsate blank, trip blank, laboratory prepared trip spikes), including acceptable limits for field quality assurance/quality control.	✓	Section 4.2 and Appendix G	The auditor is satisfied with the information discussed in the Validation report. The QA/QC assessment will be discussed in the QA/QC checklist.	NA	✓

Notes

NA	Not applicable
✓	Information presented as per NSW EPA (2020) checklist
x	Information not presented as per NSW EPA (2020) checklist

Daniela Balbachevsky

From: Joshua Panton <Joshua.Panton@erm.com>
Sent: Friday, 1 April 2022 1:57 PM
To: Daniela Balbachevsky; Stephen Mulligan; Adam Speers (InTouch); Michael Gaggin; Peter Lavelle
Cc: Andrew Kohlrusch
Subject: RE: Clyde - Validation Report and Stockpiles Approach
Attachments: 0561882_L17_Auditor Responses for Stage 2 AAQ and GMEs.pdf

Hi Daniela,

Please find the attached letter outlining our responses to recent auditor comments for the ambient air quality summary and groundwater monitoring reports during the stage 2 remediation phase.

Let me know if it's ok to send the final AA2 validation today as a revision 3 with the updated stockpile register or if further updates are required. Otherwise, we can wait until Andrew is back on Monday to confirm.

Regards,
Joshua Panton
Senior Environmental Scientist –
Contaminated Sites Management

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From: Joshua Panton
Sent: Friday, April 1, 2022 11:21 AM
To: Daniela Balbachevsky <Daniela.Balbachevsky@ghd.com>; Stephen Mulligan <Stephen.Mulligan@erm.com>; Speers, Adam C <Adam.Speers@vivaenergy.com.au>; Michael Gaggin <Michael.Gaggin@erm.com>; Peter Lavelle <Peter.Lavelle@erm.com>
Cc: Andrew Kohlrusch <Andrew.Kohlrusch@ghd.com>
Subject: RE: Clyde - Validation Report and Stockpiles Approach

Hi Daneila,

Stephen is also on leave today and will be back on Tuesday (5/4).

I'll finalise and send the AAQ and GMEs letter this afternoon.

I can also send the revised final AA2 validation report today, with the updated stockpile register, if you can confirm there are no other changes that need to be made to this report.

Regards,
Joshua Panton
Senior Environmental Scientist –
Contaminated Sites Management

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From: Daniela Balbachevsky <Daniela.Balbachevsky@ghd.com>
Sent: Friday, April 1, 2022 9:11 AM
To: Stephen Mulligan <Stephen.Mulligan@erm.com>; Speers, Adam C <Adam.Speers@vivaenergy.com.au>; Michael Gaggin <Michael.Gaggin@erm.com>; Peter Lavelle <Peter.Lavelle@erm.com>; Joshua Panton <Joshua.Panton@erm.com>
Cc: Andrew Kohlrusch <Andrew.Kohlrusch@ghd.com>
Subject: RE: Clyde - Validation Report and Stockpiles Approach

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Hi Stephen

Thank you for the update regarding the stockpile register. Andrew is on leave, but we discussed your email yesterday.

Considering that the SAR is still in draft, he agrees that the best approach would be to revise the validation report to include the reviewed stockpile register information, as per your recommendation.

We are still waiting for the letter with the clarifications on the AAQ and GMEs to be able to finalise the SAR.

Please, let me know if you have a deadline for the reissue of the Validation report and the letter, so we can schedule a time to finalise the SAR.

Regarding the LTEMP, Andrew agreed with the practicability concerning the stockpile register.

Regards,

DANIELA BALBACHEVSKY
BSC (Hons) Geology
Senior Environmental Geologist – Contamination & Environmental Management
Senior Site Auditor Assistant

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From: Stephen Mulligan <Stephen.Mulligan@erm.com>
Sent: Wednesday, 30 March 2022 5:07 PM
To: Daniela Balbachevsky <Daniela.Balbachevsky@ghd.com>; Adam Speers (InTouch) <Adam.Speers@vivaenergy.com.au>; Michael Gaggin <Michael.Gaggin@erm.com>; Peter Lavelle <Peter.Lavelle@erm.com>; Joshua Panton <Joshua.Panton@erm.com>
Cc: Andrew Kohlrusch <Andrew.Kohlrusch@ghd.com>
Subject: RE: Clyde - Validation Report and Stockpiles Approach

Hi Daniela and Andrew,

I've checked this and it appears a superseded version of the stockpile register made its way into the validation report. I think the best way to incorporate this may be to revise the validation report given you SAR/SAS is currently in draft. If you can confirm this is the only change required I can turn this around. Alternatively, Let me know if another approach is preferred?

Responses to your queries should be addressed in this version (see responses in red):

- Clarify why the following stockpiles are highlighted in yellow - SP80, SP81, SP83, SP85, SP87, SP88, SP90, SP102B.
  These are no longer highlighted in revised version of table 9

- There is some stockpile information highlighted in dark grey. The note at the bottom of the table states that "Dark grey shading illustrates stockpile no longer exists - removed from site or merged with other stockpile/s ". The stockpile management register should include the destination of stockpiles removed from the site and merged to other stockpiles.
- The 'Backfill Location/ Destination' column in revised version of table 9 clarifies the destination of these stockpiles. ERM notes that light grey shading in revised Table 9 indicates stockpiles still remaining which are located outside of the footprint of AA2. The entire register has been included for completeness.

- Information regarding the sampling of SP84, SP89 and SP97 should be included in the register, as these stockpiles were characterised as part of the AA2 Validation work.
- Noted – this information is included in revised table

- Based on today's meeting, can you confirm that the stockpile register and associate information will be included in the AA2 LTEMP?
- I cannot recall the inclusion of a stockpile register within the LTEMP being previously discussed. The identification of potential for unexpected finds of asbestos within stockpiled material or during their placement was highlighted within the LTEMP and reverts to the unexpected finds protocol contained within.
- The inclusion of a stockpile register (and associated figures etc) is not considered practical given the live nature of stockpile tracking and the potential that this may change multiple times even prior to sale of all or portions of AA2. Previous experience was that an alteration to an appendix of the LTEMP will trigger Auditor/Council/EPA consultation and a requirement to revise the SAS/SAR.

Many thanks,
Steve

Stephen Mulligan
Senior Environmental Consultant / Team Leader

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Read our Sustainability Report and ERM Foundation Annual Review

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From: Daniela Balbachevsky <Daniela.Balbachevsky@ghd.com>
Sent: Wednesday, March 30, 2022 2:00 PM
To: Speers, Adam C <Adam.Speers@vivaenergy.com.au>; Stephen Mulligan <Stephen.Mulligan@erm.com>; Michael Gaggin <Michael.Gaggin@erm.com>; Peter Lavelle <Peter.Lavelle@erm.com>; Joshua Panton <Joshua.Panton@erm.com>
Cc: Andrew Kohlrusch <Andrew.Kohlrusch@ghd.com>

Subject: RE: Clyde - Validation Report and Stockpiles Approach
Importance: High

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Stephen,

After reviewing the Stockpile Register included in the updated AA2 Validation report (dated 25/03/2022), Andrew noted that the following matters require clarification and/or review:

Table 9 - AA2 Stockpile Register (in the appendix):

- Clarify why the following stockpiles are highlighted in yellow - SP80, SP81, SP83, SP85, SP87, SP88, SP90, SP102B.
- There is some stockpile information highlighted in dark grey. The note at the bottom of the table states that "Dark grey shading illustrates stockpile no longer exists - removed from site or merged with other stockpile/s ". The stockpile management register should include the destination of stockpiles removed from the site and merged to other stockpiles.
- Information regarding the sampling of SP84, SP89 and SP97 should be included in the register, as these stockpiles were characterised as part of the AA2 Validation work.
- Based on today's meeting, can you confirm that the stockpile register and associate information will be included in the AA2 LTEMP?

Regards,

DANIELA BALBACHEVSKY
BSC (Hons) Geology
Senior Environmental Geologist – Contamination & Environmental Management
Senior Site Auditor Assistant

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From: Stephen Mulligan <Stephen.Mulligan@erm.com>
Sent: Monday, 7 March 2022 11:34 AM
To: Daniela Balbachevsky <daniela.balbachevsky@ghd.com>; Adam Speers (InTouch) <adam.speers@vivaenergy.com.au>
Cc: Peter Lavelle <Peter.Lavelle@erm.com>; Joshua Panton <Joshua.Panton@erm.com>; Andrew Kohlrusch <andrew.kohlrusch@ghd.com>
Subject: RE: Clyde - Validation Report and Stockpiles Approach

Hi Daniela,

Thanks for the commentary below.

Would you and Andrew have 10 minutes today to talk through this? A few things appear to have been misinterpreted and I feel could be explained fairly quickly over the phone

Steve

From: Daniela Balbachevsky <Daniela.Balbachevsky@ghd.com>
Sent: Monday, March 7, 2022 11:04 AM
To: Stephen Mulligan <Stephen.Mulligan@erm.com>; Adam Speers (InTouch) <adam.speers@vivaenergy.com.au>
Cc: Peter Lavelle <Peter.Lavelle@erm.com>; Joshua Panton <Joshua.Panton@erm.com>; Andrew Kohlrusch <andrew.kohlrusch@ghd.com>
Subject: RE: Clyde - Validation Report and Stockpiles Approach
Importance: High

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning Steve, thanks for sending us the proposed approach to characterising the stockpiles that have been generated on site and were not related to remediation activities and for which there has been no sampling.

Following review of the below information and the validation report for Stage 2 AA2 the auditor notes that:

- A summary of all stockpiles within AA2 is required, including descriptions of the materials, summary of works that validated the stockpiles, a statement about the suitability of each stockpile, is required rather than just referring to the 2020 Validation stockpiles (that did not include all 14 stockpiles).
- Use of PID as a means to screen samples for lab analysis is not appropriate given that the CoPCs are not volatile (as demonstrated in the PID measurements recorded during the bioremediation that has been conducted to date).
- The specific in situ data should be provided before it is incorporated into the validation report.
- The on-site material tracking information referred to should be presented for each stockpile. Given that some of these stockpiles were generated as a result of sediment capture, there will need to be samples collected and analysis or information should be provided before the proposed approach is implemented.
- Given the size of the stockpiles and their composition, test pits may be needed to characterise them appropriately. It is not clear how inspection of the soils ex situ provides greater confidence than test pit sampling.
- Concrete – test pits, asbestos will need clearance certificates

Regarding the LMP the auditor notes the following:

- LTEMP – Suggestion exceedances should be showing by depths 0-0.5 m or 0.5-1.5 >1.5 m
- LNAPL in soil or groundwater? If in soils, depth should be provided.

Kind regards,

DANIELA BALBACHEVSKY
BSC (Hons) Geology
Senior Environmental Geologist – Contamination & Environmental Management
Senior Site Auditor Assistant

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From: Stephen Mulligan <Stephen.Mulligan@erm.com>
Sent: Wednesday, 23 February 2022 7:40 PM
To: Andrew Kohlrusch <andrew.kohlrusch@ghd.com>
Cc: Daniela Balbachevsky <daniela.balbachevsky@ghd.com>; Peter Lavelle <Peter.Lavelle@erm.com>; Joshua Panton <Joshua.Panton@erm.com>
Subject: Clyde - Validation Report and Stockpiles Approach

Hi Andrew,

As per discussions last week regarding initial commentary on the AA2 report, we have given some more thought regarding characterisation approach for 'new stockpiles' which were generated outside of specific remediation activities for Stage 2 and have not been subject to your previous review (Stage 2 stockpiles report). These stockpiles and their source are outlined below and location shown on the attached EPS mudmap.

The summary table below shows relevant stockpiles with AA2 and AA3 which have not been subject to ex-situ characterisation as per our existing stockpile register. These stockpiles have been generated as surplus material from earthworks conducted by EnviroPacific to facilitate the construction of utilities for site redevelopment to the north of stage 2 and in construction of the retention dam (south of stage 2 Area).

Stockpile ID	Relevant Audit Area	Location On Site	Source of Material	Material Description	Estimated Volume (m3)
SP81	Stage 2 - AA1 and AA3	Tankfarm A3	Road 2 utilities easement trench spoil	SOIL	630
SP84	Stage 2 - AA2	South of former water tanks (88 and 89)	Excavated material from Sediment Basin Extent - saturated yellow sandstone	SOIL - Excavated material from Sediment Basin Extent - saturated yellow sandstone	350
SP86	Stage 2 - AA2	South of former water tanks (88 and 89)	Excavated material from Sediment Basin Extent - grey clay	SOIL - Excavated material from Sediment Basin Extent - grey clay	1057
SP89	Stage 2 - AA2	South of former water tanks (88 and 89)	Excavated material from Sediment Basin Extent - concrete from historical footings	DEMOLITION MATERIAL - Excavated material from Sediment Basin Extent - concrete from historical footings	190
SP97	Stage 2 - AA2	Sample store	Concrete stockpile from Stage 2 AEC remediation areas	DEMOLITION MATERIAL Concrete - uncrushed	413

The existing default approach for characterisation of stockpiles (Stage 2 Stockpiles report) and the Stage 2 RAP (Section 12.3.4) involves sampling and laboratory analysis of soil stockpiles in accordance with the frequency outlined within NEPM schedule B2. This was considered appropriate because:

- For Stockpiles generated pre- remediation works (Demolition): ERM and Viva Energy did not have detailed tracking information on the exact source of materials sourced from on-site demolition (pre 2020);

- Remediation Stockpiles: materials from these excavations are considered impacted and unsuitable for re-use subject to further characterisation following screening and segregation and/or soil treatment. Validation approaches for remediation material are covered within the Stage 2 RAP (Section 12.3.4)

The summary table below shows relevant stockpiles which have not been subject to ex-situ characterisation as per our existing stockpile register. These stockpiles have been generated as surplus material from earthworks conducted by EnviroPacific to facilitate the construction of utilities for site redevelopment to the north of stage 2 and in construction of the retention dam.

Proposed approach and rationale:

We propose completion of visual inspection and PID screening of the above soil stockpiles at frequencies consistent with those outlined within section 12.3.4 of the Stage 2 RAP. Laboratory analysis of the stockpile is only to be undertaken should PID screening results >100ppm be identified, or asbestos containing materials be identified in visual inspection undertaken.

Rationale for this approach is as follows:

- Stockpiled material was generated from excavation of areas and at depths which have been assessed within the Stage 2 RAP as not requiring remediation and therefore suitable to remain on-site;
- The volume and source of these stockpiles is well documented through on-site material tracking information;
- Specific in-situ data exists for the source of this material and will be discussed within relevant validation report for suitability for re-use;
- Ability to inspect soil materials ex-situ provides even greater confidence in variability of material than discrete test pit locations;
- The inherent effect of stockpiling material ex-situ is expected to produce lower contaminant concentrations than in-situ investigation data, which by it's nature is biased towards observed impacts and known contaminant sources;
- Material is to be re-used on site and is not considered 'waste' under the definition of the POEO Act. Laboratory analysis will be a requirement should off-site disposal be required in the future. A statement will be added to this effect within validation reports and LTEMP waste management sections.

Happy to discuss this if you require further clarification, however if you could respond either way by the end of the week would be appreciated as any further sampling will need to be completed ASAP.

Many thanks
Steve

Stephen Mulligan
Senior Environmental Consultant / Team Leader

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Read our Sustainability Report and ERM Foundation Annual Review

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Adam Speers
Viva Energy Australia Pty Ltd
Via Email

1 April 2022

Reference: 0561882_L17

Dear Adam,

Subject: Clyde Western Area Remediation Project – Response to Auditor Review of Stage 2 Ambient Air Quality Summary Report and Stage 2 Remediation Phase Groundwater Monitoring Reports

1. INTRODUCTION

Environmental Resources Management Australia Pty Ltd (ERM) was commissioned by Viva Energy Australia Pty Ltd (Viva Energy) to prepare an Ambient Air Quality Summary (AAQS) for Stage 2 of the Clyde Western Area Remediation Project (WARP), and to undertake groundwater monitoring requirements throughout the execution of Stage 2 of the WARP within the Clyde Terminal, located at Devon Street, Rosehill, NSW, 2142 (the Site).

The following compliance reports for groundwater and air quality monitoring undertaken during the execution of Stage 2 remediation works were provided to the Site Auditor for review in the context of demonstrating compliance with the Development Consent for the Project (SSD 9302):

- ERM (2021a) *Clyde Western Area Remediation Project - Stage 2 Groundwater Monitoring – Remediation Phase – Month 1*. November 2021.
- ERM (2021b) *Clyde Western Area Remediation Project - Stage 2 Groundwater Monitoring – Remediation Phase – Month 2*. December 2021.
- ERM (2022) *Clyde Western Area Remediation Project - Stage 2 Remediation – Ambient Air Quality Summary*. February 2022.

The Site Auditor requested clarifications to items within these reports via email (dated 28th March 2022) to assist with the completion of the site audit process for portions of the Stage 2 Area. These comments and ERM clarifications are provided in the following sections.

2. SITE AUDITOR COMMENTS AND ERM RESPONSES

2.1 Remediation Phase Groundwater Monitoring

Auditor Comment (ERM 2021a, Table 4-2):

Clarify why the GME in the week of 4th October was not completed. Lines of evidence supporting why this issue did not affect the Consent Condition requirements should be presented.

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ERM Response:

Consent condition requirements relevant to weekly groundwater monitoring are *B22 (b) implement a program to monitor groundwater levels and quality during remediation works.*

Groundwater gauging works were not completed during the week of 4-10 October 2022. During this period, remediation areas AEC-3a and AEC-3b were subject to excavation works. No remediation works were undertaken within AEC-3d and AEC-3e during the week of 4 October, which is noted to lower the probability of remediation works throughout the monitoring network having short-term adverse effects on Site groundwater and Duck River.

Given the low permeability clay soils, lack of LNAPL mobilisation identified in localised near-excavation wells prior to and following this period, the lack of gauging data collected within this weekly period is not considered to be material in the context of assessing potential short term risks to sensitive receptors (i.e. the Duck River).

Given the above points, groundwater gauging not being completed within the week commencing 4 October 2021 is a minor deviation from the GWMP requirements and not considered to affect the overarching consent condition requirements (monitoring short term adverse changes from remediation works, assessing whether contingency actions are required to prevent harm to offsite receptors).

Auditor Comment (ERM 2021b, Table 4-2):

Clarify why the GME in the week of 8th November was not completed. Lines of evidence supporting why this issue did not affect the Consent Condition requirements should be presented.

ERM Response:

Field works were unable to be completed during the week of 8-14 November 2022 due to inclement weather and therefore groundwater gauging was undertaken early during the following week (15 November, 2022).

During this period, remediation works were limited to excavation of AEC-3e and a period of 11 days between monitoring events. No remediation works were undertaken within other areas, which is noted to further decrease the potential of remediation works having observable short-term adverse effects on localised groundwater and the Duck River.

Given the low permeability clay soils known to inhibit migration of contaminants in groundwater at the Site, lack of LNAPL mobilisation identified in localised near-excavation wells prior to and following this period, the lack of gauging data collected within this weekly period is not considered to be material in the context of assessing potential short term risks to sensitive receptors (i.e. the Duck River).

Given the above points, groundwater gauging not being completed within the week commencing 8 November 2021 is a minor deviation from the GWMP requirements and not considered to affect the overarching consent condition requirements (monitoring short term adverse changes from remediation works, assessing whether contingency actions are required to prevent harm to offsite receptors).

2.2 Ambient Air Quality Monitoring

Auditor Comment (ERM 2022, Section 3.1.2):

The discussion of naphthalene LORs being greater than the screening criteria should be presented, with supporting lines of evidence as to why this issue did not affect the results discussed in the report.

ERM Response:

The Laboratory Limit of Reporting (LOR) for naphthalene was reported marginally above the nominated screening criterion (maximum 22µg/m^3 versus screening criterion of 18µg/m^3).

This screening criterion has been calculated through dividing the 1 hour averaged odour-based criterion of 440 µg/m³ by 24, to obtain a theoretical lower bound 24 hour average criterion that would implicitly demonstrate compliance with the 1 hour criterion. This reflects a simplistic assumption that all naphthalene within the sample is collected during a single hour of the 24-hour sampling period, with no naphthalene present during other hours. For diffuse, ground-based emission sources such as stockpiles and excavations, this assumption is conservative.

It is also noted that naphthalene was also below the LOR (17 to 22µg/m^3) at all EC00 (at-source) samples during all rounds of monitoring. Notably, reported concentrations of <17µg/m^3 were reported at near source during excavation of AEC-3d, where naphthalene in groundwater and soil vapour was a key contaminant of concern. When source-receptor attenuation is accounted for, this indicates that boundary impacts marginally lower than the LOR (e.g. at the screening criterion) are unlikely.

Given these factors, the reported LORs for naphthalene in boundary samples are not considered likely to exceed criteria and are consistent with compliance with the 1 hour average naphthalene criterion.

Auditor Comment (ERM 2022, Section 3.2.5):

The rationale for the selection of AS01 should be presented. In addition, the AS01 location is not shown in the AAQ report.

ERM Response:

Table 3.7 in Section 3.2.5 refers to AS01 – 03, which should in fact refer to all four boundary locations as per the Evacuated Canister 'EC' nomenclature for the sample average and maximum (EC01, EC02, EC03 and EC04). It is noted that these locations also correspond with Ambient Sampling 'AS' locations AS01 - AS04. The data presented within this table is correct for Evacuated Canister Sampling undertaken.

The location of these boundary monitoring locations were selected to provide representative ambient air samples at site boundaries. The canisters were placed on the northern, eastern, southern and western boundaries to detect potential air toxics sourced from excavation areas in proximity to receptors, capturing a potential range of wind directions over a 24 hour monitoring period. These locations are consistent with those proposed within the Stage 2 AEVR.

The selection of these boundary monitoring locations for comparison against background concentrations in urban air is to provide context to background detections of toluene reported.

The location of sampling locations EC01-EC04 are shown on Figure 3-2.

2.3 General Comment

Auditor Comment (General):

During the preparation of the SAR, the following issue was raised in relation to drainage:

- *After July 2020, does general drainage flow south?*

ERM Response:

General drainage flow on the Stage 2 Area is towards the South (via overland flow) post decommissioning of the subsurface drainage network.

3. CLOSING

We hope that this letter addresses the Site Auditor requirements. Please do not hesitate to contact the undersigned should you have any questions.

Yours sincerely,
Environmental Resources Management Australia Pty Ltd





Joshua Panton
Senior Environmental Consultant

Stephen Mulligan
Project Manager

Attachment:
Statement of Limitations

STATEMENT OF LIMITATIONS

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This assessment is based on Site inspection conducted by ERM personnel, sampling and analyses described in the report, and information provided by Viva Energy Australia Pty Ltd ("Viva Energy" or "the client") or other people with knowledge of the Site conditions. All conclusions and recommendations made in the report are the professional opinions of the ERM personnel involved with the project and, while normal checking of the accuracy of data has been conducted, ERM assumes no responsibility or liability for errors in data obtained from such sources, regulatory agencies or any other external sources, nor from occurrences outside the scope of this project.

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Andrew Kohlrusch

From: Ulli Manuel <Ulli.Manuel@epa.nsw.gov.au>
Sent: 12 April, 2022 5:51 PM
To: Andrew Kohlrusch
Subject: RE: Stage 2 Audit Area 2 - Western Area Remediation Project (WARP)

Thank you,
Ulli

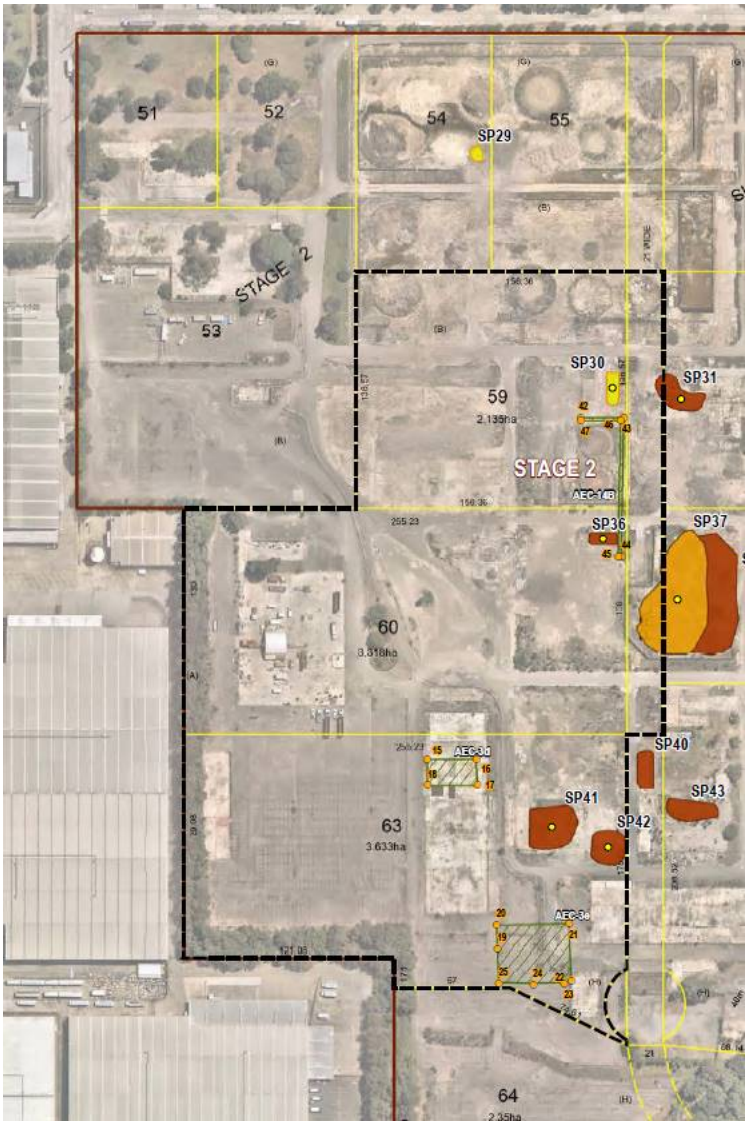
From: Andrew Kohlrusch <Andrew.Kohlrusch@ghd.com>
Sent: Tuesday, 12 April 2022 5:27 PM
To: Ulli Manuel <Ulli.Manuel@epa.nsw.gov.au>
Cc: Daniela Balbachevsky <Daniela.Balbachevsky@ghd.com>
Subject: Stage 2 Audit Area 2 - Western Area Remediation Project (WARP)

Good afternoon Ulli,

The remediation of the second portion of Stage 2 of the WARP (Audit Area 2) has recently been completed – Audit Area 1 of Stage 2 was completed late last year.

Similar to Audit Area 1, a long term management plan (LTEMP) has been prepared owing to the identified presence of stained soils and some soils with TRH concentrations that exceed management limits.

Audit Area 2 is shown as follows (within the black dashed line) – it comprises proposed lots 59, 60 and 63 and a portion of the proposed road (forming the majority of the eastern boundary)
Audit Area 1 is the immediate north (proposed lots 51 to 55).



There has been little if any impact to groundwater quality in this portion of the WARP and the assessment by ERM of groundwater data has demonstrated there to be stable or decreasing trend of CoPCs.

The LTEMP is passive and shows the locations of the affected soils that are to be managed (if the site is to be disturbed), the protocols for managing them and the associated responsibility.
Council has been contacted to notify the LTEMP on the Section 10.7 certificate.
No groundwater management (apart from a restriction on beneficial use) is proposed for the LTEMP.

We are in the final stages of completing the audit. If you have any questions about the LTEMP, please let me know.

Regards
andrew

Andrew Kohlrusch | A GHD PRINCIPAL
Senior Technical Director – Contamination and Remediation
NSW EPA and WA DWER accredited site auditor

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Andrew Kohlrusch

From: Stuart Pike <SPike@cityofparramatta.nsw.gov.au>
Sent: 13 April, 2022 9:33 AM
To: Andrew Kohlrusch
Cc: Daniela Balbachevsky
Subject: RE: Site audit statement - Stage 2 of Clyde remediation project. Audit area 2

Hi Andrew,

Yes well thanks and yes I am still the appropriate contact for this.

Thanks for the update and no questions at this stage.

Regards,

Stuart Pike
Team Leader – Environmental Health Compliance | Regulatory Services

9806 5542 (direct) | 9806 5050 (customer contact centre)

City of Parramatta
126 Church Street, Parramatta NSW 2150
PO Box 32, Parramatta, NSW 2124
cityofparramatta.nsw.gov.au





I acknowledge the Traditional Owners of the land I work on, the Darug Peoples, and pay my respects to their Elders past and present.

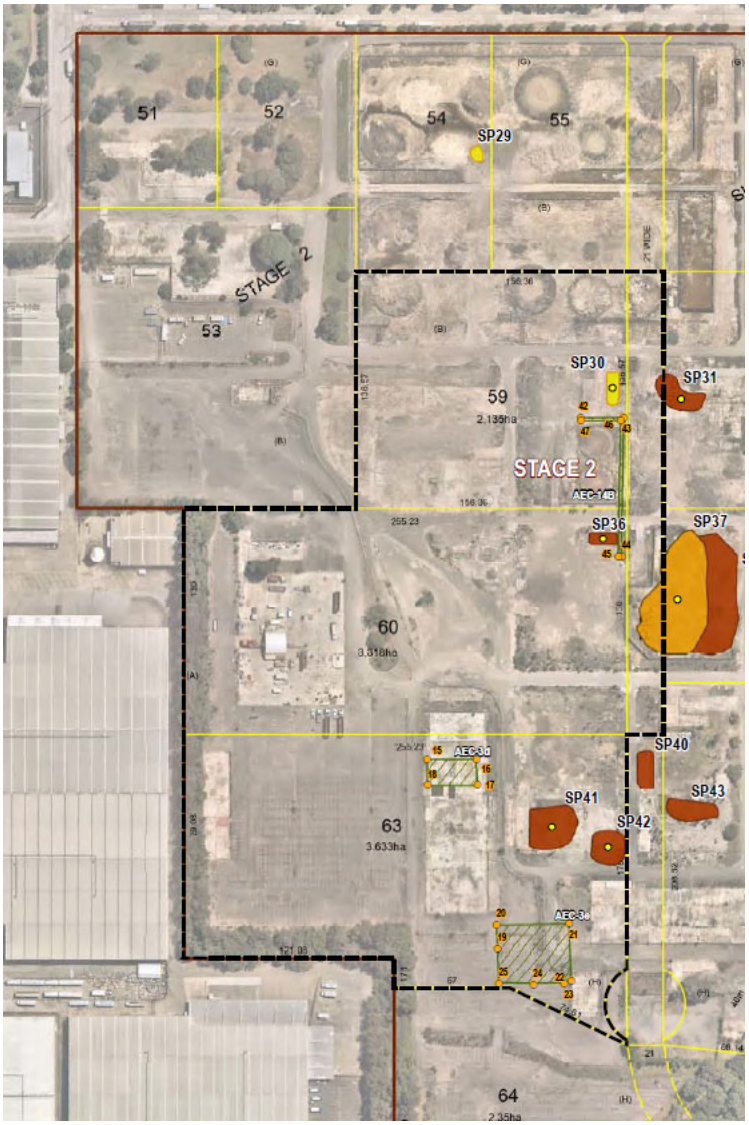
From: Andrew Kohlrusch <Andrew.Kohlrusch@ghd.com>
Sent: Wednesday, 13 April 2022 8:06 AM
To: Stuart Pike <SPike@cityofparramatta.nsw.gov.au>
Cc: Daniela Balbachevsky <Daniela.Balbachevsky@ghd.com>
Subject: Site audit statement - Stage 2 of Clyde remediation project. Audit area 2

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Hi Stuart,

I hope you are well and still the contact person for the Clyde remediation project.

We are in the process of completing the site audit for Audit Area 2 within Stage 2 of the WARP – noting that Audit Area 1 was completed late last year.
Audit Area 2 is shown as follows (within the black dashed line) – it comprises proposed lots 59, 60 and 63 and a portion of the proposed road (forming the majority of the eastern boundary)
Audit Area 1 is to the immediate north (proposed lots 51 to 55).



Audit Area 2 will also be subject to a long term management plan (LTEMP).
Until sub division of Lot 100 is granted, there will need to be notification on the Section 10.7 certificate that there are three EMPs.

Audit Area 3 (the proposed lots to the immediate east of the proposed road) will be completed next and there will be a separate audit for proposed Lot 64.
Both areas will have management plans too.

If you have any questions, please let me know

Regards

Andrew Kohlrusch | A GHD PRINCIPAL
Senior Technical Director – Contamination and Remediation
NSW EPA and WA DWER accredited site auditor

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Appendix C

Tables

Appendix C-1 Tables from AA2 Validation report

CLYDE WARP - SSTLS

COPC	Soil									
	Direct Contact (mg/kg)			VI (mg/kg)						Management Limits (mg/kg)
	Commercial	IMW	Construction	Commercial (0.15mbgl)	Commercial (1 mbgl)	Commercial (>2-4mbgl)	Commercial (>4mbgl)	IMW	Construction	
Benzene	400	15000	1200	3.2	3.2	3.2	3.2	NL	NL	-
Naphthalene	9800	810000	67000	NL	NL	NL	NL	NL	NL	-
Benzo(a)pyrene TEQ	40	3000	200	-	-	-	-	-	-	-
Total Chromium[a]	21000	100,000	8200							
Chromium VI	3600	17000	1400	-	-	-	-	-	-	-
TRH C6-C10 (less BTEX)	28000	830000	69000	600	770	NL	NL	NL	NL	-
TRH C6-C10	-	-	-	-	-	-	-	-	-	700
TRH C10-C16 (less N)	17000	540000	45000	NL	NL	NL	NL	NL	NL	-
TRH C10-C16	-	-	-	-	-	-	-	-	-	1000
TRH C16-C34	27000	770000	64000	-	-	-	-	-	-	3500
TRH C34-C40	27000	770000	64000	-	-	-	-	-	-	10000
TPH (EC5-6) aliphatic	1200000	3700000	310000	-	-	-	-	-	-	-
TPH (>EC6-8) aliphatic	1200000	3700000	310000	480	610	880	1400	NL	NL	-
TPH (>EC8-10) aliphatic	24000	740000	62000	760	980	1400	2200	NL	NL	-
TPH (>EC10-12) aliphatic	24000	740000	62000	430	600	980	1800	NL	NL	-
TPH (>EC12-16) aliphatic	24000	740000	62000	4300	8300	17000	33000	NL	NL	-
TPH (>EC16-21) aliphatic	470000	4400000	370000	-	-	-	-	-	-	-
TPH (>EC21-34) aliphatic	470000	4400000	370000	-	-	-	-	-	-	-
TPH (>34) aliphatic	4700000	44000000	3700000	-	-	-	-	-	-	-
TPH (>EC8-10) aromatic	9500	300000	25000	110	150	230	420	NL	NL	-
TPH (>EC10-12) aromatic	9500	300000	25000	280	430	750	1400	NL	NL	-
TPH (>EC12-16) aromatic	9500	300000	25000	430	2800	5100	9800	NL	NL	-
TPH (>EC16-21) aromatic	7100	220000	18000	-	-	-	-	-	-	-
TPH (>EC21-34) aromatic	7100	220000	18000	-	-	-	-	-	-	-
TPH (>34) aromatic	7100	220000	18000	-	-	-	-	-	-	-
Trimethylbenzene, 1,2,4-										
Trimethylbenzene, 1,3,5-										
Cyclohexane										
Heptane, N-										
Hexane, N-										
Isooctane										
Propene										

a - Assumes Total chromium is 17% Hexavalent chromium

VALIDATION PROGRAM TABLES

					TRH Aliphatic/Aromatic Split																TRH Silica Gel Cleanup									
					TRH >C5-C7 (Benzene) Aromatic	TRH >C5-C6 Aliphatic	TRH >C6-C8 Aliphatic	TRH >C8-C10 Aliphatic	TRH >C10-C12 Aliphatic	TRH >C10-C16 Aliphatic	TRH >C12-C16 Aliphatic	TRH >C16-C21 Aliphatic	TRH >C21-C35 Aliphatic	TRH >C5-C7 Aromatic	TRH >C7-C8 Aromatic	TRH >C8-C10 Aromatic	TRH >C10-C12 Aromatic	TRH >C12-C16 Aromatic	TRH >C16-C21 Aromatic	TRH >C21-C35 Aromatic	TRH >C10-C16 Fraction SG less Naphthalene	TRH >C10-C14 Silica Gel Cleanup	TRH >C10-C16 Silica Gel Cleanup	TRH >C10-C36 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C15-C28 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C29-C36	TRH >C34-C40 Silica Gel Cleanup
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	5	10	10	10	50	10	10	10	0.2	0.1	1	10	10	10	10	50	50	50	100	100	100	100	100	100
Clyde WARP SSTL (Direct Contact - Commercial)						1200000	1200000	24000	24000		24000	470000	470000			9500	9500	9500	7100	7100										
Clyde WARP SSTL (Direct Contact - Construction Worker)						310000	310000	62000	62000		62000	370000	370000			25000	25000	25000	18000	18000										
Clyde WARP SSTL (Direct Contact - IMW)						3700000	3700000	740000	740000		740000	4400000	4400000			300000	300000	300000	220000	220000										
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																														
0-0.99m							480	760	430		4300					110	280	430												
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																														
1-1.99m							610	980	600		8300					150	430	2800												
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																														
2-3.99m							880	1400	980		17000					230	750	5100												
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																														
4-6m							1400	2200	1800		33000					420	1400	9800												
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)							NL	NL	NL		NL					NL	NL	NL												
Clyde WARP SSTL (Vapour Intrusion - IMW)							NL	NL	NL		NL					NL	NL	NL	NL	NL										
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																														
Field_ID	**Sampled_Date_Time**	**Lab_Report_Number**	**Location_Code**	**Sample_Depth_Avg**																										
DUPE03_210903	3/09/2021	822144	TP21/100	0.7	<0.1	-	<10	18	<10	-	28	33	<10	-	<0.1	<1	44	80	120	<10	-	<50	55	<100	<100	<100	<100	<100	<100
TP21/100_0.2	3/09/2021	822144	TP21/100	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21/100_0.7	3/09/2021	822144	TP21/100	0.75	<0.1	-	<10	<10	<10	-	<10	<10	<10	-	<0.1	<1	13	44	70	<10	-	<50	<50	<100	<100	<100	<100	<100	<100
TP21/101_0.3	3/09/2021	822144	TP21/101	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21/101_1	3/09/2021	822144	TP21/101	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP03_210903	3/09/2021	ES2132296	TP21/100	0.7	-	<5	<5	6	<50	<50	-	<50	<50	<0.2	<0.5	<1	<50	<50	<50	<50	<50	<50	<50	<50	<50	<100	<100	<100	<100
Statistical Summary																														
Number of Results					2	1	3	3	3	1	2	3	3	1	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3
Number of Detects					0	0	0	2	0	0	1	1	0	0	0	0	2	2	2	0	0	0	1	0	0	0	0	0	0
Minimum Concentration					<0.1	<5	<5	6	<10	<50	<10	<10	<10	<0.2	<0.1	<1	13	44	<50	<10	<50	<50	<50	<50	<50	<100	<100	<100	<100
Minimum Detect					ND	ND	ND	6	ND	ND	28	33	ND	ND	ND	ND	13	44	70	ND	ND	ND	55	ND	ND	ND	ND	ND	ND
Maximum Concentration					<0.1	<5	<10	18	<50	<50	28	<50	<50	<0.2	<0.5	<1	<50	80	120	<50	<50	<50	55	<100	<100	<100	<100	<100	<100
Maximum Detect					ND	ND	ND	18	ND	ND	28	33	ND	ND	ND	ND	44	80	120	ND	ND	ND	55	ND	ND	ND	ND	ND	ND
Average Concentration							4.2	9.7	12			21	12		0.12	0.5	27	50	72	12		25	35	42	42	50	50	50	50
Median Concentration					0.05	2.5	5	6	5	25	16.5	25	5	0.1	0.05	0.5	25	44	70	5	25	25	25	50	50	50	50	50	50
Standard Deviation							1.4	7.2	12			14	12		0.12	0	16	28	48	12		0	17	14	14	0	0	0	0
Number of Guideline Exceedances					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Asbestos																	BTEX							Naphthalene	TRH NEPM (1999)					
	FA- Comment	ACM - Comment	Asbestos Detected	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	AF - Comment	Mass ACM	Mass AF	Mass Asbestos in ACM	Mass Asbestos in FA & AF	Mass of test sample for extraction	Mass asbestos in AF	Mass Asbestos in FA	Mass FA	Organic Fibres - Comment	Respirable Fibres - Comment	Synthetic Fibres - Comment	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX	Naphthalene	TRH C6-C9 Fraction	TRH >C6-C9 Fraction	TRH >C10-C14 Fraction	TRH >C15-C28 Fraction	TRH >C29-C36 Fraction	TRH >C10-C36 Fraction
	Comment	Comment	Comment	%w/w	%w/w	Comment	g	g	g	g	g	g	g	g	Comment	COMMENT	COMMENT	mg/kg	mg/kg	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	0.2	0.3	0.2	0.5	10	20	20	50	50	50
Clyde WARP SSTL (Direct Contact - Commercial)																		400							9800						
Clyde WARP SSTL (Direct Contact - Construction Worker)																		1200							67000						
Clyde WARP SSTL (Direct Contact - IMW)																		15000							810000						
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																															
0-0.99m																		3.2							NL						
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																															
1-1.99m																		3.2							NL						
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																															
2-3.99m																		3.2							NL						
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																															
4-6m																		3.2							NL						
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)																		NL							NL						
Clyde WARP SSTL (Vapour Intrusion - IMW)																		NL							NL						
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																															

Field_ID	Sampled_Date_Time	Lab_Report_Number	Location_Code	Sample_Depth_Avg																												
DUPE03_210903	3/09/2021	822144	TP21/100	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	28	100	180	<50	280
TP21/100_0.2	3/09/2021	822144	TP21/100	0.2	ND	ND	ND	0	0	ND	0	0	0	0	747	0	0	0	Detected	ND	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	120	<50	120
TP21/100_0.7	3/09/2021	822144	TP21/100	0.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	21	38	77	<50	115
TP21/101_0.3	3/09/2021	822144	TP21/101	0.3	ND	ND	ND	0	0	ND	0	0	0	0	886	0	0	0	Detected	ND	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50
TP21/101_1	3/09/2021	822144	TP21/101	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50
TRIP03_210903	3/09/2021	ES2132296	TP21/100	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	-	-	-	-

Statistical Summary																															
Number of Results	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	6	6	6	6	6	6	1	6	1	5	5	5	5	5
Number of Detects	0	0	0	2	2	0	2	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2	3	0	3
Minimum Concentration	0	0	0	0	0	0	0	0	0	0	747	0	0	0	99999	0	0	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.2	<0.5	<10	<20	<20	<50	<50	<50
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	747	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21	38	77	ND	115
Maximum Concentration	0	0	0	0	0	0	0	0	0	0	886	0	0	0	0	0	0	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	28	100	180	<50	280
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	886	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	28	100	180	ND	280
Average Concentration																		0.058	0.083	0.083	0.083	0.13	0.17		0.29		16	34	85	25	113
Median Concentration	0	0	0	0	0	0	0	0	0	0	817	0	0	0		0	0	0.05	0.05	0.05	0.05	0.1	0.15	0.1	0.25	5	10	10	77	25	115
Standard Deviation																		0.02	0.082	0.082	0.082	0.061	0.041		0.1		8.3	39	66	0	104
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	TRH NEPM (2013)							Inorganics	Metals								PAH/Phenols																					
	TRH C6-C10 Fraction	TRH C6-C10 less BTEX	TRH >C10-C16 Fraction	TRH >C10-C16 Fraction less N	TRH >C16-C34 Fraction	TRH >C10-C40 Fraction	TRH >C34-C40 Fraction	Moisture Content (dried @ 103°C)	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ (lower bound)*	Benzo(a)pyrene TEQ (upper bound)*	Benzo(a)pyrene TEQ (medium bound)*	Benzo(b&j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	PAHs (Sum of total)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	20	20	50	50	100	100	100	1	2	0.4	5	5	5	0.1	5	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Clyde WARP SSTL (Direct Contact - Commercial)		28000		17000	27000		27000				21000													40												
Clyde WARP SSTL (Direct Contact - Construction Worker)		69000		45000	64000		64000				8200													200												
Clyde WARP SSTL (Direct Contact - IMW)		830000		540000	770000		770000				100000													3000												
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																																				
0-0.99m		600		NL																																
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																																				
1-1.99m		770		NL																																
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																																				
2-3.99m		NL		NL																																
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																																				
4-6m		NL		NL																																
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)		NL		NL																																
Clyde WARP SSTL (Vapour Intrusion - IMW)		NL		NL																																
NEPM (1999) Management Limits - Commercial/Industrial (coarse)	700		1000		3500		10000																													

Field_ID	Sampled_Date_Time	Lab_Report_Number	Location_Code	Sample_Depth_Avg																																			
DUPE03_210903	3/09/2021	822144	TP21/100	0.7	58	58	160	160	<100	160	<100	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21/100_0.2	3/09/2021	822144	TP21/100	0.2	<20	<20	<50	<50	140	140	<100	7.8	5.1	<0.4	14	15	21	0.9	16	33	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP21/100_0.7	3/09/2021	822144	TP21/100	0.75	39	39	62	62	<100	<100	<100	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21/101_0.3	3/09/2021	822144	TP21/101	0.3	<20	<20	<50	<50	<100	<100	<100	6.1	<2	<0.4	9.2	77	<5	<0.1	39	82	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP21/101_1	3/09/2021	822144	TP21/101	1	<20	<20	<50	<50	<100	<100	<100	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TRIP03_210903	3/09/2021	ES2132296	TP21/100	0.7	11	11	-	-	-	-	-	21.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary																																						
Number of Results	6	6	5	5	5	5	5	6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Number of Detects	3	3	2	2	1	2	0	6	1	0	2	2	1	1	2	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	11	11	<50	<50	<100	<100	<100	6.1	<2	<0.4	9.2	15	<5	<0.1	16	33	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Minimum Detect	11	11	62	62	140	140	ND	6.1	5.1	ND	9.2	15	21	0.9	16	33	ND	ND	ND	ND	ND	ND	1.2	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	58	58	160	160	140	160	<100	22	5.1	<0.4	14	77	21	0.9	39	82	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Maximum Detect	58	58	160	160	140	160	ND	22	5.1	ND	14	77	21	0.9	39	82	ND	ND	ND	ND	ND	ND	1.2	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration	23	23	59	59	68	90	50	15																															
Median Concentration	10.5	10.5	25	25	50	50	50	17	3.05	0.2	11.6	46	11.75	0.475	27.5	57.5	0.25	0.25	0.25	0.25	0.25	0.25	1.2	0.6	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Standard Deviation	21	21	58	58	40	55	0	7.3																															
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

					TRH Aliphatic/Aromatic Split												TRH Silica Gel Cleanup								
					TRH >C5-C7 (Benzene) Aromatic	TRH >C6-C8 Aliphatic	TRH >C8-C10 Aliphatic	TRH >C10-C12 Aliphatic	TRH >C12-C16 Aliphatic	TRH >C16-C21 Aliphatic	TRH >C21-C35 Aliphatic	TRH >C7-C8 Aromatic	TRH >C8-C10 Aromatic	TRH >C10-C12 Aromatic	TRH >C12-C16 Aromatic	TRH >C16-C21 Aromatic	TRH >C21-C35 Aromatic	TRH >C10-C16 Fraction SG less Naphthalene	TRH >C10-C14 Silica Gel Cleanup	TRH >C10-C16 Silica Gel Cleanup	TRH >C10-C36 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C15-C28 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C29-C36	TRH >C34-C40 Silica Gel Cleanup
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	10	10	10	10	10	10	0.1	1	10	10	10	10	50	50	50	100	100	100	100	100	100
Clyde WARP SSTL (Direct Contact - Commercial)						1200000	24000	24000	24000	470000	470000		9500	9500	9500	7100	7100									
Clyde WARP SSTL (Direct Contact - Construction Worker)						310000	62000	62000	62000	370000	370000		25000	25000	25000	18000	18000									
Clyde WARP SSTL (Direct Contact - IMW)						3700000	740000	740000	740000	4400000	4400000		300000	300000	300000	220000	220000									
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																										
0-0.99m						480	760	430	4300				110	280	430											
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																										
1-1.99m						610	980	600	8300				150	430	2800											
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																										
2-3.99m						880	1400	980	17000				230	750	5100											
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																										
4-6m						1400	2200	1800	33000				420	1400	9800											
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)						NL	NL	NL	NL				NL	NL	NL											
Clyde WARP SSTL (Vapour Intrusion - IMW)						NL	NL	NL	NL				NL	NL	NL	NL	NL									
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																				1000				3500		10,000
Field_ID	**Sampled_Date_Time**	**Lab_Report_Number**	**Location_Code**	**Sample_Depth_Avg**																						
TP21/102_1	2/09/2021	823403	TP21/102	1	<0.1	80	270	470	520	480	65	<0.1	27	890	1100	1400	210	-	1600	2000	4020	4000	1900	1700	520	270
TP21/102_2	2/09/2021	823403	TP21/102	2	<0.1	170	290	260	300	260	30	<0.1	39	410	560	680	110	-	170	260	490	570	320	310	<100	<100
TP21/103_0.5	2/09/2021	823403	TP21/103	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	140	242	270	170	130	<100	<100
TRIP01_210902	2/09/2021	ES2132296	TP21/103	2	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<100	<100	<100	<100
TP21/103_2	2/09/2021	823403	TP21/103	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DUPE01_210902	2/09/2021	823403	TP21/103	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21/104_0.2	2/09/2021	823403	TP21/104	0.2	<0.1	<10	40	14	55	24	21	<0.1	<1	<10	23	36	32	-	-	-	-	-	-	-	-	-
TP21/104_1	2/09/2021	823403	TP21/104	1	<0.1	160	240	3100	3100	2600	360	<0.1	16	800	1200	1700	310	-	930	1100	2680	2800	1600	1400	150	250
TP21/104_1.5	2/09/2021	823403	TP21/104	1.5	<0.1	59	170	390	450	400	56	<0.1	13	170	220	270	48	-	260	360	590	650	330	290	<100	<100
TP21/105_1	2/09/2021	823403	TP21/105	1	<0.1	<10	17	390	450	420	58	<0.1	<1	210	280	360	62	-	210	280	600	680	390	400	<100	<100
TP21/105_2	2/09/2021	823403	TP21/105	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																										
Number of Results					6	6	6	6	6	6	6	6	6	6	6	6	6	1	7	7	7	7	7	7	7	7
Number of Detects					0	4	6	6	6	6	6	0	4	5	6	6	6	0	6	6	6	6	6	6	2	2
Minimum Concentration					<0.1	<10	17	14	55	24	21	<0.1	<1	<10	23	36	32	<50	<50	<50	<50	<50	<100	<100	<100	<100
Minimum Detect					ND	59	17	14	55	24	21	ND	13	170	23	36	32	ND	72	140	242	270	170	130	150	250
Maximum Concentration					<0.1	170	290	3100	3100	2600	360	<0.1	39	890	1200	1700	310	<50	1600	2000	4020	4000	1900	1700	520	270
Maximum Detect					ND	170	290	3100	3100	2600	360	ND	39	890	1200	1700	310	ND	1600	2000	4020	4000	1900	1700	520	270
Average Concentration					0.05	80	171	771	813	697	98	0.05	16	414	564	741	129		467	595	1235	1285	680	611	131	110
Median Concentration					0.05	69.5	205	390	450	410	57	0.05	14.5	310	420	520	86	25	210	280	590	650	330	310	50	50
Standard Deviation					0	72	118	1152	1133	946	129	0	15	359	487	667	110		584	710	1509	1504	745	657	175	103
Number of Guideline Exceedances					0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)					0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0

					BTEX						Naphthalene	TRH NEPM (1999)							TRH NEPM (2013)							Inorganics
					Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX	Naphthalene	TRH C6-C9 Fraction	TRH >C6-C9 Fraction	TRH >C10-C14 Fraction	TRH >C15-C28 Fraction	TRH >C29-C36 Fraction	TRH >C10-C36 Fraction	TRH C6-C10 Fraction	TRH C6-C10 less BTEX	TRH >C10-C16 Fraction	TRH >C10-C16 Fraction less N	TRH >C16-C34 Fraction	TRH >C10-C40 Fraction	TRH >C34-C40 Fraction	Moisture Content (dried @ 103°C)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.2	0.3	0.2	0.5	10	20	20	50	50	50	20	20	50	50	100	100	100	1
Clyde WARP SSTL (Direct Contact - Commercial)					400							9800								28000		17000	27000		27000	
Clyde WARP SSTL (Direct Contact - Construction Worker)					1200							67000								69000		45000	64000		64000	
Clyde WARP SSTL (Direct Contact - IMW)					15000							810000								830000		540000	770000		770000	
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																										
0-0.99m					3.2							NL								600		NL				
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																										
1-1.99m					3.2							NL								770		NL				
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																										
2-3.99m					3.2							NL								NL		NL				
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																										
4-6m					3.2							NL								NL		NL				
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)					NL							NL								NL		NL				
Clyde WARP SSTL (Vapour Intrusion - IMW)					NL							NL								NL		NL				
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																			700							
Field_ID	**Sampled_Date_Time**	**Lab_Report_Number**	**Location_Code**	**Sample_Depth_Avg**																						
TP21/102_1	2/09/2021	823403	TP21/102	1	<0.1	<0.1	7.1	<0.1	8.7	8.7	-	14	-	440	910	2200	260	3370	630	610	1200	1186	2000	3510	310	18
TP21/102_2	2/09/2021	823403	TP21/102	2	<0.1	<0.1	4.1	<0.1	2.9	2.9	-	6.8	-	200	630	1300	110	2040	290	280	830	823.2	1200	2220	190	22
TP21/103_0.5	2/09/2021	823403	TP21/103	0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	100	260	67	427	<20	<20	180	180	230	410	<100	9.9
TRIP01_210902	2/09/2021	ES2132296	TP21/103	2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	-	-	-	-	<10	<10	-	-	-	-	-	20.2
TP21/103_2	2/09/2021	823403	TP21/103	2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	14
DUPE01_210902	2/09/2021	823403	TP21/103	2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	16
TP21/104_0.2	2/09/2021	823403	TP21/104	0.2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	6.1
TP21/104_1	2/09/2021	823403	TP21/104	1	<1	<1	8.2	<1	2.6	<3	-	17	-	810	1400	2100	580	4080	1300	1300	1900	1883	1900	4150	350	13
TP21/104_1.5	2/09/2021	823403	TP21/104	1.5	0.1	<0.1	3.1	0.8	4.3	5.1	-	4.3	-	250	240	470	<50	710	380	370	330	325.7	470	800	<100	15
TP21/105_1	2/09/2021	823403	TP21/105	1	<0.1	<0.1	2.4	0.3	1.9	2.2	-	5.2	-	190	520	1100	340	1960	310	310	750	744.8	1100	2050	200	5.7
TP21/105_2	2/09/2021	823403	TP21/105	2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	8.9
Statistical Summary																										
Number of Results					11	11	11	11	11	11	1	11	1	10	10	10	10	10	11	11	10	10	10	10	10	11
Number of Detects					1	0	5	2	5	4	0	5	0	5	6	6	5	6	5	5	6	6	6	6	4	11
Minimum Concentration					<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.2	<0.5	<10	<20	<20	<50	<50	<50	<10	<10	<50	<50	<100	<100	<100	5.7
Minimum Detect					0.1	ND	2.4	0.3	1.9	2.2	ND	4.3	ND	190	100	260	67	427	290	280	180	180	230	410	190	5.7
Maximum Concentration					<1	<1	8.2	<1	8.7	8.7	<0.2	17	<10	810	1400	2200	580	4080	1300	1300	1900	1883	2000	4150	350	22
Maximum Detect					0.1	ND	8.2	0.8	8.7	8.7	ND	17	ND	810	1400	2200	580	4080	1300	1300	1900	1883	2000	4150	350	22
Average Concentration					0.1	0.11	2.3	0.2	1.9	1.9		4.5		194	384	753	148	1269	270	266	529	524	710	1334	135	14
Median Concentration					0.05	0.05	0.25	0.05	0.25	0.25	0.1	0.5	5	100	170	365	46	568.5	10	10	255	252.85	350	605	50	14
Standard Deviation					0.13	0.14	3	0.25	2.7	2.8		6		261	477	867	188	1513	402	400	637	630	782	1553	119	5.4
Number of Guideline Exceedances					0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	10	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	10	0	0	0	0	0

	TRH Silica Gel Cleanup									Asbestos																BTEX							Naphthalene	TRH NEPM (1999)					
	TRH >C10-C16 Fraction SG less Naphthalene	TRH >C10-C14 Silica Gel Cleanup	TRH >C10-C16 Silica Gel Cleanup	TRH >C10-C36 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C15-C28 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C29-C36	TRH >C34-C40 Silica Gel Cleanup	FA- Comment	ACM - Comment	Asbestos Detected	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	AF - Comment	Mass ACM	Mass AF	Mass Asbestos in ACM	Mass Asbestos in FA & AF	Mass of test sample for extraction	Mass asbestos in AF	Mass Asbestos in FA	Mass FA	Organic Fibres - Comment	Respirable Fibres - Comment	Synthetic Fibres - Comment	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX	Naphthalene	TRH C6-C9 Fraction	TRH >C6-C9 Fraction	TRH >C10-C14 Fraction	TRH >C15-C28 Fraction	TRH >C29-C36 Fraction	TRH >C10-C36 Fraction
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	Comment	Comment	Comment	%w/w	%w/w	Comment	g	g	g	g	g	g	g	g	Comment	COMMENT	COMMENT	mg/kg	mg/kg	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	50	50	50	100	100	100	100	100	100																		0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.5	10	20	20	50	50	50
Clyde WARP SSTL (Direct Contact - Commercial)																											400							9800						
Clyde WARP SSTL (Direct Contact - Construction Worker)																											1200							67000						
Clyde WARP SSTL (Direct Contact - IMW)																											15000							810000						
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																																								
0-0.99m																											3.2							NL						
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																																								
1-1.99m																											3.2							NL						
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																																								
2-3.99m																											3.2							NL						
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																																								
4-6m																											3.2							NL						
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)																											NL							NL						
Clyde WARP SSTL (Vapour Intrusion - IMW)																											NL							NL						
NEPM (1999) Management Limits - Commercial/Industrial (coarse)			1000				3500		10000																															

Field ID	Sampled Date Time	Lab Report Number	Location Code	Sample Depth Avg																																				
14B-10-B-1.5	23/09/2021	827262	14B-10-B	1.5	-	87	170	<287	320	200	150	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	300	640	210	1150
14B-10-E-0.5	23/09/2021	827262	14B-10-E	0.5	-	63	120	<293	330	230	210	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	110	360	660	120	1140
14B-10-W-0.5	23/09/2021	827262	14B-10-W	0.5	-	300	660	<2330	2400	1700	1700	330	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	6.6 - 8.4	-	31	630	6600	1900	9130
14B-10-W-RV-0.5	7/10/2021	830751	14B-10-W-RV	0.5	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	130	98	228
14B-11-B-0.5	24/09/2021	827262	14B-11-B	0.5	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	36	140	<50	176
14B-11-E-0.5	24/09/2021	827262	14B-11-E	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50
14B-11-S-0.5	24/09/2021	827262	14B-11-S	0.5	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	64	230	<50	294
14B-11-W-0.5	24/09/2021	827262	14B-11-W	0.5	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	200	380	55	635
14B-1-B-1.0	22/09/2021	826953	14B-1-B	1	-	160	220	800	780	450	560	190	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	0.7 - 4.5	-	120	480	2600	1600	4680
14B-1-B-RV-1.5	7/10/2021	830751	14B-1-B-RV	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50
14B-1-N-0.5	22/09/2021	826953	14B-1-N	0.5	-	<50	<50	<100	120	<100	120	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5 - 0.6	-	73	75	740	400	1215
14B-1-S-0.5	22/09/2021	826953	14B-1-S	0.5	-	120	130	490	440	230	310	140	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5 - 1.1	-	250	330	1100	420	1850
14B-2-B-1.0	22/09/2021	826953	14B-2-B	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50
14B-2-N-0.5	22/09/2021	826953	14B-2-N	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50
14B-2-S-0.5	22/09/2021	826953	14B-2-S	0.5	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50
14B-3-B-1.0	22/09/2021	826953	14B-3-B	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50
14B-3-E-0.5	22/09/2021	826953	14B-3-E	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	55	<50	55
14B-3-W-0.5	22/09/2021	826953	14B-3-W	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50
14B-4-B-1.0	22/09/2021	826953	14B-4-B	1	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	52	<50	52
14B-4-E-0.5	22/09/2021	826953	14B-4-E	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	51	<50	51
14B-4-W-0.5	22/09/2021	826953	14B-4-W	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50
14B-5-B-1.0	22/09/2021	826953	14B-5-B	1	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	0.8 - 3.9	-	<20	<20	110	<50	110
14B-5-E-0.5	22/09/2021	826953	14B-5-E	0.5	-	710	1100	2170	2200	1300	1100	160	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	5 - 7	-	58	1000	2400	340	3740
14B-5-E-RV-0.5	7/10/2021	830751	14B-5-E-RV	0.5	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	36	88	<50	124
14B-5-W-0.5	22/09/2021	826953	14B-5-W	0.5	-	410	560	870	920	460	360	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	1.9 - 2.6	-	180	640	990	140	1770
14B-6-B-1.0	22/09/2021	826953	14B-6-B	1	-	58	110	208	240	150	130	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	4.2 - 4.7	-	<20	98	250	<50	348
14B-6-E-0.5	22/09/2021	826953	14B-6-E	0.5	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	190	700	92	982
14B-6-W-0.5	22/09/2021	826953	14B-6-W	0.5	-	150	230	400	450	250	220	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	0.7 - 1.9	-	<20	200	450	56	706
14B-7-B-1.0	22/09/2021	826953	14B-7-B	1	-	230	330	640	650	410	320	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	0.5 - 0.6	-	84	270	570	120	960
14B-7-E-0.5	22/09/2021	826953	14B-7-E	0.5	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	1.8 - 4.7	-	<20	190	530	55	775
14B-7-W-0.5	22/09/2021	826953	14B-7-W	0.5	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	270	320	<50	320
14B-8-B-1.0	22/09/2021	826953	14B-8-B	1	-	1100	1600	2810	2800	1500	1200	210	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5 - 0.8	-	210	1200	2100	320	3620
14B-8-B-RV-1.5	7/10/2021	830751	14B-8-B-RV	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50
14B-8-E-0.5	22/09/2021	826953	14B-8-E	0.5	-	73	98	183	<100	110	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	120	270	<50	390
14B-8-W-0.5	22/09/2021	826953	14B-8-W	0.5	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	0.2	<0.1	<0.2	<0.3	-	<0.5	-	270	91	<50	<50	91
14B-9-B-1.5	23/09/2021	827262	14B-9-B	1.5	-	<50	110	<190	250	190	140	<100	<100	ND	ND	ND	0	0	ND	0	0	0	0	483	0	0	0	Detected	ND	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5 - 0.9	-	<20	140	440	62	642
14B-9-E-0.5	23/09/2021	827262	14B-9-E	0.5	-	<50	<50	<100	<100	<100	<100	<100	<100	ND	ND	ND	0	0	ND	0	0	0	0	743	0	0	0	Detected	ND	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	25	98	<50	123
14B-9-W-0.5	23/09/2021	827262	14B-9-W	0.5	-	440	840	<1380	1500	940	700	<100	<100	ND	ND	ND	0	0	ND	0	0	0	0	510	0	0	0	Detected	ND	ND	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	96	610	1100	98	1808
DUP02_210922	22/09/2021	826953	14B-2-B	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50
DUP03_210923	23/09/2021	827262	14B-9-B	1.5	-	74	170	<414	520	340	350	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	0.7 - 1.1	-	<20	180	690	270	1140
DUP07_211008	7/10/2021	830751	14B-8-B-RV	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	<50	<50
TRIP02_210922	22/09/2021	ES2134680	14B-2-B	1	<50	<50	<50	<50	<50	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	-	-	-	-
TRIP03_210923	21/09/2021	ES2134855	14B-9-B	1.5	<50	<50	<50	<50	<50	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	-	-	-	-
TRIP07_211008	8/10/2021	ES2136477	14B-8-B-RV	1.5	<50	<50	<50	<50	<50	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	-	-	-	-

Statistical Summary

Number of Results	3	32	32	32	32	32	32	32	32	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	3	3	44	44	44	44	44	44	3	44	3	41	41	41	41	41
Number of Detects	0	14	15	9	15	15	15	5	0	0	0	0	3	3	0	3	3	3	3	3	3	3	3	0	0	0	0	0	3	0	0	0	0	14	0	12	25	28	18	30
Minimum Concentration	<50	<50	<50	<50	<50	<100	<100	<100	<100	0	0	0	0	0	0	0	0	0	0	0	483	0	0	0	99999	0	0	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.2	<0.5	<10	<20	<20	<50	<50	<50
Minimum Detect	ND	58	98	183	120	110	120	140	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	483	ND	ND	ND	ND	ND	ND	ND	ND	0.1	ND	ND	ND	0.5	ND	31	25	51	55	51
Maximum Concentration	<50	1100	1600	2810	2800	1700	1700	330	<100	0	0	0	0	0	0	0	0	0	0	0	743	0	0	0	0	0	0	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	8.4	<10	270	1200	6600	1900	9130
Maximum Detect	ND	1100	1600	2810	2800	1700	1700	330	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	743	ND	ND	ND	ND	ND	ND	ND	ND	0.2	ND	ND	ND	8.4	ND	270	1200	6600	1900	9130
Average Concentration	25	138	215	369	459	291	263	74	50	0	0	0	0	0	0	0	0	0	0	0	579	0	0	0	0	0	0	0.053	0.064	0.069	0.064	0.11	0.16	0.1	0.93	5	50	194	597	169	941
Median Concentration	25	25	25	50	50	50	50	50	50	0	0	0	0	0	0	0	0	0	0	0	510	0	0	0		0	0	0.05	0.05	0.05	0.05	0.1	0.15	0.1	0.25	5	10	75	140	25	294
Standard Deviation	0	235	363	635	738	441	393	63	0	0	0	0	0	0	0	0	0	0	0	0	143	0	0	0		0	0	0.013	0.051	0.055	0.051	0.038	0.025	0	1.6	0	77	277	1152	380	1701
Number of Guideline Exceedances	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	TRH NEPM (2013)							Inorganics	Metals								PAH/Phenols																							
	TRH C6-C10 Fraction	TRH C6-C10 less BTEX	TRH >C10-C16 Fraction	TRH >C10-C16 Fraction less N	TRH >C16-C34 Fraction	TRH >C10-C40 Fraction	TRH >C34-C40 Fraction	Moisture Content (dried @ 103°C)	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Acenaphthene	Acenaphthylene	Anthracene	Benz[a]anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ (half LOR)	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ (zero)	Benzo(a)pyrene TEQ (lower bound)*	Benzo(a)pyrene TEQ (upper bound)*	Benzo(a)pyrene TEQ (medium bound)*	Benzo(b&j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	PAHs (Sum of total)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	20	20	50	50	100	100	100	1	5	1	2	5	5	0.1	2	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Clyde WARP SSTL (Direct Contact - Commercial)		28000		17000	27000		27000				21000																40												
Clyde WARP SSTL (Direct Contact - Construction Worker)		69000		45000	64000		64000				8200																200												
Clyde WARP SSTL (Direct Contact - IMW)		830000		540000	770000		770000				100000																3000												
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																																							
0-0.99m		600		NL																																			
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																																							
1-1.99m		770		NL																																			
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																																							
2-3.99m		NL		NL																																			
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																																							
4-6m		NL		NL																																			
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)		NL		NL																																			
Clyde WARP SSTL (Vapour Intrusion - IMW)		NL		NL																																			
NEPM (1999) Management Limits - Commercial/Industrial (coarse)	700																																						

Field ID	Sampled Date Time	Lab Report Number	Location Code	Sample Depth Avg																																					
14B-10-B-1.5	23/09/2021	827262	14B-10-B	1.5	48	48	430	430	660	1190	100	22	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	1.2	0.5	-	-	-	1.1	1.3	1.2	<0.5	<0.5	<0.5	1.7	0.5	<0.5	<0.5	<0.5	1.9	1.1	6.9
14B-10-E-0.5	23/09/2021	827262	14B-10-E	0.5	160	160	500	500	580	1080	<100	18	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	1.3	<0.5	2
14B-10-W-0.5	23/09/2021	827262	14B-10-W	0.5	57	57	1300	1293.4	7400	9450	750	16	-	-	-	-	-	-	-	-	6.6	0.8	23	66	21	-	-	-	41	41	41	11	6.4	9.4	71	10	14	31	5.8	170	44	498.4
14B-10-W-RV-0.5	7/10/2021	830751	14B-10-W-RV	0.5	<20	<20	<50	<50	200	200	<100	20	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	0.5	1.9	
14B-11-B-0.5	24/09/2021	827262	14B-11-B	0.5	<20	<20	59	59	120	179	<100	18	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-11-E-0.5	24/09/2021	827262	14B-11-E	0.5	<20	<20	<50	<50	<100	<100	<100	15	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-11-S-0.5	24/09/2021	827262	14B-11-S	0.5	<20	<20	120	120	210	330	<100	24	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-11-W-0.5	24/09/2021	827262	14B-11-W	0.5	<20	<20	270	270	330	600	<100	23	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-1-B-1.0	22/09/2021	826953	14B-1-B	1	200	200	610	609.3	3700	4950	640	21	-	-	-	-	-	-	-	-	2.2	<0.5	5.6	48	23	-	-	-	47	47	47	11	6.8	8.6	73	16	7.9	11	6.2	56	25	304.8
14B-1-B-RV-1.5	7/10/2021	830751	14B-1-B-RV	1.5	<20	<20	<50	<50	<100	<100	<100	17	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-1-N-0.5	22/09/2021	826953	14B-1-N	0.5	150	150	120	119.4	1000	1320	200	19	-	-	-	-	-	-	-	-	<0.5	<0.5	1.4	11	4.5	-	-	-	9.8	9.8	9.8	3.8	2.1	3.4	14	3.1	2.6	2.5	1.7	11	7.4	68.5
14B-1-S-0.5	22/09/2021	826953	14B-1-S	0.5	360	360	410	410	1200	1820	210	16	-	-	-	-	-	-	-	-	<0.5	<0.5	0.9	5.4	2.3	-	-	-	4.7	4.7	4.7	1.5	1	1.2	7.3	1.4	1.1	1	0.8	5.7	3.2	33.9
14B-2-B-1.0	22/09/2021	826953	14B-2-B	1	<20	<20	<50	<50	<100	<100	<100	21	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-2-N-0.5	22/09/2021	826953	14B-2-N	0.5	<20	<20	<50	<50	<100	<100	<100	19	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-2-S-0.5	22/09/2021	826953	14B-2-S	0.5	28	28	<50	<50	<100	<100	<100	24	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-3-B-1.0	22/09/2021	826953	14B-3-B	1	<20	<20	<50	<50	<100	<100	<100	18	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-3-E-0.5	22/09/2021	826953	14B-3-E	0.5	<20	<20	<50	<50	<100	<100	<100	19	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-3-W-0.5	22/09/2021	826953	14B-3-W	0.5	<20	<20	<50	<50	<100	<100	<100	20	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-4-B-1.0	22/09/2021	826953	14B-4-B	1	<20	<20	<50	<50	<100	<100	<100	21	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	0.8
14B-4-E-0.5	22/09/2021	826953	14B-4-E	0.5	<20	<20	<50	<50	<100	<100	<100	19	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-4-W-0.5	22/09/2021	826953	14B-4-W	0.5	<20	<20	<50	<50	<100	<100	<100	22	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-5-B-1.0	22/09/2021	826953	14B-5-B	1	<20	<20	96	92.1	100	196	<100	20	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	<0.5	2.3
14B-5-E-0.5	22/09/2021	826953	14B-5-E	0.5	130	130	1500	1495	2100	3730	130	23	-	-	-	-	-	-	-	-	1.2	<0.5	1.9	2	<0.5	-	-	-	<0.5	1.4	0.8	<0.5	<0.5	<0.5	2.3	<0.5	1	4.2	<0.5	16	2.7	38.3
14B-5-E-RV-0.5	7/10/2021	830751	14B-5-E-RV	0.5	<20	<20	57	57	<100	<100	<100	18	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	5.6	0.6	7.3
14B-5-W-0.5	22/09/2021	826953	14B-5-W	0.5	270	270	870	868.1	740	1610	<100	23	-	-	-	-	-	-	-	-	<0.5	<0.5	0.5	1.2	0.5	-	-	-	0.6	1.3	1	<0.5	<0.5	<0.5	1.7	<0.5	<0.5	0.9	<0.5	3.5	1.3	12.2
14B-6-B-1.0	22/09/2021	826953	14B-6-B	1	<20	<20	140	135.8	230	370	<100	21	-	-	-	-	-	-	-	-	<0.5	<0.5	1.1	0.6	<0.5	-	-	-	<0.5	1.2	0.7	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	1.3	<0.5	7.5	1.1	17.2
14B-6-E-0.5	22/09/2021	826953	14B-6-E	0.5	<20	<20	320	320	630	950	<100	15	-	-	-	-	-	-	-	-	0.7	<0.5	1.8	2.5	<0.5	-	-	-	<0.5	1.4	0.9	<0.5	<0.5	<0.5	2.7	<0.5	1.5	4.9	<0.5	22	3.5	39.6
14B-6-W-0.5	22/09/2021	826953	14B-6-W	0.5	33	33	300	298.1	350	650	<100	17	-	-	-	-	-	-	-	-	<0.5	<0.5	0.8	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	1.4	<0.5	3.4	0.8	7.7
14B-7-B-1.0	22/09/2021	826953	14B-7-B	1	170	170	390	389.5	520	910	<100	20	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	0.6	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	0.5	<0.5	2.3	0.7	5.2
14B-7-E-0.5	22/09/2021	826953	14B-7-E	0.5	41	41	280	275.3	460	740	<100	18	-	-	-	-	-	-	-	-	<0.5	<0.5	2	1.3	<0.5	-	-	-	<0.5	1.3	0.7	<0.5	<0.5	<0.5	1.9	<0.5	1.1	2.4	<0.5	15	2.4	27.9
14B-7-W-0.5	22/09/2021	826953	14B-7-W	0.5	390	390	170	170	<100	170	<100	21	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-8-B-1.0	22/09/2021	826953	14B-8-B	1	410	410	1800	1800	1600	3530	130	23	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	0.6	<0.5	-	-	-	<0.5	1.2	0.7	<0.5	<0.5	<0.5	1	<0.5	<0.5	1	<0.5	3	0.9	7.3
14B-8-B-RV-1.5	7/10/2021	830751	14B-8-B-RV	1.5	<20	<20	<50	<50	<100	<100	<100	23	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-8-E-0.5	22/09/2021	826953	14B-8-E	0.5	30	30	200	200	250	450	<100	16	-	-	-	-	-	-	-	-	<0.5	<0.5	0.7	0.9	<0.5	-	-	-	<0.5	1.3	0.7	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	0.8	<0.5	0.7	1.3	5.3
14B-8-W-0.5	22/09/2021	826953	14B-8-W	0.5	380	380	54	54	<100	<100	<100	17	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-9-B-1.5	23/09/2021	827262	14B-9-B	1.5	<20	<20	240	239.1	390	630	<100	13	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	1	<0.5	-	-	-	<0.5	1.2	0.7	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	1.2	<0.5	2	1.4	6.8
14B-9-E-0.5	23/09/2021	827262	14B-9-E	0.5	<20	<20	<50	<50	<100	<100	<100	20	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
14B-9-W-0.5	23/09/2021	827262	14B-9-W	0.5	190	190	980	980	820	1800	<100	19	-	-	-	-	-	-	-	-	1	<0.5	2	1.7	<0.5	-	-	-	<0.5	1.3	0.8	<0.5	<0.5	<0.5	1.9	<0.5	0.8	3.4	<0.5	17	2.3	30.1
DUP02_210922	22/09/2021	826953	14B-2-B	1	<20	<20	<50	<50	<100	<100	<100	19	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
DUP03_210923	23/09/2021	827262	14B-9-B	1.5	21	21	340	339.3	760	1290	190	13	-	-	-	-	-	-	-	-	<0.5	<0.5	0.9	3.3	1.6	-	-	-	3.3	3.3	3.3	0.8	0.6	0.7	4.3	1.1	0.7	1.8	0.5	9.2	2.2	28.8
DUP07_211008	7/10/2021	830751	14B-8-B-RV	1.5	<20	<20	<50	<50	<100	<100	<100	23	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRIP02_210922	22/09/2021	ES2134680	14B-2-B	1	<10	<10	-	-	-	-	-	20.6	12	<1	22	20	19	<0.1	<2	10	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRIP03_210923	21/09/2021	ES2134855	14B-9-B	1.5	<10	<10	-	-	-	-	-	16.3	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.2	<0.5	2.2
TRIP07_211008	8/10/2021	ES2136477	14B-8-B-RV	1.5	<10	<10	-	-	-	-	-	22.3	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Statistical Summary

Number of Results	44	44	41	41	41	41	41	44	1	1	1	1	1	1	1	1	44	44	44	44	44	3	3	3	41	41	41	44	44	44	44	44	44	44	44	44	44	44	44
Number of Detects	18	18	25	25	23	24	8	44	1	0	1	1	1	0	0	1	5	1	13	17	7	3	3	0	7	41	41	5	5	5	18	6	9	18	5	22	19	23		
Minimum Concentration	<10	<10	<50	<50	<100	<100	<100	13	12	<1	22	20	19	<0.1	<2	10	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Minimum Detect	21	21	54	54	100	170	100	13	12	ND	22	20	19	ND	ND	10	0.7	0.8	0.5	0.5	0.5	0.6	1.2	ND	0.6	1.2	0.6	0.8	0.6	0.7	0.5	0.5	0.7	0.5	0.5	0.7	0.5	0.8		
Maximum Concentration	410	410	1800	1800	7400	9450	750	24	12	<1	22	20	19	<0.1	<2	10	6.6	0.8	23	66	23	0.6	1.2	<0.5	47	47	47	11	6.8	9.4	73	16	14	31	6.2	170	44	498.4		
Maximum Detect	410	410	1800	1800	7400	9450	750	24	12	ND	22	20	19	ND	ND	10	6.6	0.8	23	66	23	0.6	1.2	ND	47	47	47	11	6.8	9.4	73	16	14	31	6.2	170	44	498.4		
Average Concentration	75	75	292	291	616	951	98	19									0.49	0.26	1.1	3.5	1.4	0.6	1.2	0.25	2.8	3.7	3.2	0.86	0.61	0.75	4.4	0.95	0.9	1.8	0.56	8.3	2.5	26		
Median Concentration	10	10	120	119.4	200	200	50	19.5	12	0.5	22	20	19	0.05	1	10	0.25	0.25	0.25	0.25	0.25	0.6	1.2	0.25	0.25	1.2	0.6	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.475	0.25	1.35		
Standard Deviation	118	118	424	424	1289	1749	144	2.9									1	0.083	3.5	12	4.6	0	0	0	9.6	9.4	9.5	2.3	1.4	1.9	15	2.8	2.4	4.9	1.2	27	7.5	87		
Number of Guideline Exceedances	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0		
Number of Guideline Exceedances(Detects Only)	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0		

					Asbestos																		
				Asbestos Detected	FA- Comment	AF - Comment	ACM - Comment	Asbestos fibres	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	Asbestos Sample Dimensions	Mass ACM	Mass Asbestos in ACM	Mass Asbestos in FA & AF	Soil Volume field sieved to 7mm	Mass of test sample for extraction (<7mm)	Mass asbestos in AF	Mass Asbestos in FA	Mass FA	Organic Fibres - Comment	Respirable Fibres - Comment	Synthetic Fibres - Comment
				Comment	Comment	Comment	Comment	g	%w/w	%w/w	Comment	g	g	g	mL	g	g	g	g	Comment	COMMENT	COMMENT
NEPM (1999) HSL Asbestos (Commercial/Industrial)									**0.05**	**0.001**													
Field_ID	**Sample_Depth_Avg**	**Matrix Description**	**Sampled_Date_Time**	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-
SP30-V-FP	0	Soil	9/09/2021	No	Nil	Nil	Nil	ND	ND	ND	-	0	ND	ND	11000	554	-	-	-	Detected	Nil	Nil

Notes:

ND - Non-Detect

					BTEX					Naphthalene	TRH NEPM (1999)					TRH NEPM (2013)							TRH Silica Gel Cleanup							
					Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX	Naphthalene	TRH >C6-C9 Fraction	TRH >C10-C14 Fraction	TRH >C15-C28 Fraction	TRH >C29-C36 Fraction	TRH >C10-C36 Fraction	TRH C6-C10 Fraction	TRH C6-C10 less BTEX	TRH >C10-C16 Fraction	TRH >C10-C16 Fraction less N	TRH >C16-C34 Fraction	TRH >C10-C40 Fraction	TRH >C34-C40 Fraction	TRH >C10-C14 Silica Gel Cleanup	TRH >C10-C16 Silica Gel Cleanup	TRH >C10-C36 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C15-C28 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C29-C36	TRH >C34-C40 Silica Gel Cleanup
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.2	0.3	0.2	0.5	20	20	50	50	50	20	20	50	50	100	100	100	50	50	100	100	100	100	100	100
Clyde WARP SSTL (Direct Contact - Commercial)					400							9800							28000		17000	27000		27000							
Clyde WARP SSTL (Direct Contact - Construction Worker)					1200							67000							69000		45000	64000		64000							
Clyde WARP SSTL (Direct Contact - IMW)					15000							810000							830000		540000	770000		770000							
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																															
1-1.99m					3.2							NL							770		NL										
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																															
2-3.99m					3.2							NL							NL		NL										
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																															
0-0.99m					3.2							NL							600		NL										
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)					NL							NL							NL		NL										
Clyde WARP SSTL (Vapour Intrusion - IMW)					NL							NL							NL		NL										
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																		700		1000		3500		10000		1000				3500		10000
Field_ID	**Location_Code**	**Sample_Depth_Avg**	**Sampled_Date_Time**	**Sample_Type**	**Lab_Report_Number**	**Location_Type**																									
3D_B2_B_2.0	3D_B2_B	2	21/10/2021	Normal	834154	Validation (base)	<0.1	<0.1	0.2	<0.1	<0.2	<0.3	-	<0.5	<20	21	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	600	700	1900	1800	1300	1100	<100	<100
3D_B2_N_0.5	3D_B2_N	0.5	21/10/2021	Normal	834154	Validation (wall)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	21	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<50	<50	<100	<100	<100	<100	<100	<100
3D_B2_N_1.5	3D_B2_N	1.5	21/10/2021	Normal	834154	Validation (wall)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	36	<50	<50	<50	39	39	<50	<50	<100	<100	<100	<50	<50	<100	<100	<100	<100	<100	<100
3D_B2_W_0.5	3D_B2_W	0.5	21/10/2021	Normal	834154	Validation (wall)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	1 - 1.1	260	1000	520	<50	1520	450	450	1100	1098.9	300	1400	<100	820	900	1210	1100	390	200	<100	<100
3D_B2_W_1.5	3D_B2_W	1.5	21/10/2021	Normal	834154	Validation (wall)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<50	<50	<50	33	33	<50	<50	<100	<100	<100	<50	<50	<100	<100	<100	<100	<100	<100
3D_B3_B_2.0	3D_B3_B	2	21/10/2021	Normal	834154	Validation (base)	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-
DUP11_211021	3D_B3_B	2	21/10/2021	Field_D	834154	Validation (base)	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	<0.5 - 1.1	<20	<20	<50	<50	<50	49	49	<50	<50	<100	<100	<100	<50	<50	<100	<100	<100	<100	<100	<100
TRIP11_211021	3D_B3_B	2	21/10/2021	Interlab_D	ES2138454	Validation (base)	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	60	<100	<100	60	13	-	-	-	-	70	-	-	-	-	-	-	-	-
3D_B3_N_0.5	3D_B3_N	0.5	21/10/2021	Normal	834154	Validation (wall)	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	1.7 - 2.4	20	490	330	<50	820	65	65	620	617.6	200	820	<100	640	790	1050	1000	410	230	<100	<100
3D_B3_N_1.5	3D_B3_N	1.5	21/10/2021	Normal	834154	Validation (wall)	<0.1	<0.1	0.2	<0.1	<0.2	<0.3	-	1.3 - 2.2	<20	250	160	<50	410	58	58	310	307.8	<100	310	<100	160	200	270	200	110	<100	<100	<100
3D_B4_B_2.0	3D_B4_B	2	22/10/2021	Normal	834589	Validation (base)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	75	150	<50	225	<20	<20	130	130	120	250	<100	<50	<50	<100	<100	<100	<100	<100	<100
3D_B4_N_0.5	3D_B4_N	0.5	22/10/2021	Normal	834589	Validation (wall)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5 - 0.7	<20	300	460	<50	760	<20	<20	560	559.3	290	850	<100	<50	55	<100	<100	<100	<100	<100	<100
3D_B4_N_1.5	3D_B4_N	1.5	22/10/2021	Normal	834589	Validation (wall)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5 - 1.5	<20	110	140	<50	250	<20	<20	190	188.5	<100	190	<100	<50	<50	<100	<100	<100	<100	<100	<100
3D_B5_B_2.0	3D_B5_B	2	22/10/2021	Normal	834589	Validation (base)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	23	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<50	<50	<100	<100	<100	<100	<100	<100
3D_B5_E_0.5	3D_B5_E	0.5	22/10/2021	Normal	834589	Validation (wall)	<0.1	1.4	0.5	0.6	3.2	3.7	-	<0.5 - 0.7	45	250	960	<50	1210	65	59	620	620	710	1330	<100	290	620	1290	1400	1000	730	<100	<100
3D_B5_E_1.5	3D_B5_E	1.5	22/10/2021	Normal	834589	Validation (wall)	<0.1	<0.1	<0.1	<0.1	0.3	<0.3	-	<0.5	<20	250	1200	<50	1450	<20	<20	700	700	910	1610	<100	210	530	1210	1200	1000	710	<100	<100
3D_B5_N_0.5	3D_B5_N	0.5	22/10/2021	Normal	834589	Validation (wall)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	170	1000	<50	1170	<20	<20	560	560	780	1340	<100	130	380	870	930	740	550	<100	<100
3D_B5_N_1.5	3D_B5_N	1.5	22/10/2021	Normal	834589	Validation (wall)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	210	1100	<50	1310	<20	<20	610	610	770	1380	<100	140	360	810	840	670	480	<100	<100
3D_C2_B_2.0	3D_C2_B	2	21/10/2021	Normal	834154	Validation (base)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<50	<50	<50	23	23	<50	<50	<100	<100	<100	<50	<50	<100	<100	<100	<100	<100	<100
3D_C2_S_0.5	3D_C2_S	0.5	21/10/2021	Normal	834154	Validation (wall)	<0.1	<0.1	0.8	<0.1	0.4	0.4	-	9.9 - 13	210	1200	950	<50	2150	370	370	1400	1387	620	2020	<100	980	1200	1790	1700	810	520	<100	<100
3D_C2_S_1.5	3D_C2_S	1.5	21/10/2021	Normal	834154	Validation (wall)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	1.5 - 3.3	130	220	200	<50	420	190	190	260	256.7	140	400	<100	83	120	193	120	110	<100	<100	<100
3D_C2_W_0.5	3D_C2_W	0.5	21/10/2021	Normal	834154	Validation (wall)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	60	390	640	62	1092	110	110	580	580	480	1060	<100	180	280	550	590	370	310	<100	<100
3D_C2_W_1.5	3D_C2_W	1.5	21/10/2021	Normal	834154	Validation (wall)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	70	160	<50	230	<20	<20	110	110	130	240	<100	<50	<50	<100	<100	<100	<100	<100	<100
3D_C3_B_2.0	3D_C3_B	2	22/10/2021	Normal	834589	Validation (base)	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	<0.5	<20	120	73	<50	193	54	54	160	160	<100	160	<100	<50	<50	<100	<100	<100	<100	<100	<100
3D_C3_S_0.5	3D_C3_S	0.5	22/10/2021	Normal	834589	Validation (wall)	<0.1	<0.1	<0.1	0.1	0.4	0.5	-	2.5 - 3.3	<20	640	<1000	<50	<1000	40	40	980	977.5	620	1600	<100	470	820	1340	1400	870	530	<100	<100
3D_C3_S_1.5	3D_C3_S	1.5	22/10/2021	Normal	834589	Validation (wall)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-
3D_C4_B_2.0	3D_C4_B	2	22/10/2021	Normal	834589	Validation (base)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	45	130	<50	175	<20	<20	75	75	100	175	<100	<50	<50	<100	<100	<100	<100	<100	<100
3D_C4_S_0.5	3D_C4_S	0.5	22/10/2021	Normal	834589	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-	8.6 - 13	<100	1400	2500	170	4070	180	180	2000	1991.4	2000	4000	<100	950	1600	2650	2700	1700	1100	<100	<100
DUP12_211022	3D_C4_S	0.5	22/10/2021	Field_D	834589	Validation (wall)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	5.4 - 5.5	<20	1000	2200	150	3350	32	32	1900	1894.6	1500	3400	<100	780	1400	2380	2400	1600	1000	<100	<100
TRIP12_211022	3D_C4_S	0.5	22/10/2021	Interlab_D	ES2138450	Validation (wall)	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	3	28	700	1670	<100	2370	44	-	-	-	-	2420	-	-	-	-	-	-	-	-
3D_C4_S_1.5	3D_C4_S	1.5	22/10/2021	Normal	834589	Validation (wall)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	2.2 - 4.2	41	620	1100	59	1779	74	74	930	925.8	810	1740	<100	<50	<50	<100	<100	<100	<100	<100	<100
3D_C5_B_2.0	3D_C5_B	2	22/10/2021	Normal	834589	Validation (base)	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<50	<50	<100	<100	<100	<100	<100	<100
3D_C5_E_0.5	3D_C5_E	0.5	22/10/2021	Normal	834589	Validation (wall)	<0.1	3.4	3.1	1.9	12	14	-	4.3 - 11	220	810	2100	190	3100	280	260	1500	1489	1500	3120	120	600	1100	2120	2100	1400	960	120	<100
3D_C5_E_1.5	3D_C5_E	1.5	22/10/2021	Normal	834589	Validation (wall)	0.2	3.8	3.1	2.5	18	21	-	3.7 - 8.3	170	400	820	97	1317	230	200	640	631.7	610	1250	<100	500	840	1460	1500	960	680	<100	<100
3D_C5_S_0.5	3D_C5_S	0.5	22/10/2021	Normal	834589	Validation (wall)	<0.1	0.2	0.4	0.5	2.7	3.2	-	6.6 - 7.8	70	710	1300	170	2180	120	120	1100	1093.4	990	2220	130	1000	1600	3240	3400	1900	1500	340	320
3D_C5_S_1.5	3D_C5_S	1.5	22/10/2021	Normal	834589	Validation (wall)	<0.1	<0.1	0.2	<0.1	<0.2	<0.3	-	<0.5 - 1.7	<20	240	<500	<50	<500	<20	<20	400	398.3	360	760	<100	130	240	450	490	320	250	<100	<100
Statistical Summary																															
Number of Results					36	36	36	36	36	36	2	36	36	36	36	36	36	36	34	34	34	34	36	34	32	32	32	32	32	32	32	32
Number of Detects					1	4	12	5	7	6	0	18	11	30	23	7	24	21	19	24	24	21	26	2	18	19	18	18	18	16	2	1
Minimum Concentration					<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.2	<0.5	<10	<20	<50	<50	<50	13	<20	<50	<50	<100	70	<100	<50	<50	<100	<100	<100	<100	<100	<100
Minimum Detect					0.2	0.2	0.1	0.1	0.3	0.4	ND	1	20	21	73	59	60	13	23	75	75	100	70	120	83	55	193	120	110	200	120	320
Maximum Concentration					<0.5	3.8	3.1	2.5	18	21	<0.2	13	260	1400	2500	190	4070	450	450	2000	1991.4	2000	4000	130	1000	1600	3240	3400	1900	1500	340	320
Maximum Detect					0.2	3.8	3.1	2.5	18	21	ND	13	260	1400	2500	190	4070	450	450	2000	1991.4	2000	4000	130	1000	1600	3240	3400	1900	1500	340	320
Average Concentration					0.063	0.31	0.3	0.22	1.1	1.3		2	43	330	581	46	906	74	75	520	518	429	962	54	282	439	796	799	511	364	61	58
Median Concentration					0.05	0.05	0.05	0.05	0.1	0.15	0.1	0.475	10	215	225	25	415	32.5	32.5	355	353.05	170	580	50	130	220	360	345	215	125	50	50
Standard Deviation					0.042	0.84	0.71	0.51	3.5	4.1		3	67	377	690	47	1070	107	107	559	556	499	1064	18	334	508	914	930	576	411	52	48
Number of Guideline Exceedances					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	5	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	5	0	0	0	0	0	0

										PAH/Phenols														
										Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ (lower bound)*	Benzo(a)pyrene TEQ (upper bound)*	Benzo(a)pyrene TEQ (medium bound)*	Benzo(b&j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	PAHs (Sum of total)
										mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Clyde WARP SSTL (Direct Contact - Commercial)																	40										
Clyde WARP SSTL (Direct Contact - Construction Worker)																	200										
Clyde WARP SSTL (Direct Contact - IMW)																	3000										
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m 1-1.99m																											
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m 2-3.99m																											
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m 0-0.99m																											
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)																											
Clyde WARP SSTL (Vapour Intrusion - IMW)																											
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																											
Field_ID	**Location_Code**	**Sample_Depth_Avg**	**Sampled_Date_Time**	**Sample_Type**	**Lab_Report_Number**	**Location_Type**																					
3D_B2_B_2.0	3D_B2_B	2	21/10/2021	Normal	834154	Validation (base)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3D_B2_N_0.5	3D_B2_N	0.5	21/10/2021	Normal	834154	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3D_B2_N_1.5	3D_B2_N	1.5	21/10/2021	Normal	834154	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3D_B2_W_0.5	3D_B2_W	0.5	21/10/2021	Normal	834154	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	1.5
3D_B2_W_1.5	3D_B2_W	1.5	21/10/2021	Normal	834154	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3D_B3_B_2.0	3D_B3_B	2	21/10/2021	Normal	834154	Validation (base)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
DUP11_211021	3D_B3_B	2	21/10/2021	Field_D	834154	Validation (base)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRIP11_211021	3D_B3_B	2	21/10/2021	Interlab_D	ES2138454	Validation (base)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3D_B3_N_0.5	3D_B3_N	0.5	21/10/2021	Normal	834154	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<1	<0.5	2.4
3D_B3_N_1.5	3D_B3_N	1.5	21/10/2021	Normal	834154	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.3
3D_B4_B_2.0	3D_B4_B	2	22/10/2021	Normal	834589	Validation (base)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3D_B4_N_0.5	3D_B4_N	0.5	22/10/2021	Normal	834589	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	1.2	<0.5	2
3D_B4_N_1.5	3D_B4_N	1.5	22/10/2021	Normal	834589	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3D_B5_B_2.0	3D_B5_B	2	22/10/2021	Normal	834589	Validation (base)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3D_B5_E_0.5	3D_B5_E	0.5	22/10/2021	Normal	834589	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	1.3
3D_B5_E_1.5	3D_B5_E	1.5	22/10/2021	Normal	834589	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3D_B5_N_0.5	3D_B5_N	0.5	22/10/2021	Normal	834589	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3D_B5_N_1.5	3D_B5_N	1.5	22/10/2021	Normal	834589	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	0.6
3D_C2_B_2.0	3D_C2_B	2	21/10/2021	Normal	834154	Validation (base)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3D_C2_S_0.5	3D_C2_S	0.5	21/10/2021	Normal	834154	Validation (wall)	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<2	<0.5	11.6
3D_C2_S_1.5	3D_C2_S	1.5	21/10/2021	Normal	834154	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	2
3D_C2_W_0.5	3D_C2_W	0.5	21/10/2021	Normal	834154	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	0.5	<0.5	1
3D_C2_W_1.5	3D_C2_W	1.5	21/10/2021	Normal	834154	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3D_C3_B_2.0	3D_C3_B	2	22/10/2021	Normal	834589	Validation (base)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3D_C3_S_0.5	3D_C3_S	0.5	22/10/2021	Normal	834589	Validation (wall)	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	1.3	<0.5	6.3
3D_C3_S_1.5	3D_C3_S	1.5	22/10/2021	Normal	834589	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3D_C4_B_2.0	3D_C4_B	2	22/10/2021	Normal	834589	Validation (base)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3D_C4_S_0.5	3D_C4_S	0.5	22/10/2021	Normal	834589	Validation (wall)	1.4	1	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.9	<0.5	3	<0.5	21.3
DUP12_211022	3D_C4_S	0.5	22/10/2021	Field_D	834589	Validation (wall)	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	<0.5	1.7	<0.5	9.4
TRIP12_211022	3D_C4_S	0.5	22/10/2021	Interlab_D	ES2138450	Validation (wall)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3D_C4_S_1.5	3D_C4_S	1.5	22/10/2021	Normal	834589	Validation (wall)	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	0.9	<0.5	4.6
3D_C5_B_2.0	3D_C5_B	2	22/10/2021	Normal	834589	Validation (base)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3D_C5_E_0.5	3D_C5_E	0.5	22/10/2021	Normal	834589	Validation (wall)	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	1.1	<0.5	7.2
3D_C5_E_1.5	3D_C5_E	1.5	22/10/2021	Normal	834589	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	1.1	<0.5	5.9
3D_C5_S_0.5	3D_C5_S	0.5	22/10/2021	Normal	834589	Validation (wall)	1	<0.5	0.7	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	<0.5	2.2	<0.5	13.5
3D_C5_S_1.5	3D_C5_S	1.5	22/10/2021	Normal	834589	Validation (wall)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Statistical Summary																											
Number of Results							34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Number of Detects							7	1	1	0	0	0	34	34	0	0	0	0	0	0	12	0	12	0	16
Minimum Concentration							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Minimum Detect							0.6	1	0.7	ND	ND	ND	1.2	0.6	ND	ND	ND	ND	ND	ND	0.5	ND	0.5	ND	0.6
Maximum Concentration							1.4	1	0.7	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.9	<0.5	3	<0.5	21.3
Maximum Detect							1.4	1	0.7	ND	ND	ND	1.2	0.6	ND	ND	ND	ND	ND	ND	2.9	ND	3	ND	21.3
Average Concentration							0.36	0.27	0.26	0.25	0.25	0.25	1.2	0.6	0.25	0.25	0.25	0.25	0.25	0.25	0.57	0.25	0.62	0.25	2.8
Median Concentration							0.25	0.25	0.25	0.25	0.25	0.25	1.2	0.6	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Standard Deviation							0.26	0.13	0.077	0	0	0	0	0	0	0	0	0	0	0	0.59	0	0.64	0	4.8
Number of Guideline Exceedances							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Moisture Content	TRH Silica Gel Cleanup								BTEX						Naphthalene	TRH NEPM (1999)					TRH NEPM (2013)						
	Moisture	TRH >C10-C14 Silica Gel Cleanup	TRH >C10-C16 Silica Gel Cleanup	TRH >C10-C36 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C15-C28 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C29-C36	TRH >C34-C40 Silica Gel Cleanup	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Naphthalene	TRH >C6-C9 Fraction	TRH >C10-C14 Fraction	TRH >C15-C28 Fraction	TRH >C29-C36 Fraction	TRH >C10-C36 Fraction	TRH C6-C10 Fraction	TRH C6-C10 less BTEX	TRH >C10-C16 Fraction	TRH >C10-C16 Fraction less N	TRH >C16-C34 Fraction	TRH >C10-C40 Fraction	TRH >C34-C40 Fraction
EQL	1	50	50	100	100	100	100	100	100	0.1	0.1	0.1	0.1	0.2	0.3	0.5	20	20	50	50	50	20	20	50	50	100	100	100
Clyde WARP SSTL (Direct Contact - Commercial)			17000				27000		27000	400						9800							28000		17000	27000		27000
Clyde WARP SSTL (Direct Contact - Construction Worker)			45000				64000		64000	1200						67000							69000		45000	64000		64000
Clyde WARP SSTL (Direct Contact - IMW)			540000				770000		770000	15000						810000							830000		540000	770000		770000
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																												
0-0.99m			NL							3.2						NL							600		NL			
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																												
1-1.99m			NL							3.2						NL							770		NL			
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																												
2-3.99m			NL							3.2						NL							NL		NL			
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																												
4-6m			NL							3.2						NL							NL		NL			
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)			NL							NL						NL							NL		NL			
Clyde WARP SSTL (Vapour Intrusion - IMW)			NL							NL						NL							NL		NL			
NEPM (1999) Management Limits - Commercial/Industrial (coarse)			1000				3500		10000													700		1000		3500		10000

Field_ID	Sampled_Date_Time	Lab_Report_Number	Location_Code	Sample_Depth_Avg	Monitoring_Zone	Location_Type	Sample_Type																							
3E-C2_B-1.5	1/11/2021	837264	3E-C2_B	1.5	3E	Validation (base)	Normal	12	750	990	2240	2300	1100	1100	390	190	<0.1	<0.1	0.9	1.7	6.4	8.1	3.3 - 4.7	60	590	1100	390	2080	140	130	810	805.3	1200	2010	<100
3E-C2_N-0.5	1/11/2021	837264	3E-C2_N	0.5	3E	Validation (wall)	Normal	1.3	<50	<50	300	450	100	250	200	200	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	<40	210	<100	210	<20	<20	<100	<100	450	830	380
3E-C2_N-1.0	1/11/2021	837264	3E-C2_N	1	3E	Validation (wall)	Normal	41	<50	<50	<100	<100	<100	<100	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	<20	<50	58	58	<20	<20	<50	<50	100	230	130
3E-C2_W-0.5	1/11/2021	837264	3E-C2_W	0.5	3E	Validation (wall)	Normal	3.2	<50	<50	1270	1400	770	1100	500	290	<0.1	<0.1	<0.1	<0.1	0.2	<0.3	<0.5	<20	29	1300	820	2149	<20	<20	100	100	1900	2210	210
3E-C2_W-1.0	1/11/2021	837264	3E-C2_W	1	3E	Validation (wall)	Normal	5.6	<50	<50	<100	<100	<100	<100	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100
3E-C3-B-2.0	17/11/2021	841694	3E-C3-B	2	3E	Validation (base)	Normal	16	78	200	728	710	480	510	170	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	28	330	900	350	1580	56	56	480	480	960	1620	180
3E-C3-N-0.5	17/11/2021	841694	3E-C3-N	0.5	3E	Validation (wall)	Normal	8.3	200	500	1650	1800	1100	1100	350	180	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5 - 0.5	<20	280	1300	430	2010	<20	<20	500	500	1100	1760	160
3E-C3-N-1.0	17/11/2021	841694	3E-C3-N	1	3E	Validation (wall)	Normal	11	320	700	1980	2100	1300	1200	360	180	<0.1	<0.1	0.3	<0.1	0.3	0.3	2.1 - 2.4	<20	610	1700	570	2880	46	45	990	987.9	1800	3070	280
3E-C4_B-1.5	2/11/2021	837264	3E-C4_B	1.5	3E	Validation (base)	Normal	16	430	510	810	840	380	330	<100	<100	<0.1	<0.1	0.5	0.8	0.8	1.6	2.2 - 2.3	<20	400	620	200	1220	44	42	550	547.8	630	1180	<100
3E-C4_E-0.5	2/11/2021	837264	3E-C4_E	0.5	3E	Validation (wall)	Normal	16	250	420	830	920	430	400	150	100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	500	1100	390	1990	<20	<20	910	910	1100	2230	220
3E-C4_E-1.0	2/11/2021	837264	3E-C4_E	1	3E	Validation (wall)	Normal	19	100	140	280	340	180	200	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	140	290	130	560	35	35	200	200	340	540	<100
3E-C4_N-0.5	2/11/2021	837264	3E-C4_N	0.5	3E	Validation (wall)	Normal	16	<50	<50	<100	<100	<100	<100	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100
3E-C4_N-1.0	2/11/2021	837264	3E-C4_N	1	3E	Validation (wall)	Normal	12	170	230	440	510	270	280	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	40	360	530	<50	890	91	91	430	430	550	980	<100
3E-C4-B-1.5	17/11/2021	841694	3E-C4-B	1.5	3E	Validation (base)	Normal	13	<50	130	490	520	370	390	120	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	0.9 - 2.8	<20	140	370	<50	510	<20	<20	220	217.2	410	630	<100
3E-D2_B-1.5	1/11/2021	837264	3E-D2_B	1.5	3E	Validation (base)	Normal	13	230	320	690	660	350	340	110	<100	<0.1	<0.1	0.6	0.8	2.6	3.4	1.4 - 2.4	30	250	690	310	1250	51	47	390	387.6	790	1180	<100
3E-D2_W-0.5	1/11/2021	837264	3E-D2_W	0.5	3E	Validation (wall)	Normal	4.3	<50	<50	<100	130	<100	130	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	27	310	54	391	<20	<20	<50	<50	440	580	140
3E-D2_W-1.0	1/11/2021	837264	3E-D2_W	1	3E	Validation (wall)	Normal	2.6	68	140	698	780	420	510	210	130	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	81	580	260	921	<20	<20	160	160	730	890	<100
3E-D3-B-2.0	17/11/2021	841694	3E-D3-B	2	3E	Validation (base)	Normal	20	<50	<50	<100	<100	<100	<100	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	38	91	<50	129	<20	<20	<50	<50	<100	<100	<100
3E-D4-B	3/11/2021	838023	3E-D4-B	1.5	3E	Validation (base)	Normal	22	51	73	<100	<100	<100	<100	<100	<100	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	<0.5 - 0.6	<20	65	250	80	395	21	21	110	109.4	270	380	<100
3E-D4-B-1.5	17/11/2021	841694	3E-D4-B	1.5	3E	Validation (base)	Normal	20	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100
3E-D4-E-0.5	3/11/2021	838023	3E-D4-E	0.5	3E	Validation (wall)	Normal	6.7	200	310	730	660	410	350	120	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	180	1100	620	1900	<20	<20	380	380	1300	2170	490
3E-D4-E-1.0	3/11/2021	838023	3E-D4-E	1	3E	Validation (wall)	Normal	12	<50	59	<100	<100	<100	<100	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	370	1500	730	2600	40	40	660	660	1800	2890	430
3E-E2_B-1.5	1/11/2021	837264	3E-E2_B	1.5	3E	Validation (base)	Normal	16	210	290	720	700	370	410	140	<100	<0.1	<0.1	0.4	<0.1	<0.2	<0.3	1.3 - 2.4	32	310	490	54	854	69	69	360	357.6	530	1000	110
3E-E2_S-0.5	1/11/2021	837264	3E-E2_S	0.5	3E	Validation (wall)	Normal	15	<50	<50	<100	<100	<100	<100	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	<20	280	220	500	<20	<20	<50	<50	440	440	<100
3E-E2_S-1.0	1/11/2021	837264	3E-E2_S	1	3E	Validation (wall)	Normal	19	<50	<50	<100	<100	<100	<100	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	<20	81	<50	81	<20	<20	<50	<50	<100	<100	<100
3E-E2_W-0.5	1/11/2021	837264	3E-E2_W	0.5	3E	Validation (wall)	Normal	9.9	<50	<50	<100	120	<100	120	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	<20	340	200	540	<20	<20	50	50	470	520	<100
3E-E2_W-1.0	1/11/2021	837264	3E-E2_W	1	3E	Validation (wall)	Normal	18	<50	<50	<100	<100	<100	<100	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	52	130	<50	182	<20	<20	65	65	160	225	<100
3E-E3-B-2.0	17/11/2021	841694	3E-E3-B	2	3E	Validation (base)	Normal	21	<50	<50	<100	<100	<100	<100	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	86	250	94	430	<20	<20	120	120	270	390	<100
3E-E3-S-1.0	17/11/2021	841694	3E-E3-S	1	3E	Validation (wall)	Normal	24	520	1000	3730	3900	2400	2600	810	260	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5 - 0.8	63	1100	3200	1000	5300	160	160	1600	1600	3700	5640	340
3E-E3-S-1.5	17/11/2021	841694	3E-E3-S	1.5	3E	Validation (wall)	Normal	25	59	100	289	350	230	250	<100	<100	<0.1	1	0.3	0.2	0.6	0.8	<0.5 - 0.9	65	110	290	<50	400	130	130	160	159.1	330	490	<100
3E-E4-B	3/11/2021	838023	3E-E4-B	1.5	3E	Validation (base)	Normal	17	<50	<50	<100	<100	<100	<100	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	<20	<50	98	98	<20	<20	<50	<50	110	220	110
3E-E4-B-1.5	17/11/2021	841694	3E-E4-B	1.5	3E	Validation (base)	Normal	19	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100
3E-E4-E-0.5	3/11/2021	838023	3E-E4-E	0.5	3E	Validation (wall)	Normal	16	<50	92	150	220	150	130	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	110	770	490	1370	<20	<20	240	240	1000	1580	340
3E-E4-E-1.0	3/11/2021	838023	3E-E4-E	1	3E	Validation (wall)	Normal	22	<50	<50	<100	<100	<100	<100	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	200	470	220	890	22	22	300	300	540	980	140
3E-E4-S-0.5	3/11/2021	838023	3E-E4-S	0.5	3E	Validation (wall)	Normal	6.3	160	230	620	550	340	320	120	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	280	1200	730	2210	30	30	480	480	1500	2530	550
3E-E4-S-1.0	3/11/2021	838023	3E-E4-S	1	3E	Validation (wall)	Normal	21	<50	<50	<100	<100	<100	<100	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	75	200	88	363	23	23	110	110	220	330	<100
Statistical Summary																														
Number of Results								36	34	34	34	34	34	34	34	34	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
Number of Detects								36	16	19	19	21	19	21	14	8	0	1	7	4	6	5	10	7	26	30	25	32	15	15	25	25	30	30	16
Minimum Concentration								1.3	<50	<50	<100	<100	<100	<100	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100
Minimum Detect								1.3	51	59	150	120	100	120	110	100	ND	1	0.1	0.2	0.2	0.3	0.9	28	27	81	54	58	21	21	50	50	100	220	110
Maximum Concentration								41	750	1000	3730	3900	2400	2600	810	290	<0.1	1	0.9	1.7	6.4	8.1	4.7	65	1100	3200	1000	5300	160	160	1600	1600	3700	5640	550
Maximum Detect								41	750	1000	3730	3900	2400	2600	810	290	ND	1	0.9	1.7	6.4	8.1	4.7	65	1100	3200	1000	5300	160	160	1600	1600	3700	5640	550
Average Concentration								15	125	200	570	606	350	373	140	83	0.05	0.076	0.13	0.14	0.39	0.52	0.63	17	190	605	247	1029	32	32	297	296	707	1112	145
Median Concentration								16	25	82.5	284.5	345	165	225	50	50	0.05	0.05	0.05	0.05	0.1	0.15	0.25	10	98	355	114	550	10	10	160	159.55	460	730	50
Standard Deviation								7.7	167	265	800	835	491	519	166	67	0	0.16	0.19	0.32	1.1	1.4	0.85	16	233	651	268	1109	39	39	349	349	745	1169	142
Number of Guideline Exceedances								0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0
Number of Guideline Exceedances(Detects Only)								0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0

										PAH/Phenols													
										Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ (lower bound)*	Benzo(a)pyrene TEQ (upper bound)*	Benzo(a)pyrene TEQ (medium bound)*	Benzo(b&j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	PAHs (Sum of total)
										mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Clyde WARP SSTL (Direct Contact - Commercial)																	40										
Clyde WARP SSTL (Direct Contact - Construction Worker)																	200										
Clyde WARP SSTL (Direct Contact - IMW)																	3000										
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m 0-0.99m																											
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m 1-1.99m																											
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m 2-3.99m																											
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m 4-6m																											
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)																											
Clyde WARP SSTL (Vapour Intrusion - IMW)																											
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																											
Field_ID	**Sampled_Date_Time**	**Lab_Report_Number**	**Location_Code**	**Sample_Depth_Avg**	**Monitoring_Zone**	**Location_Type**	**Sample_Type**																				
3E-C2_B-1.5	1/11/2021	837264	3E-C2_B	1.5	3E	Validation (base)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	3.9
3E-C2_N-0.5	1/11/2021	837264	3E-C2_N	0.5	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	1	1.7	2.1	2.7	2.4	1.4	<1	1.8	1.4	<0.5	2.1	<0.5	<1	0.6	2.5	12.5
3E-C2_N-1.0	1/11/2021	837264	3E-C2_N	1	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-C2_W-0.5	1/11/2021	837264	3E-C2_W	0.5	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	0.7	1.5
3E-C2_W-1.0	1/11/2021	837264	3E-C2_W	1	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-C3-B-2.0	17/11/2021	841694	3E-C3-B	2	3E	Validation (base)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-C3-N-0.5	17/11/2021	841694	3E-C3-N	0.5	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	1.2
3E-C3-N-1.0	17/11/2021	841694	3E-C3-N	1	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	1.1	4.3
3E-C4_B-1.5	2/11/2021	837264	3E-C4_B	1.5	3E	Validation (base)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.3
3E-C4_E-0.5	2/11/2021	837264	3E-C4_E	0.5	3E	Validation (wall)	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3E-C4_E-1.0	2/11/2021	837264	3E-C4_E	1	3E	Validation (wall)	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3E-C4_N-0.5	2/11/2021	837264	3E-C4_N	0.5	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-C4_N-1.0	2/11/2021	837264	3E-C4_N	1	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-C4-B-1.5	17/11/2021	841694	3E-C4-B	1.5	3E	Validation (base)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9
3E-D2_B-1.5	1/11/2021	837264	3E-D2_B	1.5	3E	Validation (base)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4
3E-D2_W-0.5	1/11/2021	837264	3E-D2_W	0.5	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-D2_W-1.0	1/11/2021	837264	3E-D2_W	1	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-D3-B-2.0	17/11/2021	841694	3E-D3-B	2	3E	Validation (base)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-D4-B	3/11/2021	838023	3E-D4-B	1.5	3E	Validation (base)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-D4-B-1.5	17/11/2021	841694	3E-D4-B	1.5	3E	Validation (base)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-D4-E-0.5	3/11/2021	838023	3E-D4-E	0.5	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-D4-E-1.0	3/11/2021	838023	3E-D4-E	1	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-E2_B-1.5	1/11/2021	837264	3E-E2_B	1.5	3E	Validation (base)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.3
3E-E2_S-0.5	1/11/2021	837264	3E-E2_S	0.5	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-E2_S-1.0	1/11/2021	837264	3E-E2_S	1	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-E2_W-0.5	1/11/2021	837264	3E-E2_W	0.5	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-E2_W-1.0	1/11/2021	837264	3E-E2_W	1	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-E3-B-2.0	17/11/2021	841694	3E-E3-B	2	3E	Validation (base)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-E3-S-1.0	17/11/2021	841694	3E-E3-S	1	3E	Validation (wall)	Normal	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1	<0.5	1.1	<0.5	3.6
3E-E3-S-1.5	17/11/2021	841694	3E-E3-S	1.5	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-E4-B	3/11/2021	838023	3E-E4-B	1.5	3E	Validation (base)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-E4-B-1.5	17/11/2021	841694	3E-E4-B	1.5	3E	Validation (base)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-E4-E-0.5	3/11/2021	838023	3E-E4-E	0.5	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	1.3
3E-E4-E-1.0	3/11/2021	838023	3E-E4-E	1	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3E-E4-S-0.5	3/11/2021	838023	3E-E4-S	0.5	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	0.6	0.6	1.8
3E-E4-S-1.0	3/11/2021	838023	3E-E4-S	1	3E	Validation (wall)	Normal	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Statistical Summary																											
Number of Results										34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Number of Detects										1	0	0	1	1	1	1	34	34	1	0	2	2	0	2	2	0	6	4	12
Minimum Concentration										<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Minimum Detect										0.7	ND	ND	1	1.7	2.1	1.2	0.6	1.4	ND	0.6	0.8	ND	0.6	0.8	ND	0.6	0.6	0.6	0.9
Maximum Concentration										0.7	<0.5	<0.5	1	1.7	2.1	2.7	2.4	1.4	<1	1.8	1.4	<0.5	2.1	1	<1	1.1	2.5	12.5
Maximum Detect										0.7	ND	ND	1	1.7	2.1	2.7	2.4	1.4	ND	1.8	1.4	ND	2.1	1	ND	1.1	2.5	12.5
Average Concentration										0.26	0.25	0.25	0.27	0.29	0.3	1.2	0.65	0.28	0.26	0.31	0.3	0.25	0.31	0.29	0.26	0.34	0.35	1.2
Median Concentration										0.25	0.25	0.25	0.25	0.25	0.25	1.2	0.6	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Standard Deviation										0.077	0	0	0.13	0.25	0.32	0.26	0.31	0.2	0.043	0.27	0.22	0	0.32	0.16	0.043	0.23	0.4	2.3
Number of Guideline Exceedances										0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)										0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Pipe Details									Gas Testing - Upstream Pit (Pre-Cleaning)					Gas Testing - Downstream Pit (Pre-Cleaning)					Gas Testing - Upstream Pit (Post-Cleaning)					Gas Testing - Downstream Pit (Post-Cleaning)				
Pipe ID ("CDLD Area_Pipe Number")	Upstream Pit ID	Downstream Pit ID	Key Plan Area	x Co-Ords	Y Co-Ords	Date/time completed	Pipe Type	Other - Pipe Type	VOC (ppm) - limit 100ppm	H2S (ppm) - limit 10ppm	CH4 (%) - record only	CO2 (%)	LEL (%) - limit 0.5%	VOC (ppm) - limit 100ppm	H2S (ppm) - limit 10ppm	CH4 (%) - record only	CO2 (%)	LEL (%) - limit 0.5%	VOC (ppm) - limit 100ppm	H2S (ppm) limit 10ppm	CH4 (%) - record only	CO2 (%)	LEL (%) - limit 0.5%	VOC (ppm) - limit 100ppm	H2S (ppm) limit 10ppm	CH4 (%) - record only	CO2 (%)	LEL (%) - limit 0.5%
17D200-1	17-P1	17-P2	17	151.0316536	-33.82824507	27/08/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17D200-2	17-P1	17-P2	17	151.0317284	-33.82825491	27/08/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17D300-1	17-P2	17-P1	17	151.0316608	-33.82825433	27/08/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17D300-2	17-P3	17-P1	17	151.0316536	-33.8282817	27/08/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17D300-2a	NA	17-P3	17	151.0316635	-33.82860821	27/08/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
17D380-1	17-P3	17-P4	17	151.031863	-33.82860733	27/08/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17D380-2	NA	17-P3	17	151.0316216	-33.82860201	27/08/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17D380-3	18-P2	17-P4	17	151.031839	-33.82861886	27/08/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14D200-1	NA	14-P2	14	151.0317567	-33.82898108	28/08/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D200-2	NA	14-P2	14	151.0317618	-33.82899805	28/08/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D300-2	14-P1	14-P2	14	151.031651	-33.82900208	28/08/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14D300-4	14-P3	14-P2	14	151.0317645	-33.82900254	28/08/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17D200-1	17-P1	17-P2	17	151.0317106	-33.82825274	28/08/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17D200-2	Na	17-P2	17	151.0317471	-33.82825533	28/08/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P6300-2	P6-3 (Cannot	P6-1	6	151.0316287	-33.82970067	31/08/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P60300-1	NA	P6-1	6	151.0315446	-33.82968093	31/08/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D200-3	NA	14-P5	14	151.0322232	-33.82907429	31/08/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D200-4	NA	14-P5	14	151.0322639	-33.82907412	31/08/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D230-1	14-P1	14-P12	14	151.0314974	-33.82924138	31/08/2020	steel		0	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D230-1a	14-P1	14-P12	14	151.0314879	-33.82922147	31/08/2020	other	Concrete ditch drain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14D300-5	14-P3 (unable	14-P5	14	151.0321608	-33.82907789	31/08/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D300-6	14-P4	14-P5	14	151.0322203	-33.82905388	31/08/2020	steel		0	0				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14D300-8	14-P13	14-P12	14	151.0315057	-33.8292625	31/08/2020	steel		0	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D300-8a	14-P13	14-P12	14	151.0315506	-33.82924528	31/08/2020	other	Concrete ditch drain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14D300-9	14-P15 (Unable to locate pit)	14-P13	14	151.0318848	-33.82934846	31/08/2020	other	Concrete ditch drain	NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D375-1	14-P13	P6-2	14	151.0316057	-33.82965264	31/08/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18D150-1	NA	18D150-1	18	151.0331703	-33.82875096	1/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D230-2	14-P5A (filled	14D230-2	14	151.0325616	-33.82887425	2/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D300-16	14-P7	14D300-16	14	151.0327969	-33.82885632	2/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15D150-1	NA	15D150-1	15	151.0331332	-33.8290307	2/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D150-2	15P2	15D150-2	15	151.0330957	-33.82903477	2/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15D150-3	15P3	15D150-3	15	151.0329525	-33.82907609	2/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17D380-3 new	17-P4	17D380-3	17	151.0325799	-33.8287015	2/09/2020	steel		0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18D380-4	18-P8 (not located/unc overed yet)	18D380-4	18	151.0325863	-33.82869358	2/09/2020	steel		NA	NA	NA	NA	NA	0.1	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D150-1a	14-P11	14D150-1a	14	151.0326264	-33.82919654	3/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14D300-7	14-P8	14D300-7	14	151.0325352	-33.82900168	3/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14D460-1	14-P10	14D460-1	14	151.0326041	-33.82911951	3/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14D460-2	15P9 (unable to locate pit)	14D460-2	14	151.0326731	-33.82921556	3/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D300-7a	NA	14-P9	14	151.0325707	-33.82910065	8/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	0	0	0	0	0	0
14D920-1 and 14D920-2	14-P6	14-P9	14	151.0325717	-33.82909399	8/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0.8	0	0	0	0	0
14D150-3a	NA	14-P21a	14	151.032495	-33.82952276	9/09/2020	terracotta		NA	NA	NA	NA	NA	0	0	0	0	0	Na	Na	NA	NA	0	0	0	0	0	0
14D300-15	14-P21a	14-P21	14	151.031964	-33.82891834	9/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14D380-3	NA	14-P21a	14	151.0325124	-33.82954527	9/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	0	0	0	0	0	0
10 D380-2	10-P5	10-P4	10	151.0326748	-33.82991927	11/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10D300-1a	NA	10-P4	10	151.0326459	-33.82994496	11/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	0	0	0	0	0	0
10D380-3	10-P6	10-P7	10	151.0329107	-33.82984836	11/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10D380-4	10-P7	10-P8	10	151.033068	-33.82989064	11/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10D150-2	NA	10-P18	10	151.0324247	-33.83042264	14/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	0	0	0	0	0	0
10D230-1a	NA	10-P13	10	151.0338417	-33.82986336	15/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	0	0	0	0	0	0
15D300-10	P11	P10	15	151.0334628	-33.82916326	15/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15D300-11	15-P12	15-P11	15	151.0334732	-33.82914952	15/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15D300-12	15-P13	15-P12	15	151.0334611	-33.82910149	15/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15D300-13	15-P14 (could not uncover-under stockpile of rubble)	15-P13	15	151.0335134	-33.82913237	15/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	0	0	0	0	0	0
15D300-9	NA	15-P11	15	151.0334486	-33.82917391	15/09/2020	other	PVC	NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
15D100-10	NA	15-P24	15	151.0339093	-33.829067	16/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	0	0	0	0	0	0
15D100-6a	NA	15-P25	15	151.0340289	-33.82913866	16/09/2020	steel		NA	NA	NA	NA	0	0	0	0	0	0	NA	NA	NA	NA	0	0	0	0	0	0
15D100-7	15-P26	15-P25	15	151.0340124	-33.82912416	16/09/2020	terracotta		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15D150-4	NA	15P22	15	151.0335245	-33.82890703	16/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	0	0	0	0	0	0
15D150-5	15-P23	15-P24	15	151.0338876	-33.82905828	16/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15D150-6	16-P7	15-P24	15	151.0339313	-33.82904348	16/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15D150-7	NA	15-P25	15	151.0340242	-33.8291263	16/09/2020	terracotta		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	0	0	0	0	0	0
15D300-14	15-P15 (unable to uncover pit under rubble)	15-P21	15	151.0333885	-33.8290136	16/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	0	0	0	0	0	0
15D300-15	18-P8	15-P21	15	151.0333847	-33.82899479	16/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11D300-1	11P2	15P29	15	151.0339967	-33.82975725	24/09/2020 5:39	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11D300-2	NA	15P29	15	151.0340053	-33.82973021	24/09/2020 5:39	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	0	0	0	0	0	0
15D300-20	15P29	15P30	15	151.0335645	-33.82963399	24/09/2020 5:39	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15D300-22	NA	15P31	15	151.0334965	-33.82959518	24/09/2020 5:39	concrete		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
15D300-21	15-P31	15-P30	15	151.0335174	-33.82960666	24/09/2020 5:40	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18D300-2	CPI 18	18-P	18	151.0336091	-33.82852427	24/09/2020 5:40	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18D300-1	NA	18-P1	18	151.0336497	-33.82851178	24/09/2020 5:40	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
18D250-1	NA	18-P1	18	151.0335412	-33.82851748	24/09/2020 5:40	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
17D150-1	17-P10	17-P8	17	151.032469	-33.8285104	24/09/2020 5:41	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18D300-3	CPI 18	18-P5	18	151.0336106	-33.82865888	25/09/2020 5:47	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18D300-4	18P6	18-P5	18	151.0336567	-33.82866873	25/09/2020 5:47	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15D300-17	15P28	18-P7	18	151.0336747	-33.82880091	25/09/2020 5:47	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18D380-5	18-P7	18-P8	18	151.0333827	-33.82877116	25/09/2020 5:47	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6D230-3	6-P5	NA	6	151.0321434	-33.83061492	28/09/2020 2:48	steel		NA	NA	NA	NA	NA	0		0	0	0	NA	NA	NA	NA	NA	0		0	0	0
9D150-2	9-P26	9-P27	9	151.032878	-33.83115057	28/09/2020 4:22	other	PVC	NA	MA	NA	NA	NA	0	0	0	0	0	NA	MA	NA	NA	NA	0	0	0	0	0
9D150-2a	NA	9-P27	9	151.0328668	-33.83114948	28/09/2020 4:22	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
9D230-2	9-P16	9-P17	9	151.0331387	-33.83094873	28/09/2020 5:26	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D230-3	9-P21	9-P170	9	151.0331563	-33.83097518	28/09/2020 5:26	terracotta		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D230-1	9-P16	9-P15	9	151.0330491	-33.83088021	28/09/2020 5:26	steel		00	0	0	0	0	0	0	0	0	0	00	0	0	0	0	0	0	0	0	0
9D150-3	9-P29	9-P18	9	151.0331802	-33.83094341	29/09/2020 2:03	terracotta		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D230-4	9-P18	9-P13	9	151.0331726	-33.83090435	29/09/2020 2:03	terracotta		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D250-1	9-P5	9-P15	9	151.0330103	-33.83088541	29/09/2020 2:03	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D100-1	NA	9-P6	9	151.0330505	-33.83075855	29/09/2020 2:03	terracotta		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
9D150-4	9-P30	9-P29	9	151.0331497	-33.8310595	29/09/2020 2:08	terracotta		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D230-5	9-P14	9-P13 (unable to locate)	9	151.0334412	-33.83073625	29/09/2020 5:25	terracotta		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D100-8	NA	9-P14	9	151.0336353	-33.830823	29/09/2020 5:25	terracotta		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
9D150-8	9-P10 (does not appear to be a pit)	9-P9	9	151.0334241	-33.83077435	29/09/2020 5:25	terracotta		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D150-9a	9-P12 (does not appear to be a pit)	9-P14	9	151.0336083	-33.83083361	29/09/2020 5:25	terracotta		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0

Pipe Details									Gas Testing - Upstream Pit (Pre-Cleaning)					Gas Testing - Downstream Pit (Pre-Cleaning)					Gas Testing - Upstream Pit (Post-Cleaning)					Gas Testing - Downstream Pit (Post-Cleaning)				
Pipe ID ("CDLD Area_Pipe Number")	Upstream Pit ID	Downstream Pit ID	Key Plan Area	x Co-Ords	Y Co-Ords	Date/time completed	Pipe Type	Other - Pipe Type	VOC (ppm) - limit 100ppm	H2S (ppm) - limit 10ppm	CH4 (%) - record only	CO2 (%)	LEL (%) - limit 0.5%	VOC (ppm) - limit 100ppm	H2S (ppm) - limit 10ppm	CH4 (%) - record only	CO2 (%)	LEL (%) - limit 0.5%	VOC (ppm) - limit 100ppm	H2S (ppm) - limit 10ppm	CH4 (%) - record only	CO2 (%)	LEL (%) - limit 0.5%	VOC (ppm) - limit 100ppm	H2S (ppm) limit 10ppm	CH4 (%) - record only	CO2 (%)	LEL (%) - limit 0.5%
9D150-7	9-P9	9-P7	9	151.0334433	-33.83073709	29/09/2020 5:25	terracotta		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D150-6	9-P8	9-P7	9	151.0334433	-33.83073709	29/09/2020 5:25	terracotta		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15D300-a	15P38	15P37	15	151.0340478	-33.82895665	2/10/2020 5:30	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D460-6	10-P17	9-P4	9	151.0336699	-33.83059766	13/10/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15D300-16	NA	15P28	15	151.0336967	-33.82902593	13/10/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
11D460-2	NA	11-P5	15	151.0339776	-33.83023669	15/10/2020	concrete		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
10D460-4	10-P11	11-P3	10	151.0339333	-33.83054954	15/10/2020	concrete		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10D380-1	10-P3	10-P4	10	151.0325902	-33.82990045	11/09/2020	steel		0.5	0	0	0	0	0	0	0	0	0	0.5	0	0	0	0	0	0	0	0	0
9D150-2b	NA	9-P27	9	151.0328713	-33.83114286	28/09/2020 4:22	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
15D610-1	18-P7	15-P37	15	151.0340356	-33.82893879	2/10/2020 5:31	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15D610-2	15P37	16P32	15	151.0340953	-33.82950105	2/10/2020 5:30	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10D1070-1	10-P1	10-P3	10	151.0324299	-33.8297461	6/10/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14D920-3 and 14D920-4	14-P11	10-P1	14	151.0324686	-33.82961509	6/10/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10D920-1	10-P1	10-P12	10	151.0331947	-33.82972393	7/10/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10D1070-2	9-P1	10-P3	9	151.0324747	-33.82987266	7/10/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D610-3 and 9D610-2	9-P2	9-P4	9	151.033631	-33.83058165	13/10/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D610-1	9-P1	9-P2	9	151.0330165	-33.83055269	13/10/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17D100-1	17-P1	17-P2	17	151.0317339	-33.82828081	27/08/2020	other	Pipe does not exist	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D300-1	NA	14-P1	14	151.0315877	-33.82890321	28/08/2020	other	Pipe does not exist	NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D300-3	NA	14-P1	14	151.0315908	-33.82890493	28/08/2020	other	Pipe does not exist	NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D300-3a	NA	14-P1	14	151.0316854	-33.82896834	28/08/2020	other	Does not exist	NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D380-1	NA	14-P1	14	151.0314899	-33.82897484	28/08/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14D300-8	14-P12	14-P13	14	151.0318564	-33.82932985	31/08/2020	other	Could not locate pipe	NA	NA	NA	NA	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D200-5	14-P6	14D200-5	14	151.0326337	-33.82888129	2/09/2020	steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D100-2	NA	15D100-2	15	151.032934	-33.82904411	2/09/2020	steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D230-1	15P4 (Could r	15D230-1	15	151.0329306	-33.8290947	2/09/2020	steel		NA	NA	NA	NA	NA	NA	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
18D100-1	NA	18D100-1	18	151.0332319	-33.82872133	2/09/2020	steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D100-1	NA	15D100-1	15	151.0330245	-33.82902182	3/09/2020	other	Unable to locate pipe	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D100-3	15P7 (could not locate pit)	15D100-3	15	151.0329084	-33.82915597	3/09/2020	other	Could not locate pipe	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D230-2	15P9	15P10	15	151.031946	-33.82995144	4/09/2020	other	Could not uncover pipe	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D300-10	14-P15 (Unable to locate pit)	14-P16 (Unable to locate pit)	14	151.031885	-33.82936883	8/09/2020	other	Unable to uncover pipe	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D300-11	14-P16 (Unable to locate pit)	14-P17 (Unable to locate pit)	14	151.0320422	-33.82936518	8/09/2020	other	Unable to uncove pipe	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D300-12	14-P17 (Unable to locate pit)	14-P18 (Unable to locate pit)	14	151.0322187	-33.82939649	8/09/2020	other	unable to locate pipe	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D300-13	14-P18 (Unable to locate pit)	14-P19 (Unable to locate pit)	14	151.0322452	-33.82939431	8/09/2020	other	Could not uncover pipe	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D380-2	14-P21a	14-P20 (unable to locate pit)	14	151.0324856	-33.82950872	9/09/2020	other	Unable to locate pipe	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10D150-4	NA	10-P	10	151.0331545	-33.83001449	14/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10D150-6	10-P16 (unable to uncover under stockpile)	10-P17	10	151.0337388	-33.8304941	15/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10D230-2	NA	10-P12	10	151.0331859	-33.82971575	15/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D100-10a	NA	15-P24	15	151.0339147	-33.82906322	16/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D300-2	NA	NA (neutralising	15	151.0336982	-33.82910262	16/09/2020	other	PVC	NA	NA	NA	NA	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D300-3	15-P17 (does not appear to be a pit - pipe put in clay)	15-P16 (shallow pit)	15	151.0336387	-33.82918174	16/09/2020	other	PVC	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D300-4	15-P16 (not a pit, but an inspection point)	NA (open neutralising pit)	15	151.0336657	-33.82907693	16/09/2020	other	PVC	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D300-5	15-P18 (inspection point, not a pit)	15-P19 (unable to uncover pit, concreted in)	15	151.0336365	-33.82902307	16/09/2020	other	Unable to locate pipe	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D300-6	NA	15-P19 (concreted in)	15	151.0341656	-33.82899164	16/09/2020	other	Unable to locate pipe	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D300-7	15P20 (unable to uncover pit under rubble)	15P18 (inspection point, not a pit)	15	151.0336329	-33.82906373	16/09/2020	other	unable to locate pipe	NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D300-8	15-P15 (unable to locate pit)	15-P20 (unable to locate pit)	15	151.0334552	-33.82902995	16/09/2020	other	Unable to locate pipe	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D300-18	NA	15P29	15	151.0339953	-33.82973868	24/09/2020 5:39	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
18D100-2	NA	18-P1	18	151.0335356	-33.82851756	24/09/2020 5:40	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
17D150-2	NA	17-P8	17	151.0324394	-33.82850025	24/09/2020 5:41	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
17D200-3	17-P13 (unable to locate)	NA	17	151.0324133	-33.82873562	24/09/2020 5:41	other	Unknown- unable to locate pipe	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
18D100-3	17-P6 (unable to locate)	17-P11 (unable to locate)	17	151.0323755	-33.82872602	24/09/2020 5:41	other	Unknown- unable to locate pipe	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
18D230-1a	NA	18-P4	18	151.0332646	-33.82866081	24/09/2020 5:41	other	Pipe could not be located	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D300-24	15P33	15P32	15	151.0335234	-33.82936648	25/09/2020 5:47	other	Unknown -pipe non existent	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D300-23	NA	15P32	15	151.0335294	-33.82936648	25/09/2020 5:47	other	UNKNOWN -pipe does not exist	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D230-1a	15P35	15P36	15	151.0335522	-33.82935282	25/09/2020 5:47	other	Unknown-pipe does not exist	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6D230-2	NA	6-P5	6	151.0321416	-33.83056325	28/09/2020 2:48	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
6D150-1	NA	6-P5	6	151.0321395	-33.83058353	28/09/2020 2:48	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
9D150-1	9-P23	9-P24	9	151.0329279	-33.83101994	28/09/2020 4:08	other	Unable to see pipe, appears to be concreted in	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D100-4	NA	9-P32 (not a drainage pit)	9	151.0331403	-33.8310849	29/09/2020 2:03	other	Unknown	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9D100-3	9-P32 (not a drainage pit)	9-P28 (not a drainage pit)	9	151.0331374	-33.83108456	29/09/2020 2:03	other	Unknown	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9D250-2	9-P2	9-P5	9	151.0329849	-33.83088574	29/09/2020 2:03	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D100-2	9-P20 (not a drainage pit)	9-P28 (not a drainage pit)	9	151.0331522	-33.83094186	29/09/2020 2:03	other	Unknown	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9D150-5	9-P31	9-P30	9	151.0334638	-33.83108293	29/09/2020 4:17	other	Pipe does not exist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D230-6	NA	9-P14	9	151.0336256	-33.83083667	29/09/2020 5:25	other	Does not exist	Na	NA	NA	NA	NA	NA	NA	NA	NA	NA	Na	NA	NA	NA	NA	NA	NA	NA	NA	NA
9D100-7	NA	9-P13 (inaccessible)	9	151.0335023	-33.83077959	29/09/2020 5:25	other	Unknown	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9D100-6	NA	9-P13 (inaccessible)	9	151.0334936	-33.83078168	29/09/2020 5:25	other	Unable to see pipe	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9D150-9	9-P12	9-P10 (does not appear to be a pit)	9	151.033526	-33.83079618	29/09/2020 5:25	terracotta		0	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9D300-1	NA	P-10a	9	151.0336546	-33.83082363	29/09/2020 5:35	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
10D150-5	NA	10-p19 (unable to locate pit)	10	151.0330959	-33.82971806	30/09/2020 0:12	other	Unknown	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
17D200-4	NA	17-P14 (unable to locate pit)	17	151.0324167	-33.82836526	30/09/2020 2:13	other	Unknown - unable to locate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D300-b	NA	15P37	15	151.0340452	-33.82895049	2/10/2020 5:31	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
9D150-10	NA	9-P5	9	151.0330303	-33.83059912	12/10/2020	other	Unknown, does not exist	NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9D100-5	NA	NA	9	151.0331816	-33.83109462	12/10/2020	other	UNKNOWN- unable to locate pipe	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D300-19	NA	NA	15	151.0340998	-33.82972514	13/10/2020	other	UNKNOWN- unable to locate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
18D250-1	NA	18D250-1	18	151.0331829	-33.82878042	1/09/2020	steel		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9D100-9	NA	9-P33	9	151.0335931	-33.83114139	29/09/2020 4:20	terracotta		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
9D300-2	9-P12 (- does not appear to be a pit)	NA	9	151.0336516	-33.83082271	29/09/2020 5:31	terracotta		NA	Na	NA	NA	NA	NA	NA	NA	NA	NA	NA	Na	NA	NA	NA	NA	NA	NA	NA	NA

Pipe Details									Gas Testing - Upstream Pit (Pre-Cleaning)					Gas Testing - Downstream Pit (Pre-Cleaning)					Gas Testing - Upstream Pit (Post-Cleaning)					Gas Testing - Downstream Pit (Post-Cleaning)				
Pipe ID ("CDLD Area_Pipe Number")	Upstream Pit ID	Downstream Pit ID	Key Plan Area	x Co-Ords	Y Co-Ords	Date/time completed	Pipe Type	Other - Pipe Type	VOC (ppm) - limit 100ppm	H2S (ppm) - limit 10ppm	CH4 (%) - record only	CO2 (%)	LEL (%) - limit 0.5%	VOC (ppm) - limit 100ppm	H2S (ppm) - limit 10ppm	CH4 (%) - record only	CO2 (%)	LEL (%) - limit 0.5%	VOC (ppm) - limit 100ppm	H2S (ppm) - limit 10ppm	CH4 (%) - record only	CO2 (%)	LEL (%) - limit 0.5%	VOC (ppm) - limit 100ppm	H2S (ppm) - limit 10ppm	CH4 (%) - record only	CO2 (%)	LEL (%) - limit 0.5%
15D100-4	15P7 (cannot	15D100-4	15	151.0330859	-33.82914889	3/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D100-5	NA	15D100-5	15	151.0331798	-33.8292045	3/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10D230-1	10P-14 (unable to uncover)	10-P13	10	151.0338081	-33.82980477	14/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	0	0	0	0	0	0
10D300-1	NA	10-P8	10	151.0330721	-33.82988226	14/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10D460-2	10-P10 (unable to uncover- under stockpile	10-P9	10	151.0331335	-33.82999324	14/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10D460-3	10-P10 (unable to uncover under stockpile)	10-P11	10	151.0330926	-33.8304441	14/09/2020	steel		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15D100-6	15-P27 (unable to uncover under stockpile)	15-P25	15	151.0340197	-33.82913707	16/09/2020	terracotta		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
16D230-2	16-P7	15-P25	15	151.0340327	-33.82911532	16/09/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18D300-5	18-P6	18-P7	18	151.0336414	-33.82877748	25/09/2020 5:47	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9D230-1a	NA	9-P15	9	151.0329481	-33.83089023	29/09/2020 2:03	concrete		NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	0	0	0	0	0
10D460-1	10-P8	10-P9	10	151.0331195	-33.82992606	29/09/2020 23:53	concrete		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15D300-1	NA	15-P6 (appear to be a very shallow pit)	15	151.0336086	-33.82919792	16/09/2020	other	PVC	NA	NA	NA	NA	NA	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14D230-1	14-P12	14-P1	14	151.0315148	-33.82900799	26/08/2020	steel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20D200-2	20-P5	20-P6	10	151.0352416	-33.82821267	30/09/2020 22:16	other	Unknown	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
19D200-3	19-P8	19-P9	10	151.0341431	-33.82825148	30/09/2020 22:16	other	Unknown	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Stockpile ID	Location on Site (Remediation Stage)	Location on Site	Source	Backfill Location/ Destination	Dimensions		Est Volume (m3)	Material Description	Soil Sampling Required?	Existing Sample Numbers	Asbestos Present?	Asbestos comment	WARP - Suitable for re-use?	Report Reference
					Basal area (m2)	Average Height								
SP1	Stage 2	Tankfarm A3	AEC-9 Trial Excavation - biopiled material	ACTIVE	-	-	50	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2020) 0515132RP09_Clyde WARP RAP Stage 1_Draft_v2
SP2	Stage 2	Tankfarm A3	AEC-9 Trial Excavation - biopiled material	ACTIVE	-	-	50	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2020) 0515132RP09_Clyde WARP RAP Stage 1_Draft_v2
SP3	Stage 2	Tankfarm A3	AEC-9 Trial Excavation - landfarmed material	ACTIVE	-	-	50	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2020) 0515132RP09_Clyde WARP RAP Stage 1_Draft_v2
SP4	Stage 2	Near former AFFF storage tank	AEC-9 Trial Excavation - landfarmed material	ACTIVE	-	-	50	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2020) 0515132RP09_Clyde WARP RAP Stage 1_Draft_v2
SP5	Terminal	Combined SP5,6,7 - used by Viva for a Driveway?	Process East (trials Exc)	TBC - Viva Ops	-	-	10	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP6	Terminal	Combined SP5,6,7 - used by Viva for a Driveway?	Process East (trials Exc)	TBC - Viva Ops	-	-	10	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP7	Terminal	Combined SP5,6,7 - used by Viva for a Driveway?	Process East (trials Exc)	TBC - Viva Ops	-	-	10	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP8	Stage 3	Process East - used for backfill	Recycled B&D material from Tankfarm B2	Process East	-	-	110	Soil - Fill (Crushed building materials)	No	5	No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP9	Stage 3	Process East	Recycled B&D material from Tankfarm B2	ACTIVE	-	-	38	Soil - Fill (Crushed building materials)	No	3	No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP10	Terminal	Sludge Drying Bay - relocated to adjacent landfarm area by Ventia, adjacent SP21	CTCP projects	ACTIVE	-	-	100	Soil and demolition rubble	No	4	Yes	2 x ACM fragments observed within eastern side of stockpile, quantification below on-site re-use criteria	Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP11	Terminal	Sludge Drying Bay - added to SP12	CTCP projects	Combined with SP12 prior to characterisation	20	0.5	10	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP12	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	100	1	100	Asphalt and soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP13	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE			10	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP14	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	43.47	1	43	Concrete	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP15	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	460	2	920	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP16	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	395	2	790	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP17	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	165	2	330	Concrete and Brick	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP18	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	105	2.5	263	Concrete (Large slabs)	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP19	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	80	1.2	96	Soil and Rubble	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP20	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	500	2.5	1250	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP21	Terminal	Landfarm Area	CTCP projects	Landfarm Area	340	1.5	510	Concrete	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01

Stockpile ID	Location on Site (Remediation Stage)	Location on Site	Source	Backfill Location/ Destination	Dimensions		Est Volume (m3)	Material Description	Soil Sampling Required?	Existing Sample Numbers	Asbestos Present?	Asbestos comment	WARP - Suitable for re-use?	Report Reference
					Basal area (m2)	Average Height								
SP22	Terminal	Landfarm Area	Liberty Bio- Trial (Bitumen tankfarm)	Landfarm Area	410	0.5	205	Soil	Yes - completed		No		No	
SP23a	Terminal	Landfarm Area	CTCP projects	Landfarm Area	10	1	10	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP23b	Terminal	Landfarm Area	CTCP projects	Landfarm Area	10	1	10	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP24	Terminal	Landfarm Area	Liberty Bio- Trial (Bitumen tankfarm)	Landfarm Area	215	0.5	107.5	Soil	Yes - completed		No		No	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP25	Terminal	Landfarm Area	CTCP projects	Landfarm Area	90	2.5	225	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP26	Terminal	Landfarm Area	CTCP projects	Landfarm Area	138	3	414	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP27	Terminal	Landfarm Area	CTCP projects	Landfarm Area	80	3	240	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP28	Terminal	Landfarm Area	CTCP projects	Landfarm Area	110	3.5	385	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP29	Stage 2	Removed from site	Liberty Demo - Asbestos Waste	ACTIVE - disposed from site	55	1	55	Liberty Demo - Asbestos Waste	Yes - completed	3	Yes	Abundant bonded asbestos present	No	ERM (2022) - 0561882RP13 - AA1 Validation Report
SP30	Stage 2	Removed from site	Western Area Demo - 2020	Disposed from site	85	0.5	42.5	Brick and Concrete with ACM	Yes - completed	1 ACM	Yes	ACM unable to be quantified for validation in oversized material. 1 x fragment identified	No	ERM (2022) - 0561882RP14 - AA2 Validation Report
SP31	Stage 2 - AA2 and AA3	South of Tarkfarm A2	Western Area Demo - substation	ACTIVE	215	1.5	322.5	Brick, concrete and Metal	Yes - completed		No	No visible ACM	Yes	ERM 2021b - Stage 2 Stockpile Validation Report
SP32	Stage 2 - AA2	South of former water tanks (88 and 89)	Western Area Demo - 2020	ACTIVE	520	1.5	780	Brick, concrete and soil	Yes - completed	10	No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP33	Stage 2 - AA2	South of former water tanks (88 and 89)	Western Area Demo - 2020	ACTIVE	30	0.5	15	Concrete, Soil, Asphalt, Metal	Yes - completed	3	No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP34	Stage 2 - AA2	South of former water tanks (88 and 89)	Western Area Demo - 2020	ACTIVE	100	0.8	80	Brick	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP35	Stage 2 - AA2	South of former water tanks (88 and 89)	Western Area Demo - 2020	ACTIVE	90	1	90	Concrete	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP36	Stage 2 - AA2	South of former water tanks (88 and 89)	Western Area Demo - 2015	ACTIVE	60	0.5	30	Bricks and Concrete	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP37	Stage 2 - AA2 and AA3	Tankfarm J	Western Area Demo - 2015	ACTIVE	2250	2.3	5175	Soil, concrete and Bricks	Yes - completed	22	Yes	Compliant bonded asbestos present	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP38	Stage 2 - AA3	Tankfarm J	Western Area Demo - 2015	ACTIVE	520	0.5	260	Concrete	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP39	Stage 2 - AA2	South of former water tanks (88 and 89)	Western Area Demo - 2015	ACTIVE	1000	1.8	1800	Concrete	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP40	Stage 2 - AA3	Former laboratory area	Western Area Demo - 2020	ACTIVE	75	0.4	30	Brick, glass and concrete	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP41	Stage 2 - AA2	Former fire station area	Western Area Demo - 2015	ACTIVE	500	2.5	1250	Concrete, Brick	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP42	Stage 2 - AA2	Former fire station area	Western Area Demo - 2015	ACTIVE	175	1	175	Concrete, Brick	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP43	Stage 2 - AA2	South of former water tanks (88 and 89)	Western Area Demo - 2015	ACTIVE	210	1.2	252	Concrete, Brick	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP44	Stage 1	Process West	Western Area Demo - 2015	Stage 1 - South east of AEC_9 Excavation	600	1.8	1080	Soil, Brick	Yes - completed	10	No		Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP45	Stage 3	Process East	Unknown onsite source	Combined with SP91 prior to characterisation	-	-	10	Hydrocarbon stained soil and rubble	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01

Stockpile ID	Location on Site (Remediation Stage)	Location on Site	Source	Backfill Location/ Destination	Dimensions		Est Volume (m3)	Material Description	Soil Sampling Required?	Existing Sample Numbers	Asbestos Present?	Asbestos comment	WARP - Suitable for re-use?	Report Reference
					Basal area (m2)	Average Height								
SP46	Stage 3	Process East	Unknown onsite source	Combined with SP91 prior to characterisation	-	-	5	Hydrocarbon stained soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP47	Stage 3	Process East	Unknown onsite source	Combined with SP91 prior to characterisation	-	-	5	Soil (clay) and bricks	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP48	Stage 3	Process East	Unknown onsite source	Combined with SP91 prior to characterisation	-	-	5	Soil (shale pieces throughout)	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP49	Stage 3	Process East	Unknown onsite source	ACTIVE	-	-	40	Soil - grass covered stockpile	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP50	Stage 3	Process East	Unknown onsite source	ACTIVE	340	0.8	272	Soil with demolition rubble throughout	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP51A	Stage 3	Process East	Unknown onsite source	ACTIVE	130	0.3	39	Soil - hydrocarbon stained	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP51B	Stage 3	Process East	Unknown onsite source	Combined with SP51A prior to characterisation	-	-	5	Soil - hydrocarbon stained	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP52A	Stage 3	Process East	Unknown onsite source	ACTIVE	35	0.5	17.5	Soil - clean river gravels/sand	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP52B	Stage 3	Process East	Unknown onsite source	ACTIVE	25	0.5	12.5	Soil - clean river gravels/sand	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP53	Stage 3	Process East	Unknown onsite source	ACTIVE	345	1	345	Soil, concrete, pipe lagging	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP54	Stage 3	Process East	Unknown onsite source	ACTIVE	25	0.5	30	Soil - sand, dark grey	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP55	Stage 3	WWTP (AEC-6), former sludge drying bay	Unknown onsite source	ACTIVE	95	0.8	76	Soil - Potential ACM identified during RSI works	Yes - completed		Yes		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP56	Stage 3	WWTP (AEC-6), former sludge drying bay	Unknown onsite source, used as earthen bund in sludge drying area	ACTIVE	95	0.8	76	Soil used for bunding of sludge drying bay - Potential ACM identified during RSI works	Yes - completed		Yes		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP57	Stage 3	WWTP (AEC-6), former sludge drying bay	Unknown onsite source, used as earthen bund in sludge drying area	ACTIVE	100	0.8	80	Soil used for bunding of sludge drying bay - Potential ACM identified during RSI works	Yes - completed		Yes		No	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP58A	Stage 3	WWTP (AEC-6), former sludge drying bay	Unknown onsite source, used as earthen bund in sludge drying area	ACTIVE	75	0.8	60	Soil used for bunding of sludge drying bay - Potential ACM identified during RSI works	Yes - completed		Yes		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP58B	Stage 3	WWTP (AEC-6), former sludge drying bay	Unknown onsite source, used as earthen bund in sludge drying area	ACTIVE	75	0.8	60	Soil used for bunding of sludge drying bay - Potential ACM identified during RSI works	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP59	Stage 3	WWTP (AEC-6), former sludge drying bay	Unknown onsite source, used as earthen bund in sludge drying area	ACTIVE	85	0.8	68	Soil used for bunding of sludge drying bay - Potential ACM identified during RSI works	Yes - completed		Yes		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP60	Terminal	Former State Office Building Footprint	Former State Office Demolition (2020)	ACTIVE	775	2	1550	Concrete, bricks	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP61	Terminal	Sludge Bay (central)	Approx 100 x 1m3 'Bulka Bags' of soil/ demolition waste from Gore Bay projects in late 2018	Disposed Offsite	-	-	100	Soil/ Demolition Waste in bulka bags (Gore Bay Terminal?)	Yes - completed		No		No	ERM (2021) Waste Classification Report - SP61, 23rd November 2021
SP62	Terminal	Sludge Bay (south-east)	Approx 20 x 1m3 'Bulka Bags' of soil/ demolition waste from Gore Bay Project completed in early 2019	Disposed Offsite	-	-	20	Soil/ Demolition Waste in bulka bags (Gore Bay Terminal)	Yes - completed		No		No	ERM (2021) Waste Classification Report - SP62, 23rd November 2021
SP63	Stage 2	Tankfarm A1	Sandy material excavated from previously backfilled drainage pits in Western Area, excavated by Ventia	Tankfarm A1 - spread out beneath biopile pad on 7/19/2020	-	-	45	Soil	Yes - completed	4	No	No visible ACM	Yes	N/A
Sandstone VENM	Stage 1	South of AEC-9 - J8/J9/J10//J11	Off site	AEC-9	-	-		Sandstone VENM	Yes - completed	NA	No	No visible ACM	Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)

Stockpile ID	Location on Site (Remediation Stage)	Location on Site	Source	Backfill Location/ Destination	Dimensions		Est Volume (m3)	Material Description	Soil Sampling Required?	Existing Sample Numbers	Asbestos Present?	Asbestos comment	WARP - Suitable for re-use?	Report Reference
					Basal area (m2)	Average Height								
SP64	Stage 1	Stage 1 - Former Process West adjacent SP44	Concrete hardstand from AEC-9 excavation	Handed over to Downer - Stage 1	-	-	1500	Hammered concrete of varying size with large quanity of reo	Yes - completed	NA	No	No visible ACM	Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP65	Stage 1	West of AEC-9	AEC-9 excavation - surface scrape	SP72 & SP73 (Material fed through the screen)	-	-	40	Light brown surface soil with metal	Yes - completed	3	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP66	Stage 1	West of AEC-9	AEC-9 excavation - surface scrape	Handed over to Downer - Stage 1	-	-	35	Dark brown surface soil	Yes - completed	3	No		Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP67	Stage 1	South of AEC-9 - H10/H11	AEC-9 excavation - impacted soil - C9/C10/D9/D10 - 1.6m BGL	Handed over to Downer - Stage 1	-	-	326	Impacted soil	Yes - completed	5	No		Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP68	Stage 1	South of AEC-9 - I10/I11	AEC-9 excavation - impacted soil - C11/D11/E11/F11 - 1.7m BGL	Handed over to Downer - Stage 1	-	-	353	Impacted soil	Yes - completed	4	No		Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP69	Stage 1	South of AEC-9 - H8/H9	AEC-9 excavation - impacted soil - E9/E10/F9/F10 - 1.7m BGL	SP72 & SP73 (Material fed through the screen)	-	-	331	Impacted soil	Yes - completed	N/A	No		N/A	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP70	Stage 1	South of AEC-9 - I9	AEC-9 excavation - less impacted soil	Consolidated with SP68 after SP68 was validated	-	-	3	Clay, less impacted	Yes - completed	N/A	No		N/A	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP71	Stage 1	South of AEC-9 - H4/H5/H6	AEC-9 excavation - impacted soil - E7/E8/F7/F8/E5/E6/F5/F6/E4/F4/C7/C8/ D7/D8/C6/D6/C5/D5 - 1.5m BGL	SP72 & SP73 (Material fed through the screen)	-	-	302	Impacted soil	Yes - completed	N/A	No		N/A	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP72	Stage 1	South of AEC-9 - J1/J2	AEC-9 excavation - screened oversize (50mm +)	Handed over to Downer - Stage 1	-	-	1622	Oversize soil (50mm +)	Yes - completed	N/A	No		No	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP73	Stage 1	South of AEC-9 - J3/J4	AEC-9 excavation - screened undersize (50mm -)	Stage 1 - South of AEC9 - J3/J4	-	-	1267	Undersize soil (50mm -)	Yes - completed	14	No		Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP73a	N/A - combined		Screened oversize from AEC9 (50mm +)	Consolidated to biopiles, SP75, SP76	-	-	355	Clay oversize (odour, staining and localised LNAPL)	Yes - completed	N/A	No		No	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP74	Stage 1		Impacted Soils - B2/B3/C2/B3/D2/D3 - 2.2m BGL	SP72 & SP73 (Material fed through the screen)	-	-	427	Heavy staining / black material observed.	Yes - completed	N/A	No		N/A	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP75	Stage 2	Takfarm A2 - Consolidated into SP96	AEC-9 Excavated Soils (SP72, SP73a)	Consolidated into SP96 following biopile validation	-	-	1003	Biopile 1 of 3 - Tarped and connected to SVE system	Yes - completed	10	No		N/A	ERM 2021 - 0561882_RP10_Stage 1 Biopiles Validation
SP76	Stage 2	Takfarm A2 - Consolidated into SP96	AEC-9 Excavated Soils (SP72, SP73a)	Consolidated into SP96 following biopile validation	-	-	944	Biopile 2 of 3 - Tarped and connected to SVE system	Yes - completed	10	No		N/A	ERM 2021 - 0561882_RP10_Stage 1 Biopiles Validation
SP77	Stage 2	Takfarm A2 - Consolidated into SP96	AEC-9 Excavated Soils (SP72)	Consolidated into SP96 following biopile validation	-	-	427	Biopile 3 of 3 - Tarped and connected to SVE system	Yes - completed	10	No		N/A	ERM 2021 - 0561882_RP10_Stage 1 Biopiles Validation
SP78	Stage 2 - AA1	Tankfarm A2	Road 2 removal - Concrete kerbs	ACTIVE	-	-	400	Road 2 removal - Concrete kerbs	Yes - completed		No		Yes	ERM (2022) - 0561882RP13 - AA1 Validation Report

Stockpile ID	Location on Site (Remediation Stage)	Location on Site	Source	Backfill Location/ Destination	Dimensions		Est Volume (m3)	Material Description	Soil Sampling Required?	Existing Sample Numbers	Asbestos Present?	Asbestos comment	WARP - Suitable for re-use?	Report Reference
					Basal area (m2)	Average Height								
SP79	Stage 2 - AA1	Tankfarm A3	Road 2 removal - Asphalt	ACTIVE	-	-	675	Road 2 removal - Asphalt	Yes - completed		No		Yes	ERM (2022) - 0561882RP13 - AA1 Validation Report
SP80	Stage 2 -AA1	Tankfarm A3	Road 2 removal - Roadbase	ACTIVE	-	-	350	Road 2 removal - Roadbase	Yes - completed	10	No		Yes	1) 0561882_L01_Env Summary 2) 0561882_L03_Interim Asb Clearance_Road 2
SP81	Stage 2 - AA1 and AA3	Tankfarm A3	Road 2 utilities easement trench spoil	ACTIVE	-	-	630	Road 2 utilities easement trench spoil	Yes - completed	10	No		Yes	1) 0561882_L01_Env Summary 2) 0561882_L03_Interim Asb Clearance_Road 2
SP82	Stage 2 - AA1	Grassed Area - NW portion of site	Road 2 utility easement - degrub utility easement within the NE grassed area.	ACTIVE	-	-	206	Road 2 utility easement - degrub utility easement within the NE grassed area.	Yes - completed	9	No		Yes	1) 0561882_L01_Env Summary 2) 0561882_L04_Interim Asb Clearance_Road 2
SP83	Stage 2 - AA1	AA1 - Proposed Lot 52	Sediment Basin extent degrubbing spoil - primarily grass / shrub vegetation (<5% topsoil present)	ACTIVE	-	-	210	Sediment Basin extent degrubbing spoil - primarily grass / shrub vegetation (<5% topsoil present)	Yes - completed		No		Yes	N/A
SP84	Stage 2 - AA2	South of former water tanks (88 and 89)	Excavated material from Sediment Basin Extent - saturated yellow sandstone	ACTIVE	-	-	350	Excavated material from Sediment Basin Extent - saturated yellow sandstone	Yes - completed	0	No		Yes	ERM (2022) - 0561882RP14 - AA2 Validation Report
SP85	Stage 2 - AA3	North of Sediment Basin	Excavated material from Sediment Basin Extent - red clay (saturated)	Landformed North of sediment basin - beneath soil screening area (former Transformer 3 Location)	-	-	1799	Excavated material from Sediment Basin Extent - red clay (saturated)	Yes - completed		No		Yes	N/A
SP86	Stage 2 - AA2	South of former water tanks (88 and 89)	Excavated material from Sediment Basin Extent - grey clay	ACTIVE	-	-	1057	Excavated material from Sediment Basin Extent - grey clay	Yes - completed	0	No		Yes	ERM (2022) - 0561882RP14 - AA2 Validation Report
SP87	Stage 2 - AA3	North of Sediment Basin	Excavated material from Sediment Basin Extent - loamy soil (low% anthropogenic materials present)	Landformed North of sediment basin - beneath soil screening area (former Transformer 3 Location)	-	-	1015	Excavated material from Sediment Basin Extent - loamy soil (low% anthropogenic materials present)	Yes - completed		No		Yes	N/A
SP88	Stage 2 - AA3	North of Sediment Basin	Excavated material from Sediment Basin Extent - loamy soil (low% anthropogenic materials present)	Landformed North of sediment basin - beneath soil screening area (former Transformer 3 Location)	-	-	133	Excavated material from Sediment Basin Extent - loamy soil (low% anthropogenic materials present)	Yes - completed		No		Yes	N/A
SP89	Stage 2 - AA2	South of former water tanks (88 and 89)	Excavated material from Sediment Basin Extent - concrete from historical footings	ACTIVE	-	-	190	Excavated material from Sediment Basin Extent - concrete from historical footings	Yes - completed		No		Yes	ERM (2022) - 0561882RP14 - AA2 Validation Report
SP90	Stage 2 - AA1, AA2 and AA3	Tankfarm A2	Imported material from Stage 1 (Downer) - Saturated clays	ACTIVE	-	-	2800	Imported material from Stage 1 (Downer) - Saturated clays	Yes - completed		No		Yes	0561882_L10_SP90 Cover Letter AA1 Movement of excavated soil from Stage 1 to Stage 2 (Audit Area 1)
SP91	Stage 3	Process East	SP45-48 combined	ACTIVE	180	2	360	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP92	Stage 3	Process East	Unknown onsite source	ACTIVE	60	1	60	Concrete, bricks	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP93	Stage 3	Process East	Unknown onsite source	ACTIVE	10	1	10	Concrete, metal	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP94	Stage 3	Process East	Unknown onsite source	ACTIVE	10	1	10	Soil with building waste	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP95	Stage 3	Process East	Unknown onsite source	ACTIVE	15	1	15	Soil with building waste	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP96	Stage 2 - AA1 & AA2	Tankfarm A2	Biopiles generated from Stage 1 remediation works	ACTIVE	-	-	2,500	Light brown sandy clays	No		No		Yes	ERM 2021 - 0561882_RP10_Stage 1 Biopiles Validation

Stockpile ID	Location on Site (Remediation Stage)	Location on Site	Source	Backfill Location/ Destination	Dimensions		Est Volume (m3)	Material Description	Soil Sampling Required?	Existing Sample Numbers	Asbestos Present?	Asbestos comment	WARP - Suitable for re-use?	Report Reference
					Basal area (m2)	Average Height								
SP97	Stage 2 - AA2	Sample store	Concrete stockpile from Stage 2 AEC remediation areas	ACTIVE	-	-	413	Concrete - uncrushed	No		No		Yes	ERM (2022) - 0561882RP14 - AA2 Validation Report
SP98	Stage 2 - AA3	Stockpile screening area - screened for biopiles	Stockpiled material from AEC-14A, AEC14B, AEC-3A	>50mm fraction to SP102B <50mm fraction to temporary SP102A (final destination SP105 and SP106)			4,215	Red, brown, black clays, impacted with petroleum hydrocarbons	N/A - temporary stockpile		No		N/A	AA3 Validation Report
SP99	Stage 2 - AA2	Removed from site	Unexpected find - concrete encased asbestos pipe from under bridge on Road 12 A (AEC-14B)	Disposed Offsite (GSW-A)			4	Sols impacted with asbestos pipe and concrete	N/A - temporary stockpile		Yes		No	ERM (2022) - 0561882RP14 - AA2 Validation Report
SP100	Stage 2 - AA3	Stockpile screening area	Fill material separating AEC-3A/3B	ACTIVE				Sandy soils with building demolition rubble	Yes - completed		Yes	Suitable for site re-use, subject to no unexpected finds of ACM at finished ground surface once backfilled	Yes	AA3 Validation Report
SP101	Stage 2 - AA3	Stockpile screening area - screened for biopiles	Stockpiled material from AEC-3D	>50mm fraction to SP102B <50mm fraction to temporary SP102A (final destination SP107)			907	Red, brown, black clays, impacted with petroleum hydrocarbons	N/A - temporary stockpile		No		N/A	AA3 Validation Report
SP102A	Stage 2 - AA3	Stockpile screening area - screened for biopiles	Screened undersize materials from stockpiles 98, 101, 103 and 104	Progressively formed into biopiles SP105- SP109			N/A	<50mm homogenous clays	N/A - temporary stockpile		No		N/A	AA3 Validation Report
SP102B	Stage 2 - AA3	Stockpile screening area	Screened oversize materials from stockpiles 98, 101, 103 and 104	ACTIVE			3,724	>50mm oversized materials and clay (bricks, concrete, pipework)	Yes - results TBC		No		To be confirmed	AA3 Validation Report
SP103	Stage 2 - AA3	Stockpile screening area - screened for biopiles	Stockpiled material from AEC-3E	>50mm fraction to SP102B <50mm fraction to biopile SP102A			1,417	Red, brown, black clays, impacted with petroleum hydrocarbons	N/A - temporary stockpile		No		N/A	AA3 Validation Report
SP104	Stage 2 - AA3	Stockpile screening area - screened for biopiles	Stockpiled material from AEC-3E southern wall	>50mm fraction to SP102B <50mm fraction to biopile SP102A			324	Red, brown, black clays, impacted with petroleum hydrocarbons	N/A - temporary stockpile		No		N/A	AA3 Validation Report
SP105	Stage 2 - AA3	Biopad / Tankfarm A1	Stage 2 Biopile - 1 of 5 Screened <50mm fraction from SP98 (AEC-3A, 14A, 14B excavations)	ACTIVE			1,000	Screened (<50mm) homogenous clays, tarped	Yes - results TBC		No		To be confirmed following biopile treatment	AA3 Validation Report
SP106	Stage 2 - AA3	Biopad / Tankfarm A1	Stage 2 Biopile - 2 of 5 Screened <50mm fraction from SP98 (AEC-3A, 14A, 14B excavations)	ACTIVE			1,000	Screened (<50mm) homogenous clays, tarped	Yes - results TBC		No		To be confirmed following biopile treatment	AA3 Validation Report
SP107	Stage 2 - AA3	Biopad / Tankfarm A1	Stage 2 Biopile - 3 of 5 Screened <50mm fraction from SP98 (AEC-3A) and SP101 (AEC-3D excavations	ACTIVE			1,000	Screened (<50mm) homogenous clays, tarped	Yes - results TBC		No		To be confirmed following biopile treatment	AA3 Validation Report
SP108	Stage 2 - AA3	Biopad / Tankfarm A1	Stage 2 Biopile - 4 of 5 (AEC-3E excavation)	ACTIVE			1,000	Screened (<50mm) homogenous clays, tarped	Yes - results TBC		No		To be confirmed following biopile treatment	AA3 Validation Report
SP109	Stage 2 - AA3	Biopad / Tankfarm A1	Stage 2 Biopile - 5 of 5 AEC-3E excavation - post pipe removal)	ACTIVE			800	Screened (<50mm) homogenous clays, tarped	Yes - results TBC		No		To be confirmed following biopile treatment	AA3 Validation Report

Notes:

Dark grey shading illustrates stockpile no longer exists - removed from site or merged with other stockpile/s.

Light grey shading shows stockpiles located outside of the AA2 footprint

ERM

Table 10. Stockpile Validation Results Summary
Clyde WARP - Stage 2 - AA2
Project Number: 0561882

	Asbestos																BTEX							Naphthalene	TRH NEPM (1999)					
	FA- Comment	ACM - Comment	Asbestos Detected	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	AF - Comment	Mass ACM	Mass AF	Mass Asbestos in ACM	Mass Asbestos in FA & AF	Mass asbestos in AF	Mass Asbestos in FA	Mass FA	Organic Fibres - Comment	Respirable Fibres - Comment	Sample weight (dry)	Synthetic Fibres - Comment	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX	Naphthalene	TRH C6-C9 Fraction	TRH >C10-C14 Fraction	TRH >C15-C28 Fraction	TRH >C29-C36 Fraction	TRH >C10-C36 Fraction
	Comment	Comment	Comment	%w/w	%w/w	Comment	g	g	g	g	g	g	g	Comment	COMMENT	g	COMMENT	mg/kg	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	0.2	0.3	0.2	0.5	20	20	50	50	50
Clyde WARP SSTL (Direct Contact - Commercial)																		400							9800					
Clyde WARP SSTL (Direct Contact - Construction Worker)																		1200							67000					
Clyde WARP SSTL (Direct Contact - IMW)																		15000							810000					
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																														
4-6m																		3.2							NL					
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																														
1-1.99m																		3.2							NL					
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																														
2-3.99m																		3.2							NL					
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																														
0-0.99m																		3.2							NL					
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)																		NL							NL					
Clyde WARP SSTL (Vapour Intrusion - IMW)																		NL							NL					
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																														

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number	Sample_Type	SampleComments																										
SP84-1	SP84	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	361	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	51	<50	51
SP84-10	SP84	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	710	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	54	<50	54
SP84-2	SP84	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	307	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<50	<50	<50
SP84-3	SP84	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	508	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<50	<50	<50
SP84-4	SP84	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	445	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	120	940	620	1680
SP84-5	SP84	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#1]	0	0	1[#5]	0	0	0	0	0	0	0	1[#4]	0	506	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	60	<50	60
DUP02_220221	SP84	21/02/2022	869608	Field_D	SP84-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<50	<50	<50
TRIP02_220221	SP84	21/02/2022	ES2207021	Interlab_D	SP84-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	<50	<100	<100	<50
SP84-6	SP84	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	443	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<50	<50	<50
SP84-7	SP84	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	353	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	88	140	228
SP84-8	SP84	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	581	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	59	<50	59
SP84-9	SP84	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	320	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	60	60	120
SP86-1	SP86	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	385	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	150	140	290
SP86-10	SP86	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	232	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	39	380	220	639
SP86-2	SP86	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	470	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	60	67	127
SP86-3	SP86	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	399	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	82	88	170
SP86-4	SP86	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	679	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	80	75	155
SP86-5	SP86	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	620	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	100	170	270
DUP03_220221	SP86	21/02/2022	869608	Field_D	SP86-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<50	<50	<50
TRIP03_220221	SP86	21/02/2022	ES2207021	Interlab_D	SP86-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	<50	<100	<100	<50
SP86-6	SP86	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	221	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	180	140	320
SP86-7	SP86	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	526	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	160	120	280
SP86-8	SP86	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	516	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	120	100	220
SP86-9	SP86	21/02/2022	869608	Normal		1[#5]	1[#5]	1[#2]	0	0	1[#5]	0	0	0	0	0	0	0	1[#5]	1[#3]	393	1[#5]	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	150	140	290

Statistical Summary

Number of Results	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	24	24	24	24	24	24	2	24	24	24	24	24	24
Number of Detects	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0	0	0	0	0	0	0	0	0	2	17	13	17
Minimum Concentration	1	1	1	0	0	1	0	0	0	0	0	0	0	1	0	221	1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.2	<0.5	<10	<20	<50	<50	<50
Minimum Detect	1	1	1	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	1	1	221	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	39	51	60	51
Maximum Concentration	1	1	1	0	0	1	0	0	0	0	0	0	0	1	1	710	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<20	120	940	620	1680
Maximum Detect	1	1	1	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	1	1	710	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	120	940	620	1680
Average Concentration	1	1	1	0	0	1	0	0	0	0	0	0	0	1	0.95	449	1	0.054	0.067	0.067	0.067	0.11	0.16		0.27	9.6	17	125	100	216
Median Concentration	1	1	1	0	0	1	0	0	0	0	0	0	0	1	1	444	1	0.05	0.05	0.05	0.05	0.1	0.15	0.1	0.25	10	10	60	63.5	123.5
Standard Deviation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.22	135	0	0.014	0.056	0.056	0.056	0.042	0.028		0.071	1.4	23	190	124	345
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Data Comments

#1 No asbestos detected at the reporting limit of 0.01% w/w.Synthetic mineral fibre detected.Organic fibre detected.No trace asbestos detected.
#2 No asbestos detected at the reporting limit of 0.01% w/w.Organic fibre detected.No trace asbestos detected.
#3 No trace asbestos detected.
#4 Organic fibres detected.
#5 Nil

ERM

Table 10. Stockpile Validation Results Summary
Clyde WARP - Stage 2 - AA2
Project Number: 0561882

	TRH NEPM (2013)						TRH	Inorganics	PAH/Phenols																			
	TRH C6-C10 Fraction	TRH C6-C10 less BTEX	TRH >C10-C16 Fraction	TRH >C10-C16 Fraction less N	TRH >C16-C34 Fraction	TRH >C34-C40 Fraction	TRH >C10-C40	Moisture Content (dried @ 103°C)	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ (lower bound)*	Benzo(a)pyrene TEQ (upper bound)*	Benzo(a)pyrene TEQ (medium bound)*	Benzo(b&j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	Pyrene	PAHs (Sum of total)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	20	20	50	50	100	100	100	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Clyde WARP SSTL (Direct Contact - Commercial)		28000		17000	27000	27000										40											
Clyde WARP SSTL (Direct Contact - Construction Worker)		69000		45000	64000	64000										200											
Clyde WARP SSTL (Direct Contact - IMW)		830000		540000	770000	770000										3000											
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																											
4-6m		NL		NL																							
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																											
1-1.99m		770		NL																							
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																											
2-3.99m		NL		NL																							
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																											
0-0.99m		600		NL																							
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)		NL		NL																							
Clyde WARP SSTL (Vapour Intrusion - IMW)		NL		NL																							
NEPM (1999) Management Limits - Commercial/Industrial (coarse)	700		1000		3500	10000																					

Field_ID	Location_Code	Sampled_Date_Time	Lab_Report_Number	Sample_Type	SampleComments																								
SP84-1	SP84	21/02/2022	869608	Normal		<20	<20	<50	<50	<100	<100	<100	12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP84-10	SP84	21/02/2022	869608	Normal		<20	<20	<50	<50	<100	<100	<100	12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP84-2	SP84	21/02/2022	869608	Normal		<20	<20	<50	<50	<100	<100	<100	9.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP84-3	SP84	21/02/2022	869608	Normal		<20	<20	<50	<50	<100	<100	<100	8.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP84-4	SP84	21/02/2022	869608	Normal		<20	<20	250	250	1300	430	1980	5.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1
SP84-5	SP84	21/02/2022	869608	Normal		<20	<20	<50	<50	<100	<100	<100	8.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
DUP02_220221	SP84	21/02/2022	869608	Field_D	SP84-5	<20	<20	<50	<50	<100	<100	<100	5.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRIP02_220221	SP84	21/02/2022	ES2207021	Interlab_D	SP84-5	<10	<10	<50	<50	<100	<100	<50	11.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP84-6	SP84	21/02/2022	869608	Normal		<20	<20	<50	<50	<100	<100	<100	10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP84-7	SP84	21/02/2022	869608	Normal		<20	<20	<50	<50	190	140	330	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP84-8	SP84	21/02/2022	869608	Normal		<20	<20	<50	<50	<100	<100	<100	8.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP84-9	SP84	21/02/2022	869608	Normal		<20	<20	<50	<50	100	<100	100	10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP86-1	SP86	21/02/2022	869608	Normal		<20	<20	<50	<50	260	120	380	8.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP86-10	SP86	21/02/2022	869608	Normal		<20	<20	64	64	520	150	734	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP86-2	SP86	21/02/2022	869608	Normal		<20	<20	<50	<50	120	<100	120	12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP86-3	SP86	21/02/2022	869608	Normal		<20	<20	<50	<50	150	<100	150	11	<1	<1	<1	<1	<1	<1	2.4	1.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SP86-4	SP86	21/02/2022	869608	Normal		<20	<20	<50	<50	140	<100	140	6.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP86-5	SP86	21/02/2022	869608	Normal		<20	<20	<50	<50	220	210	430	6.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
DUP03_220221	SP86	21/02/2022	869608	Field_D	SP86-5	<20	<20	<50	<50	<100	<100	<100	15	<1	<1	<1	<1	<1	<1	2.4	1.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TRIP03_220221	SP86	21/02/2022	ES2207021	Interlab_D	SP86-5	<10	<10	<50	<50	110	<100	110	8.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP86-6	SP86	21/02/2022	869608	Normal		<20	<20	<50	<50	280	130	410	7.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP86-7	SP86	21/02/2022	869608	Normal		<20	<20	<50	<50	240	120	360	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP86-8	SP86	21/02/2022	869608	Normal		<20	<20	<50	<50	190	110	300	16	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SP86-9	SP86	21/02/2022	869608	Normal		<20	<20	<50	<50	260	110	370	7.9	<1	<1	<1	<1	<1	<1	2.4	1.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Statistical Summary

Number of Results	24	24	24	24	24	24	24	24	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
Number of Detects	0	0	2	2	14	9	14	24	0	0	0	0	0	0	22	22	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<10	<10	<50	<50	<100	<100	<50	5.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Minimum Detect	ND	ND	64	64	100	110	100	5.7	ND	ND	ND	ND	ND	ND	1.2	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<20	<20	250	250	1300	430	1980	16	<1	<1	<1	<1	<1	<1	2.4	1.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Maximum Detect	ND	ND	250	250	1300	430	1980	16	ND	ND	ND	ND	ND	ND	2.4	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration	9.6	9.6	36	36	191	95	266	10	0.28	0.28	0.28	0.28	0.28	0.28	1.4	0.68	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.3	0.3
Median Concentration	10	10	25	25	115	50	115	9.95	0.25	0.25	0.25	0.25	0.25	0.25	1.2	0.6	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Standard Deviation	1.4	1.4	46	46	262	84	408	3	0.088	0.088	0.088	0.088	0.088	0.088	0.42	0.21	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.099	0.099
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Data Comments

#1 No asbestos detected at the reporting limit of 0.01% w/w.Synthetic mineral fibre detected.Organic fibre detected.No tra
#2 No asbestos detected at the reporting limit of 0.01% w/w.Organic fibre detected.No trace asbestos detected.
#3 No trace asbestos detected.
#4 Organic fibres detected.
#5 Nil

HISTORICAL TABLES

	BTEX							Naphthalene	TRH NEPM (1999)							TRH NEPM (2013)							TRH Silica Gel Cleanup								
	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX	Naphthalene	TRH C6-C9 Fraction	TRH >C6-C10 Fraction	TRH >C10-C14 Fraction	TRH >C15-C28 Fraction	TRH >C15-C36 Fraction	TRH >C29-C36 Fraction	TRH >C10-C36 Fraction	TRH C6-C10 Fraction	TRH C6-C10 less BTEX	TRH >C10-C16 Fraction	TRH >C10-C16 Fraction less N	TRH >C16-C34 Fraction	TRH >C10-C40 Fraction	TRH >C34-C40 Fraction	TRH >C10-C16 Fraction SG less Naphthalene	TRH >C10-C14 Silica Gel Cleanup	TRH >C10-C16 Silica Gel Cleanup	TRH >C10-C36 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C15-C28 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C29-C36	TRH >C34-C40 Silica Gel Cleanup
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.1	0.2	0.05	0.2	0.1	10	20	20	50		50	50	10	10	50	50	100	50	100	50	20	50	50	50	50	100	50	100
Clyde WARP SSTL (Direct Contact - Commercial)	400							9800									28000		17000	27000		27000									
Clyde WARP SSTL (Direct Contact - Construction Worker)	1200							67000									69000		45000	64000		64000									
Clyde WARP SSTL (Direct Contact - IMW)	15000							810000									830000		540000	770000		770000									
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																															
4-6m	3.2							NL									NL		NL												
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																															
1-1.99m	3.2							NL									770		NL												
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																															
2-3.99m	3.2							NL									NL		NL												
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																															
0-0.99m	3.2							NL									600		NL												
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)	NL							NL									NL		NL												
Clyde WARP SSTL (Vapour Intrusion - IMW)	NL							NL									NL		NL												
NEPM (1999) HIL D - Commercial/Industrial																															
NEPM (1999) HSL D Comm/Indust - Asbestos																															
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																700		1000		3500		10000			1000				3500		10,000

Alternative_Name	Monitoring_Zone	Location_Code	Field_ID	Sample_Depth_Range	Sampled_Date_Time																												
Lot 60	2	MW12/04	MW12/04_0.1	0.1-0.1	27/02/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-
Lot 60	2	MW12/04	MW12/04_4.7	4.7-4.7	27/02/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-
Lot 60	2	SB10B	SB10B_0.5	0.4-0.6	2/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 60	2	SB10B	SB10B_1.0	0.9-1.1	2/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1 - 2	<10	-	440	1250	-	230	1920	<10	<10	560	560	1340	2030	130	-	-	-	-	-	-	-	-	-
Lot 60	2	SB7B	SB7B_1.0	0.9-1.1	2/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 60	2	SB7B	SB7B_2.0	1.9-2	2/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 60	2	SB8B	SB8B_0.2	0.2-0.4	2/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	150	-	300	450	<10	<10	<50	<50	340	580	240	-	-	-	-	-	-	-	-	-
Lot 60	2	SB8B	SB8B_1.0	0.9-1.1	2/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 60	2	SB9B	SB9B_1.0	0.9-1.1	1/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	390	-	100	490	<10	<10	60	60	440	500	<100	-	-	-	-	-	-	-	-	-
Lot 60	2	SB9B	SB9B_2.0	1.9-2	1/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	1080	-	430	1510	<10	<10	<50	<50	1380	1640	260	-	-	-	-	-	-	-	-	-
Lot 60	2	TP18/29	TP18/29_0.3	0.3-0.3	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	90	450	-	210	750	<10	<10	260	260	470	870	140	170	60	170	280	330	220	160	<100	<100
Lot 60	2	TP18/29	TP18/29_1.2	-1.2	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP18/29	QC18_100	1.2-1.2	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	390	2610	-	850	3850	<10	<10	530	530	3050	4080	500	-	-	-	-	-	-	-	-	-
Lot 60	2	TP18/29	TP18/29_1.2	1.2-1.2	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	350	2630	-	780	3760	<10	<10	580	580	2990	4000	430	80	<50	80	820	930	580	710	240	140
Lot 60	2	TP18/29	TP18/29_2.2	2.2-2.2	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	400	2000	-	460	2860	<10	<10	560	560	2180	3070	330	600	350	600	1780	1750	1240	1150	190	<100
Lot 60	2	TP18/29	TP18/29_3.0	-3	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP18/29	TP18/29_3.0	3-3	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	220	660	-	<100	880	<10	<10	320	320	590	910	<100	70	<50	70	240	320	240	250	<100	<100
Lot 60	2	TP19/14	TP19/14_1.0	0.9-1.1	18/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	9.1	-	<20	480	1500	-	160	2140	<20	<20	800	790.9	1200	2000	<100	-	250	400	750	-	500	350	<50	<100
Lot 60	2	TP19/14	TP19/14_3.0	2.9-3.1	18/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	1.2 - 3.6	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-
Lot 60	2	TP19/15	TP19/15_0.8	0.7-0.9	18/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	25	2000	-	1500	3525	<20	<20	69	69	2900	3549	580	-	<20	<50	290	-	180	270	110	<100
Lot 60	2	TP19/15	TP19/15_2.0	1.9-2.1	18/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-
Lot 61	3	MW11/18	MW11/18_0.3	0.3-0.3	22/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50 - 430	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	430	-
Lot 61	3	MW11/18	MW11/18_3.2	3.2-3.2	22/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 63	3	MW11/19	D_230911_01	0.4-0.4	22/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	490	-	-	-	490 - 2600	-	-	-	-	-	-	-	-	-	-	-	-	1200	-	920	-
Lot 63	3	MW11/19	MW11/19_0.4	0.4-0.4	23/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	350	-	-	-	350 - 1700	-	-	-	-	-	-	-	-	-	-	-	-	750	-	630	-
Lot 63	3	MW11/19	MW11/19_2.3	2.3-2.3	22/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<5	11	-	1100	-	-	-	1100 - 3200	-	-	-	-	-	-	-	-	-	-	-	-	1800	-	340	-
Lot 62	3	MW11/20	MW11/20_0.2	0.2-0.2	23/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<5	<10	-	<50	-	-	-	<50 - 1200	-	-	-	-	-	-	-	-	-	-	-	-	350	-	860	-
Lot 62	3	MW11/20	MW11/20_5.0	5-5	22/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 63	3	MW12/03	MW12/03_1.0	1-1	27/02/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	11 - 12	190	-	1200	1100	1150	<100	2300 - 2350	280	280	1600	1600	600	-	<100	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03_3.3	3.3-3.3	27/02/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	0.8	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 60	3	SB1B	SB1B_0.5	0.4-0.6	2/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	10	-	1580	5720	-	120	7420	26	26	2280	2280	5250	7530	<100	-	-	-	-	-	-	-	-	-
Lot 60	3	SB1B	SB1B_2.0	1.9-2	2/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 60	3	SB1B	T02_020218	1.9-2	2/02/2018	<0.2	<0.5	<1	<1	<2	<1	-	<0.1	-	<25	<50	-	-	-	-	<25	<25	<50	<50	<100	<50	<100	-	-	-	-	-	<100	-	<100	-
Lot 63	3	SB2B	D02_020218	0.9-1.1	2/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	16	-	310	670	-	<100	980	38	38	430	430	580	1010	<100	-	-	-	-	-	-	-	-	-
Lot 63	3	SB2B	SB2B_1.0	0.9-1.1	2/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	31	-	340	720	-	<100	1060	65	65	460	460	630	1090	<100	-	-	-	-	-	-	-	-	-
Lot 63	3	SB2B	SB2B_2.0	1.9-2	2/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5 - 1	<10	-	280	<100	-	<100	280	14	14	310	310	<100	310	<100	-	-	-	-	-	-	-	-	-
Lot 63	3	SB3B	SB3B_0.2	0.2-0.4	2/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	120	900	-	320	1340	<10	<10	260	260	1010	1440	170	-	-	-	-	-	-	-	-	-
Lot 63	3	SB3B	SB3B_1.0	0.9-1.1	2/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 63	3	SB3B	SB3B_2.0	1.9-2	2/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 63	3	SB4B	SB4B_0.2	0.2-0.4	5/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	110	-	170	280	<10	<10	<50	<50	240	370	130	-	-	-	-	-	-	-	-	-
Lot 63	3	SB4B	SB4B_2.0	1.9-2	5/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	100	-	<100	100	<10	<10	<50	<50	140	140	<100	-	-	-	-	-	-	-	-	-
Lot 60	3	TP18/18	TP18/18_0.3	-0.3	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	3	TP18/18	TP18/18_0.3	0.3-0.3	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	260	-	290	550	<10	<10	<50	<50	460	660	200	<50	<50	<50	<50	<50	<100	<100	<100	<100
Lot 60	3	TP18/18	TP18/18_1.2	-1.2	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	3	TP18/18	TP18/18_1.2	1.2-1.2	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	160	-	250	410	<10	<10	<50	<50	320	520	200	<50	<50	<50	<50	<50	<100	<100	<100	<100
Lot 60	3	TP18/18	TP18/18_3.0	3-3	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/19	TP18/19_0.3	0.3-0.3	7/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/19	TP18/19_1.2	1.2-1.2	7/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/19	TP18/19_3.0	3-3	7/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/22	TP18/22_0.3	-0.3	7/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/22	TP18/22_0.3	0.3-0.3	7/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/22	TP18/22_1.2	-1.2	7/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	BTEX							Naphthalene	TRH NEPM (1999)							TRH NEPM (2013)							TRH Silica Gel Cleanup									
	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX	Naphthalene	TRH C6-C9 Fraction	TRH >C6-C10Fraction	TRH >C10-C14 Fraction	TRH >C15-C28 Fraction	TRH >C15-C36 Fraction	TRH >C29-C36 Fraction	TRH >C10-C36 Fraction	TRH C6-C10 Fraction	TRH C6-C10 less BTEX	TRH >C10-C16 Fraction	TRH >C10-C16 Fraction less N	TRH >C16-C34 Fraction	TRH >C10-C40 Fraction	TRH >C34-C40 Fraction	TRH >C10-C16 Fraction SG less Naphthalene	TRH >C10-C14 Silica Gel Cleanup	TRH >C10-C16 Silica Gel Cleanup	TRH >C10-C36 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C15-C28 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C29-C36	TRH >C34-C40 Silica Gel Cleanup
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.1	0.2	0.05	0.2	0.1	10	20	20	50	-	50	50	10	10	50	50	100	50	100	50	20	50	50	50	50	100	50	100	
Clyde WARP SSTL (Direct Contact - Commercial)	400							9800									28000		17000	27000		27000										
Clyde WARP SSTL (Direct Contact - Construction Worker)	1200							67000									69000		45000	64000		64000										
Clyde WARP SSTL (Direct Contact - IMW)	15000							810000									830000		540000	770000		770000										
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m 4-6m	3.2							NL									NL		NL													
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m 1-1.99m	3.2							NL									770		NL													
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m 2-3.99m	3.2							NL									NL		NL													
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m 0-0.99m	3.2							NL									600		NL													
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)	NL							NL									NL		NL													
Clyde WARP SSTL (Vapour Intrusion - IMW)	NL							NL									NL		NL													
NEPM (1999) HIL D - Commercial/Industrial																																
NEPM (1999) HSL D Comm/Induct - Asbestos																																
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																700		1000		3500		10000			1000				3500		10,000	

Alternative_Name	Monitoring_Zone	Location_Code	Field_ID	Sample_Depth_Range	Sampled_Date_Time																													
Lot 63	3	TP18/22	TP18/22_1.2	1.2-1.2	7/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-
Lot 63	3	TP18/22	TP18/22_3.0	3-3	7/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-
Lot 63	3	TP19/16	TP19/16_0.8	0.7-0.9	17/07/2019	<0.1	0.3	0.3	0.9	0.7	1.6	-	5.6 - 8.3	-	<20	1200	37,000	-	18,000	56,200	34	32	3200	3194.4	47,000	55,900	5700	-	890	2400	18,290	-	14,000	14,000	3400	810
Lot 63	3	TP19/16	TP19/16_1.2	1.1-1.3	17/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-
Lot 63	3	TP19/17	TP19/17_0.5	0.4-0.6	18/07/2019	0.3	<0.1	4.5	<0.1	2.4	2.4	-	6.3 - 11	-	280	2200	4400	-	260	6860	340	330	3500	3493.7	3000	6500	<100	-	1200	2000	3694	-	2400	1600	94	<100
Lot 63	3	TP19/17	TP19/17_3.5	3.4-3.6	18/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	69	150	-	<50	219	<20	<20	120	120	130	250	<100	-	27	51	117	-	90	<100	<50	<100
Lot 63	3	TP19/18	TP19/18_0.3	0.2-0.4	17/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-
Lot 63	3	TP19/18	TP19/18_0.6	0.5-0.7	17/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-
Lot 63	3	TP19/33	DOI_240719	0.2-0.4	24/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	67	67	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-
Lot 63	3	TP19/33	T01_240719	0.2-0.4	24/07/2019	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	120	120	<100	-	-	-	-	-	-	-	-
Lot 63	3	TP19/33	TP19/33_0.3	0.2-0.4	24/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-
Lot 63	3	TP19/33	TP19/33_0.5	0.4-0.6	24/07/2019	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP19/33	TP19/33_1.2	1.1-1.3	24/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-
Lot 63	3	TP19/34	TP19/34_0.3	0.2-0.3	24/07/2019	<0.2	<0.2	0.3	0.6	1.2	1.8	-	<0.5	-	<40	<20	370	-	230	600	<40	<40	<50	<50	530	630	100	-	-	-	-	-	-	-	-
Lot 63	3	TP19/34	TP19/34_0.7	0.6-0.8	24/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-
Lot 60	3	TP19/35	TP19/35_0.7	0.6-0.8	23/07/2019	<0.5	<1	<0.5	<0.5	<1	<1.5	-	3.2 - 4.1	-	<100	720	630	-	<50	1350	<100	<100	960	955.9	350	1310	<100	-	610	830	1140	-	530	270	<50	<100
Lot 60	3	TP19/35	TP19/35_0.1	0-0.2	23/07/2019	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	5210	-	9500	14,700	<10	<10	410	410	9470	25,500	15,600	-	-	-	-	-	-	-	-
Road alignment	8	TP19/07	TP19/07_0.4	0.3-0.5	2/08/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	550	2300	-	73	2923	<20	<20	1300	1300	1500	2800	<100	-	140	320	670	-	530	330	<50	<100
Road alignment	8	TP19/07	TP19/07_0.1	0-0.2	2/08/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	41	1500	-	130	1671	<20	<20	220	220	1300	1520	<100	-	<20	<50	150	-	150	130	<50	<100
Road alignment	11	BH12/34	D_140312_01	-0.3	14/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	29	-	460	530	580	<100	990 - 1040	63	63	700	700	300	-	<100	-	-	-	-	-	-	-	-
Road alignment	11	BH12/34	BH12/34_0.3	0.3-0.3	14/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	11	-	200	220	270	<100	420 - 470	25	25	300	300	120	-	<100	-	-	-	-	-	-	-	-
Road alignment	11	BH12/34	BH12/34_0.6	0.6-0.6	14/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	85	-	820	860	910	<100	1700 - 1730	200	200	1200	1200	470	-	<100	-	-	-	-	-	-	-	-
Road alignment	11	BH12/34	BH12/34_1.1	1.1-1.1	14/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	35	-	93	110	160	<100	200 - 253	67	67	140	140	<100	-	<100	-	-	-	-	-	-	-	-
Lot 59	11	BH12/35	BH12/35_0.1	0.1-0.1	14/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	680	3800	4580	780	5260 - 5300	<20	<20	1600	1600	3700	-	290	-	-	-	-	-	-	-	-
Lot 59	11	BH12/35	BH12/35_1.05	1.05-1.05	14/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	2.4	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-
Lot 59	11	SB18/12	SB18/12_0.3_20180214	0.3-0.3	14/02/2018	<0.2	<0.5	1.7	<0.5	6.5	6.5	8.2	23	87	-	2520	6400	-	460	9380	149	141	3700	3680	5500	9350	150	2020	1530	2040	4430	4270	2730	2230	170	<100
Lot 59	11	SB18/12	SB18/12_1.2_20180214	-1.2	14/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	20.4 - 26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	SB18/12	SB18/12_1.2_20180214	1.2-1.2	14/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	29	28	-	660	1660	-	200	2520	66	66	1000	970	1430	2570	140	680	480	710	1440	1480	960	770	<100	<100
Lot 59	11	SB18/12	SB18/12_2.1_20180214	-2.1	14/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	SB18/12	SB18/12_2.1_20180214	2.1-2.1	14/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 59	11	SB18/16	SB18/16_0.3_20180214	-0.3	14/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	SB18/16	SB18/16_0.3_20180214	0.3-0.3	14/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	44	-	670	3030	-	710	4410	56	56	1150	1150	3050	4550	350	710	420	710	2310	2250	1590	1540	300	<100
Lot 59	13	TP19/56	TP19/56_0.2	0.1-0.3	1/08/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	14	TP19/02	TP19/02_0.2	0.1-0.3	30/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	250	-	290	540	<20	<20	<50	<50	460	600	140	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06_0.5	0.5-0.5	20/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 59	15	MW11/06	MW11/06_2.2	2.2-2.2	20/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Road alignment	15	MW11/07	MW11/07_0.5	0.5-0.5	20/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Road alignment	15	MW11/07	MW11/07_1.0	1-1	20/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	180	-	-	-	180 - 530	-	-	-	-	-	-	-	-	-	-	-	-	350	-	<100	-
Road alignment	15	MW11/07	MW11/07_5.0	5-5	20/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 60	15	MW11/09	MW11/09_1.0	1-1	21/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 60	15	MW11/09	MW11/09_3.3	3.3-3.3	21/09/2011	<0.5	<0.5	<0.5	<1	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 60	15	MW11/14	MW11/14_0.3	0.3-0.3	23/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50 - 840	-	-	-	-	-	-	-	-	-	-	-	-	430	-	410	-
Lot 60	15	MW11/14	MW11/14_2.8	2.8-2.8	23/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 63	15	MW12/02	MW12/02_0.15	0.15-0.15	27/02/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 63	15	MW12/02	MW12/02_5.5	5.5-5.5	27/02/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 63	15	SB6B	D03_050218	0.9-1.1	5/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 63	15	SB6B	SB6B_1.0	0.9-1.1	5/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 63	15	SB6B	SB6B_2.0	1.9-2	5/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 59	15	TP18/15	TP18/15_0.3_180209	-0.3	9/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	TP18/15	TP18/15_0.3-180209	0.3-0.3	9/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Road alignment	15	TP18/31	TP18/31_0.3_20180208	0.3-0.3	8/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	160	1090	-	390	1640	<10	<10	320	320	1220	1730	190	120	90	120	860	770	610	650	160	<100
Road alignment	15	TP18/31	TP18/31_1.2_20180208	-1.2	8/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Road alignment	15	TP18/31	TP18/31_1.2_20180208	1.2-1.2	8/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	22	-	300	1390	-	310	2000	38	38	590	590	1320	2070	160	220	80	220	850	910	630	690	140	<100
Road alignment	15	TP18/31	TP18/31_3.0_20180208	-3	8/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	TP18/31	TP18/31_3.0_20180208	3-3	8/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	100	450	-	<100	550	<10	<10	200	200	430	630	<100	60	<50	60	250	280	250	220	<100	<100
Lot 63	15	TP18/35	TP18/35_0.3	0.3-0.3	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 63	15	TP18/35	TP18/35_1.2	-1.2	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	TP18/35	TP18/35_1.2	1.2-1.2	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	22	-	710	380	-	<100	1090	36	36	830	830	120	950	<100	300	200	300	550	570	350	270	<100	<100
Lot 63	15	TP18/35	TP18/35_2.2	-2.2	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	TP18/35	TP18/35_2.2	2.2-2.2	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 59	15	TP19/03	TP19/03_0.1	0-0.2	24/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-
Lot 59	15	TP19/37	TP19/37_0.2	0.1-0.3	24/07/2019	<0.2	<0.2	<0.2	<0.2	<0.4	<0.6	-	<1 - 1.6	-	<40	<40	7300	-	3200	10,500	<40	<40	350	350	8800	10,250	1100	-	-	-	-	-	-	-	-	-
Lot 59	15	TP19/37	TP19/37_1.0	0.9-1.1	24/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-
Lot 59	15	TP19/38	TP19/38_0.3	0.2-0.4	24/07/2019	<0.2	<0.2	<0.2	<0.2	<0.4	<0.6	-	<0.5	-	<40	<20	<50	-	<50	<50	<40	<40	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-
Lot 59	15	TP19/38	TP19/38_2.0	1.9-2.1	24/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/07	TP21/07_0.5	0.5	10/03/2021	0.2	0.1	0.3	0.1	0.7	0.9	-	3.8 - 4.7	56	56	2800	9400	-	5800	18,000	230	230	3900	3896.2	12,000	15,900	<100	-	2600	3600	9500	-	5300	5800	1600	600
Lot 59	59	TP21/07	TP21/07_1.5	1.5	10/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	31	210	-	250	491	<20	<20	51	51	390	641	200	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 59	59	TP21/08	TP21/08_1.1	1.1	10/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5 - 0.9	<20	<20	210	1200	-	690	2100	31	31	380	380	1600	2330	350	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 59	59	TP21/08	TP21/08_1.5	1.5	10/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5 - 1	<20	<20	<20	<50	-	58	58	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	160	-	160	200	<100	<100
Lot 59	59	TP21/09	TP21/09_1.0	1	10/03/2021	<0.1	<0.1	0.1	<0.1	0.3	<0.3	-	<0.5 - 1.2	27	27	30	360	-	330	720	39	39	<50	<50	610	800	190	-	200	210	200	-	<100	<100	<100	<100
Lot 59	59	TP21/09	TP21/09_1.6	1.6	10/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	29	29	590	200	-	65	855	95	95	610	610	180	790	<100	-	520	530	680	-	160	110	<100	<100
Lot 59	59	TP21/09	TP21/09_2.2	2.2	10/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<20	78	-	95	173	<20	<20	<50	<50	150	150	<100	-	<50	<50	<100	-	<100	<100	<100	<100

					BTEX						Naphthalene	TRH NEPM (1999)							TRH NEPM (2013)							TRH Silica Gel Cleanup								
					Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX	Naphthalene	TRH C6-C9 Fraction	TRH >C6-C10 Fraction	TRH >C10-C14 Fraction	TRH >C15-C28 Fraction	TRH >C15-C36 Fraction	TRH >C29-C36 Fraction	TRH >C10-C36 Fraction	TRH C6-C10 Fraction	TRH C6-C10 less BTEX	TRH >C10-C16 Fraction	TRH >C10-C16 Fraction less N	TRH >C16-C34 Fraction	TRH >C16-C40 Fraction	TRH >C34-C40 Fraction	TRH >C10-C16 Fraction SG less Naphthalene	TRH >C10-C14 Silica Gel Cleanup	TRH >C10-C16 Silica Gel Cleanup	TRH >C10-C36 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C15-C28 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C29-C36	TRH >C34-C40 Silica Gel Cleanup
EQL					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
					0.05	0.05	0.05	0.1	0.2	0.05	0.2	0.1	10	20	20	50	-	50	50	10	10	50	50	100	50	100	50	100	50	20	50	50	50	100	50	100
Clyde WARP SSTL (Direct Contact - Commercial)					400						9800										28000			17000	27000		27000							
Clyde WARP SSTL (Direct Contact - Construction Worker)					1200						67000										69000			45000	64000		64000							
Clyde WARP SSTL (Direct Contact - IMW)					15000						810000										830000			540000	770000		770000							
Clyde WARP SSTL (Vapour Intrusion - Commercial) >4m 4-6m					3.2						NL										NL			NL										
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m 1-1.99m					3.2						NL										770			NL										
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m 2-3.99m					3.2						NL										NL			NL										
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m 0-0.99m					3.2						NL										600			NL										
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)					NL						NL										NL			NL										
Clyde WARP SSTL (Vapour Intrusion - IMW)					NL						NL										NL			NL										
NEPM (1999) HIL D - Commercial/Industrial																																		
NEPM (1999) HSL D Comm/Induct - Asbestos																																		
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																				700		1000		3500		10000			1000			3500		10,000
Alternative_Name	**Monitoring_Zone**	**Location_Code**	**Field_ID**	**Sample_Depth_Range**	**Sampled_Date_Time**																													
Lot 59	59	TP21/42	TP21/42_0.2	0.2	15/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5 - 1.5	-	<20	70	3300	-	1600	5800	<20	<20	210	210	4500	5560	850	-	55	170	4000	-	2600	3200	780	330
Lot 59	59	TP21/42	DUP05_210315	0.7	15/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	1.4	-	<20	150	680	-	190	1300	<20	<20	260	258.6	870	1320	190	-	67	130	520	-	350	380	<100	<100
Lot 59	59	TP21/42	TP21/42_0.7	0.7	15/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	-	<20	29	230	-	190	530	<20	<20	61	61	370	581	150	-	<50	<50	160	-	140	180	<100	<100
Lot 59	59	TP21/42	TRIP05_210315	0.7	15/03/2021	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	+	<10	<50	140	-	<100	140	<10	<10	<50	<50	170	170	<100	<50	<50	<50	<50	<50	<100	<100	<100	<100
Lot 59	59	TP21/64	TP21/64_1.0	1	16/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5 - 0.5	+	<20	1300	4800	-	750	6850	68	68	3100	3100	3700	7040	240	-	<50	81	170	-	170	160	<100	<100
Lot 59	59	TP21/64	TP21/64_2.0	2	16/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	33	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	+	<100	<100	<100	<100
Lot 59	59	TP21/66	DUP06_210316	1	16/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	+	<100	<100	<100	<100
Lot 59	59	TP21/66	TP21/66_1.0	1	16/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	+	<100	<100	<100	<100
Lot 59	59	TP21/66	TRIP06_210316	1	16/03/2021	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	+	<10	+	+	+	+	+	<10	<10	-	-	-	-	-	<50	<50	<50	<50	<50	<100	<100	<100	<100
Lot 59	59	TP21/66	TP21/66_2.0	2	16/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	+	<50	<50	<100	+	<100	<100	<100	<100
Lot 60	60	TP21/10	TP21/10-0.5	0.5	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	130	+	170	300	<20	<20	<50	<50	230	330	100	-	<50	<50	220	-	100	180	120	<100
Lot 60	60	TP21/10	TP21/10-1.2	1.2	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	+	<50	<50	<100	+	<100	<100	<100	<100
Lot 60	60	TP21/11	TP21/11-0.5	0.5	9/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	3800	+	2700	6500	<20	<20	<50	<50	6600	7310	710	+	<50	<50	8900	+	5500	10,000	3400	830
Lot 60	60	TP21/11	TP21/11-2.0	2	9/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	+	<50	<50	<100	+	<100	<100	<100	<100
Lot 60	60	TP21/16	TP21/16_2.0	2	11/03/2021	<0.1	<0.1	0.2	0.4	0.3	0.6	+	2.5	+	<20	61	<50	+	<50	61	<20	<20	<50	<50	<100	<100	<100	+	<50	<50	<100	+	<100	<100	<100	130
Lot 60	60	TP21/17	TP21/17_1.0	1	11/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	39	150	+	84	273	<20	<20	57	57	150	257	<100	+	<50	52	100	+	100	140	<100	100
Lot 60	60	TP21/17	TP21/17_2.2	2.2	11/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	+	<50	<50	<100	+	<100	<100	<100	<100
Lot 60	60	TP21/68	TP21/68_0.7	0.7	16/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	860	3400	+	790	5050	<20	<20	2100	2100	2900	5250	250	+	350	850	1990	+	1400	1200	240	<100
Lot 60	60	TP21/68	TP21/68_1.5	1.5	16/03/2021	<0.1	<0.1	<0.1	0.1	0.3	0.4	+	6.4	+	<20	290	370	+	120	780	24	24	470	463.6	710	1180	<100	+	<50	100	<100	+	<100	<100	<100	<100
Lot 60	60	TP21/71	TP21/71_0.2	0.2	15/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	21	220	+	250	560	<20	<20	<50	<50	420	700	280	+	<50	<50	110	+	<100	160	<100	<100
Lot 60	60	TP21/71	TP21/71_1.5	1.5	15/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	<50	+	<50	60	<20	<20	<50	<50	<100	<100	<100	+	<50	<50	120	+	<100	<100	<100	<100
Lot 60	60	TP21/72	TP21/72_0.4	0.4	16/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5 - 1	+	<20	960	4600	+	710	6270	<20	<20	2100	2100	3800	6170	270	+	100	210	430	+	330	260	<100	<100
Lot 60	60	TP21/72	TP21/72_0.9	0.9	16/03/2021	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	+	12	+	<20	590	1100	+	310	2000	<20	<20	1000	988	2100	3210	110	+	120	240	340	+	220	230	<100	<100
Lot 60	60	TP21/95	TP21/95_0.5	0.5	18/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	+	<50	<50	<100	+	<100	<100	<100	<100
Lot 60	60	TP21/95	DUP08_210318	1	18/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	+	<50	<50	<100	+	<100	<100	<100	<100
Lot 60	60	TP21/95	TP21/95_1.0	1	18/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	180	850	+	<50	1030	<20	<20	370	370	690	1060	<100	+	<50	<50	<100	+	<100	<100	<100	<100
Lot 60	60	TP21/95	TRIP08_210318	1	19/03/2021	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	+	<10	-	-	-	-	-	<10	<10	-	-	-	-	-	<50	<50	<50	<50	<50	<100	<100	<100	<100
Lot 63	63	TP21/18	TP21/18-0.6	0.6	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	150	+	170	320	<20	<20	<50	<50	240	240	<100	+	<50	<50	<100	+	<100	110	<100	<100
Lot 63	63	TP21/18	TP21/18-2.2	2.2	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	+	-	-	-	+	-	-	-	-
Lot 63	63	TP21/19	TP21/19-0.5	0.5	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	870	+	680	1550	<20	<20	63	63	1300	1753	390	+	<50	73	1580	+	980	1300	600	290
Lot 63	63	TP21/19	TP21/19-3.0	3	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	510	+	450	960	<20	<20	<50	<50	760	1040	280	+	<50	<50	730	+	470	590	260	110
Lot 63	63	TP21/20	TP21/20-0.6	0.6	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	190	+	150	340	<20	<20	<50	<50	250	400	150	+	<50	<50	130	+	130	150	<100	<100
Lot 63	63	TP21/20	TP21/20-1.0	1	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	<50	+	51	51	<20	<20	<50	<50	<100	<100	<100	+	<50	<50	<100	+	<100	<100	<100	<100
Lot 63	63	TP21/21	TP21/21-0.5	0.5	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	65	1400	+	790	2255	34	34	150	150	1600	2100	350	+	84	160	2364	+	1500	1900	780	320
Lot 63	63	TP21/21	TP21/21-1.0	1	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	63	+	<50	63	<20	<20	<50	<50	<100	<100	<100	+	<50	<50	<100	+	<100	<100	<100	<100
Lot 63	63	TP21/22	DUP01_210308	0.2	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	+	<50	<50	<100	+	<100	<100	<100	<100
Lot 63	63	TP21/22	TP21/22-0.2	0.2	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	+	<50	<50	<100	+	<100	<100	<100	<100
Lot 63	63	TP21/22	TRIP01_210308	0.2	8/03/2021	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	+	<10	+	+	+	+	+	<10	<10	-	-	-	-	-	<50	<50	<50	<50	<50	<100	<100	<100	<100
Lot 63	63	TP21/22	TP21/22-1.0	1	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	+	-	-	-	+	-	-	-	-
Lot 63	63	TP21/23	TP21/23-0.2	0.2	9/03/2021	<1	<1	<1	<1	<2	<3	+	49 - 64	+	<200	2100	720	+	140	2960	320	320	2100	2036	440	2540	<100	+	1100	1300	1920	+	650	490	170	<100
Lot 63	63	TP21/23	TP21/23-3.1	3.1	9/03/2021	<0.1	<0.1	0.3	0.7	1.9	2.6	+	14 - 22	+	26	1500	500	+	86	2086	150	150	1400	1386	310	1710	<100	+	1000	1100	1370	+	370	250	<100	<100
Lot 63	63	TP21/24	TP21/24-0.5	0.5	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	54	+	<50	54	<20	<20	<50	<50	<100	<100	<100	+	<50	<50	<100	+	<100	<100	<100	<100
Lot 63	63	TP21/24	TP21/24-1.5	1.5	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	120	180	+	<50	300	24	24	170	170	110	280	<100	+	<50	51	150	+	150	100	<100	<100
Lot 63	63	TP21/74	TP21/74_1	1	15/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5 - 1.2	+	<20	680	4600	+	910	7800	<20	<20	1300	1300	5700	7650	650	+	540	1100	6400	+	3800	4400	700	540
Lot 63	63	TP21/74	TP21/74_2.5	2.5	15/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	1200	3800	+	280	8300	64	100	1900	1900	3400	5470	170	+	850	1500	6200	+	2900	2500	190	150
Lot 63	63	TP21/76	TP21/76_0.2	0.2	17/03/2021	<0.5	<0.5	<0.5	<0.5	<1	<1.5	+	22	+	<100	1600	1100	+	1300	4000	240	240	1600	1578	3700	5950	650	+	700	910	2540	+	1300	1400	540	210
Lot 63	63	TP21/76	DUP07_210317	2	17/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	<20	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	+	<50	<50	<100	+	<100	<100	<100	<100
Lot 63	63	TP21/76	TP21/76_2.0	2	17/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	0.7	+	<20	<20	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	+	<50	<50	<100	+	<100	<100	<100	<100
Lot 63	63	TP21/76	TRIP07_210317	2	17/03/2021	<0.2	<0.5	<0.5	<0.5	1.8	2.3	2.3	3	+	31	-	-	-	-	-	66	64	-	-	-	-	-	<50	<50	<50	<50	<50	<100	<100	<100	<100
Lot 63	63	TP21/79	TP21/79_0.2	0.2	15/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5 - 3.7	+	510	4800	5800	+	2200	15,000	860	1000	6000	6000	6000	13,100	1100	+	3000	5200	11,000	+	5700	6300	930	1100
Lot 63	63	TP21/79	TP21/79_1.0	1	15/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	1.5	+	26	710	270	+	250	1230	45	45	820	818.5	1300	2260	140	+	410	790	1880	+	1200	950	270	130
Lot 63	63	TP21/79	TP21/79_2.0	2	15/03/2021	<0.1	<0.1	0.3	<0.1	0.3	<0.3	+	<0.5	+	440	3400	4100	+	650	8150	610	610	5400	5400	3900	9920	620	+	2400	5400	7180	+	3900	3300	880	410
Lot 63	63	TP21/79	TP21/79_2.8	2.8	15/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5	+	<20	78	140	+	<50	270	<20	<20	100	100	170	270	<100	+	51	65	210	+	120	180	<100	110
Lot 60	14	TP20/21	TP20/21_0.8	0.7-0.9	16/09/2020	<1	<1	<1	<1	<2	<3	+	<0.5	+	<200	880	2200	+	410	3490	<200	<200	1500	1500	1900	3630	230	+	-	-	-	+	-	-	-	-
Lot 60	14	TP20/22	TP20/22_1.5	1.4-1.6	16/09/2020	<1	<1	<1	<1	<2	<3	+	<5 - 0.7	+	<200	3100	5500	+	1700	10,300	<200	<200	4900	4900	4900	10,900	1100	+	-	-	-	+	-	-	-	-
Road alignment	14	TP20/23	TP20/23_1.5	1.4-1.6	16/09/2020	<1	<1	<1	<1	<2	<3	+	<5 - 0.7	+	<200	1500	5400	+	1300	8200	<200	<200	2700	2700	5300	8750	750	+	-	-	-	+	-	-	-	-
Lot 63	14	TP20/24	TP20/24_1.0	0.9-1	30/09/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	3	+	<20	<20	<50	+	<50	<50	<20	<20	<50	<50	<100	<100	<100	+	-	-	-	+	-	-	-	-
Road alignment	14	TP20/25	TP20/25_0.7	0.7-0.8	7/10/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	<0.5 - 3.5	+	190	1300	1600	+	68	2968	470	470	1900	1900	890	2790	<100	+	-	-	-	+	-	-	-	-
Lot 59	14	TP20/29a	TP20/29A_0.8	0.7-0.8	16/10/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	+	0.5 - 0.7	+	36	340	1300	-	250	1890	81	81	710	709.3	1100	1960	150	+	-	-	-	+	-	-	-	-
Lot 59	14	TP20/29b	TP20/29B_0.5	0.4-0.6	16/10/2020	-	-	-	-	-	-	+	-	+	-	-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	-
Lot 59	14	TP20/29b	TP20/29B_0.5	0.5-0.6	16/10/2020	<1	<1	3.1	<1	<2	<3	+	7.5 - 21	+	760	1600	6000	+	1200	8800	1100	1100	3100	3079	5500	9120	520	+	-	-	-	+	-	-	-	-
Road alignment	14	TP20/29c	TP20/29C_0.5	0.4-0.5	16/10/2020	<1	<1	<1	<1	<2	<3	+	8.2 - 13	+	830	3600	2500	+	180	6280	1800	1800	4000	3987	1200	5200	<100	+	-	-	-	+	-	-	-	-
Road alignment	14	TP20/29c	TP20/29C_0.5	0.4-0.6	16/10/2020	-	-	-	-	-	-	+	-	+	-	-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	-
Lot 59	14	TP20/30	TP20/30_0.5	0.4-0.5	16/10/2020	0.3	0.1	0.2	<0.1	0.6	0.6	+	<0.5 - 4.1	+	1000	3100	13,000	+	9100	25,200	1600	1600	4100	4100	19,000	27,600	4500	+	-	-	-	+	-	-	-	-
Lot 59	14	TP20/30	TP20/30_0.5	0.4-0.6	16/10/2020	-	-	-	-	-	-	+	-	+	-	-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	-
Statistical Summary																																			
Number of Results												185	185	185	185	185	171	81	186	83	95	166	149	12	149	165	154	154	150	150	150	138	150	18	79	79	79	18	96	79	96	79
Number of Detects												3	3	12	7	12	10	2	40	17	14	73	87	6	71	100	37	37	69	69	85	81	52	11	32	40	49	11	52	47	30	17
Minimum Concentration												<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.2	<0.1	<10	<10	<20	<50	160	<50	<100	<50	<50	<20	<50	<50	<100	<50	<50	<20	<50	<50	<50	<100	<50	<100
Minimum Detect												0.2	0.1	0.1	0.1	0.3	0.4	2.3	0.5	10	26	21	54	160	51	51	14	14	51	51	110	120	100	60	27	51	100	280	90	100	94	100
Maximum Concentration												<1	<2.5	4.5	<1	6.5	6.5	8.2	64	190	1000	4800	37000	4580	18000	56200	1800	1800	6000	6000	47000	55900	15600	2020	3000	5400	18290	4270	14000	14000	3400	1100
Maximum Detect												0.3	0.3	4.5	0.9	6.5	6.5	8.2	64	190	1000	4800	37000	4580	18000	56200	1800	1800	6000	6000	47000	55900	15600	2020	3000	5400	18290	4270	14000	14000	3400	1100
Average Concentration												0.12	0.18	0.23	0.19	0.34	0.44	0.45	1.8	13	58	374	1362	688	545	2143	70	71	610	608	1539	2545	318	289	274	454	1411	780	777	928	240	119
Median Concentration												0.1	0.25	0.25	0.25	0.25	0.25	0.1	0.25	5	10	25	150	130	50	300	10	10	25	25	190	385	50	75	25	51	170	325	125	160	50	50
Standard Deviation												0.1	0.14	0.41	0.14	0.55	0.64	0.95	5.8	25	166	770	3565	1277	1895	5529	231	235	1152	1150	4473	6207	1397	491	573	1003	2981	1098	1805	2186	536	191
Number of Guideline Exceedances												0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5	29	0	19	0	1	0	0	10	0	0	0	5	0	0
Number of Guideline Exceedances(Detects Only)												0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5	29	0	19	0	1	0	0	10	0	0	0	5	0	0

Env Stds Comments

#1:Assumes Total chromium is 17% Hexavalent chromium

| | | |

					TRH Aliphatic/Aromatic Split													Metals																			
					TRH >C5-C7 (Benzene) Aromatic	TRH >C6-C8 Aliphatic	TRH >C8-C10 Aliphatic	TRH >C10-C12 Aliphatic	TRH >C12-C16 Aliphatic	TRH >C16-C21 Aliphatic	TRH >C21-C35 Aliphatic	TRH >C5-C7 Aromatic	TRH >C7-C8 Aromatic	TRH >C8-C10 Aromatic	TRH >C10-C12 Aromatic	TRH >C12-C16 Aromatic	TRH >C16-C21 Aromatic	TRH >C21-C35 Aromatic	Arsenic	Boron	Cadmium	Chromium	Chromium (hexavalent)	Chromium (Trivalent)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Tin	Zinc
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	10	10	10	10	10	10	0.1	0.1	1	10	10	10	10	1	10	0.1	2	0.5	2	5	2	50	2	5	0.05	1	1	2	0.1	1	5
Clyde WARP SSTL (Direct Contact - Commercial)						1200000	240000	24000	24000	470000	470000			9500	9500	9500	7100	7100				2100000[A]	3600													
Clyde WARP SSTL (Direct Contact - Construction Worker)						310000	62000	62000	62000	370000	370000			25000	25000	25000	18000	18000				8200[A]	1400													
Clyde WARP SSTL (Direct Contact - IMW)						3700000	740000	740000	740000	4400000	4400000			300000	300000	300000	220000	220000				100000[A]	17000													
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m 4-6m						1400	2200	1800	33000					420	1400	9800																			
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m 1-1.99m						610	980	600	8300					150	430	2800																			
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m 2-3.99m						880	1400	980	17000					230	750	5100																			
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m 0-0.99m						480	760	430	4300					110	280	430																			
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)						NL	NL	NL	NL					NL	NL	NL																			
Clyde WARP SSTL (Vapour Intrusion - IMW)						NL	NL	NL	NL					NL	NL	NL	NL	NL																	
NEPM (1999) HIL D - Commercial/Industrial																			3000		900		3600			240000		1500		730		6000	10000			400000
NEPM (1999) HSL D Comm/Indust - Asbestos																																				
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																																				

Alternative_Name	Monitoring_Zone	Location_Code	Field_ID	Sample_Depth_Range	Sampled_Date_Time																																	
Lot 63	3	TP18/22	TP18/22_1.2	1.2-1.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/22	TP18/22_3.0	3-3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP19/16	TP19/16_0.8	0.7-0.9	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	<0.4	7.6	-	-	-	14	-	62	-	<0.1	-	<5	-	-	-	-	44
Lot 63	3	TP19/16	TP19/16_1.2	1.1-1.3	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	<0.4	22	-	-	-	16	-	22	-	<0.1	-	<5	-	-	-	-	14
Lot 63	3	TP19/17	TP19/17_0.5	0.4-0.6	18/07/2019	0.3	190	140	250	1900	1500	510	0.3	<0.1	13	38	560	690	370	4.2	-	<0.4	24	-	-	-	6	-	16	-	<0.1	-	<5	-	-	-	8.3
Lot 63	3	TP19/17	TP19/17_3.5	3.4-3.6	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	7.6	-	<0.4	17	-	-	-	15	-	19	-	<0.1	-	<5	-	-	-	-	9.6
Lot 63	3	TP19/18	TP19/18_0.3	0.2-0.4	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	<0.4	38	-	-	-	20	-	24	-	<0.1	-	8.8	-	-	-	-	47
Lot 63	3	TP19/18	TP19/18_0.6	0.5-0.7	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6	-	<0.4	16	-	-	-	14	-	16	-	<0.1	-	<5	-	-	-	-	8.2
Lot 63	3	TP19/33	DOI_240719	0.2-0.4	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	-	<0.4	21	-	-	-	67	-	17	-	<0.1	-	51	-	-	-	-	95
Lot 63	3	TP19/33	T01_240719	0.2-0.4	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	11	-	-	-	68	-	13	-	<0.1	-	61	-	-	-	-	60
Lot 63	3	TP19/33	TP19/33_0.3	0.2-0.4	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	-	<0.4	22	-	-	-	67	-	15	-	<0.1	-	56	-	-	-	-	100
Lot 63	3	TP19/33	TP19/33_0.5	0.4-0.6	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP19/33	TP19/33_1.2	1.1-1.3	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	7.8	-	<0.4	23	-	-	-	22	-	17	-	<0.1	-	<5	-	-	-	-	20
Lot 63	3	TP19/34	TP19/34_0.3	0.2-0.3	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	47	-	-	-	58	-	18	-	<0.1	-	68	-	-	-	-	190
Lot 63	3	TP19/34	TP19/34_0.7	0.6-0.8	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	-	<0.4	20	-	-	-	5.4	-	15	-	<0.1	-	8.8	-	-	-	-	16
Lot 60	3	TP19/35	TP19/35_0.7	0.6-0.8	23/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	9.5	-	<0.4	36	-	-	-	16	-	24	-	<0.1	-	6.8	-	-	-	-	25
Lot 60	3	TP19/35	TP19/35_0.1	0-0.2	23/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	<1	30	-	-	-	32	-	75	-	0.2	-	14	-	-	-	-	70
Road alignment	8	TP19/07	TP19/07_0.4	0.3-0.5	2/08/2019	<0.1	<10	<10	56	820	840	160	-	<0.1	<1	18	130	190	89	5.4	-	<0.4	69	-	-	-	80	-	130	-	0.1	-	44	-	-	-	780
Road alignment	8	TP19/07	TP19/07_0.1	0-0.2	2/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	-	<0.4	37	-	-	-	65	-	100	-	0.2	-	51	-	-	-	-	800
Road alignment	11	BH12/34	D_140312_01	-0.3	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	-	0.1	48	-	-	-	45	-	15	-	<0.05	-	49	-	-	-	-	40
Road alignment	11	BH12/34	BH12/34_0.3	0.3-0.3	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	3.8	-	<0.1	17	-	-	-	25	-	17	-	<0.05	-	16	-	-	-	-	17
Road alignment	11	BH12/34	BH12/34_0.6	0.6-0.6	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	3.5	-	0.1	16	-	-	-	21	-	25	-	<0.05	-	14	-	-	-	-	19
Road alignment	11	BH12/34	BH12/34_1.1	1.1-1.1	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	-	<0.1	13	-	-	-	19	-	15	-	<0.05	-	9.5	-	-	-	-	15
Lot 59	11	BH12/35	BH12/35_0.1	0.1-0.1	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9	-	<0.1	27	-	-	-	17	-	32	-	<0.05	-	5	-	-	-	-	26
Lot 59	11	BH12/35	BH12/35_1.05	1.05-1.05	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9	-	<0.1	11	-	-	-	19	-	21	-	<0.05	-	6	-	-	-	-	85
Lot 59	11	SB18/12	SB18/12_0.3_20180214	0.3-0.3	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	SB18/12	SB18/12_1.2_20180214	-1.2	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	14	-	-	-	15	-	17	-	<0.1	-	<2	-	-	-	-	6
Lot 59	11	SB18/12	SB18/12_1.2_20180214	1.2-1.2	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	SB18/12	SB18/12_2.1_20180214	-2.1	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	4	-	-	-	10	-	11	-	<0.1	-	<2	-	-	-	-	<5
Lot 59	11	SB18/12	SB18/12_2.1_20180214	2.1-2.1	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	SB18/16	SB18/16_0.3_20180214	-0.3	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	<1	22	<0.5	22	-	8	-	27	-	<0.1	-	7	-	-	-	-	60
Lot 59	11	SB18/16	SB18/16_0.3_20180214	0.3-0.3	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	13	TP19/56	TP19/56_0.2	0.1-0.3	1/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	14	TP19/02	TP19/02_0.2	0.1-0.3	30/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	-	0.8	74	-	-	-	140	-	170	-	0.6	-	31	-	-	-	-	460
Lot 59	15	MW11/06	MW11/06_0.5	0.5-0.5	20/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	<0.1	82	<1	82	-	4.2	-	9.2	-	<0.05	-	2.6	-	-	-	-	5.9
Lot 59	15	MW11/06	MW11/06_2.2	2.2-2.2	20/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	5	<1	5	-	5	-	4.6	-	<0.05	-	<1	-	-	-	-	<5
Road alignment	15	MW11/07	MW11/07_0.5	0.5-0.5	20/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	<0.1	6.3	<1	6.3	-	2.7	-	3.6	-	<0.05	-	4.6	-	-	-	-	7.7
Road alignment	15	MW11/07	MW11/07_1.0	1-1	20/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	4.5	-	<0.1	13	<1	13	-	10	-	11	-	<0.05	-	1.1	-	-	-	-	<5
Road alignment	15	MW11/07	MW11/07_5.0	5-5	20/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	3.4	<1	<5	-	8.7	-	2.9	-	<0.05	-	<1	-	-	-	-	<5
Lot 60	15	MW11/09	MW11/09_1.0	1-1	21/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	4.8	-	<0.1	2.6	<1	<5	-	7.3	-	6	-	<0.05	-	<1	-	-	-	-	5.6
Lot 60	15	MW11/09	MW11/09_3.3	3.3-3.3	21/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	-	<0.1	7.7	<1	7.7	-	6.9	-	6.9	-	<0.05	-	<1	-	-	-	-	9.1
Lot 60	15	MW11/14	MW11/14_0.3	0.3-0.3	23/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	0.2	150	<1	150	-	26	-	49	-	4.2	-	19	-	-	-	-	170
Lot 60	15	MW11/14	MW11/14_2.8	2.8-2.8	23/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	<0.1	<2	<1	<5	-	29	-	9.5	-	0.05	-	<1	-	-	-	-	6.5
Lot 63	15	MW12/02	MW12/02_0.15	0.15-0.15	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW12/02	MW12/02_5.5	5.5-5.5	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	SB6B	D03_050218	0.9-1.1	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	<1	17	-	-	-	12	-	17	-	<0.1	-	<2	-	-	-	-	6
Lot 63	15	SB6B	SB6B_1.0	0.9-1.1	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	<1	19	-	-	-	14	-	18	-	<0.1	-	<2	-	-	-	-	5
Lot 63	15	SB6B	SB6B_2.0	1.9-2	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	<1	13	-	-	-	14	-	12	-	<0.1	-	<2	-	-	-	-	11
Lot 59	15	TP18/15	TP18/15_0.3_180209	-0.3	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	57	-	-	-	77	-	70	-	<0.1	-	78	-	-	-	-	434
Lot 59	15	TP18/15	TP18/15_0.3-180209	0.3-0.3	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	TP18/31	TP18/31_0.3_20180208	0.3-0.3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	TP18/31	TP18/31_1.2_20180208	-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	<1	19	-	-	-	22	-	32	-	0.4	-	7	-	-	-	-	67
Road alignment	15	TP18/31	TP18/31_1.2_20180208	1.2-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	TP18/31	TP18/31_3.0_20180208	-3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	9	-	-	-	14	-	13	-	<0.1	-	<2	-	-	-	-	7
Road alignment	15	TP18/31	TP18/31_3.0_20180208	3-3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	TP18/35	TP18/35_0.3	0.3-0.3	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	TP18/35	TP18/35_1.2	-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	<1	24	<0.5	24	-	10	-	13	-	<0.1	-	3	-	-	-	-	13
Lot 63	15	TP18/35	TP18/35_1.2	1.2-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	TP18/35	TP18/35_2.2	-2.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	3	-	-	-	<5	-	<5	-	<0.1	-	<2	-	-	-	-	<5
Lot 63	15	TP18/35	TP18/35_2.2	2.2-2.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	TP19/03	TP19/03_0.1	0-0.2	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	-	<0.4	94	-	-	-	65	-	25	-	0.2	-	130	-	-	-	-	210
Lot 59	15	TP19/37	TP19/37_0.2	0.1-0.3	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	8.8	-	<0.4	28	-	-	-	39	-	200	-	<0.1	-	16	-	-	-	-	170
Lot 59	15	TP19/37	TP19/37_1.0	0.9-1.1	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	4.6	-	<0.4	23	-	-	-	17	-	20	-	<0.1	-	<5	-	-	-	-	13
Lot 59	15	TP19/38	TP19/38_0.3	0.2-0.4	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	130	-	-	-	31	-	<5	-	<0.1	-	100	-	-	-	-	53
Lot 59	15	TP19/38	TP19/38_2.0	1.9-2.1	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	19	-	<0.4	22	-	-	-	20	-	16	-	<0.1	-	<5	-	-	-	-	13
Lot 59	59	TP21/07	TP21/07_0.5	0.5	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/07	TP21/07_1.5	1.5	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/08	TP21/08_1.1	1.1	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/08	TP21/08_1.5	1.5	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/09	TP21/09_1.0	1	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/09	TP21/09_1.6	1.6	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/09	TP21/09_2.2	2.2	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

					TRH Aliphatic/Aromatic Split													Metals																					
					TRH >C5-C7 (Benzene) Aromatic	TRH >C5-C8 Aliphatic	TRH >C8-C10 Aliphatic	TRH >C10-C12 Aliphatic	TRH >C12-C16 Aliphatic	TRH >C16-C21 Aliphatic	TRH >C21-C35 Aliphatic	TRH >C5-C7 Aromatic	TRH >C7-C8 Aromatic	TRH >C8-C10 Aromatic	TRH >C10-C12 Aromatic	TRH >C12-C16 Aromatic	TRH >C16-C21 Aromatic	TRH >C21-C35 Aromatic	Arsenic	Boron	Cadmium	Chromium	Chromium (hexavalent)	Chromium (Trivalent)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Molybdenum	Nickel	Selenium	Silver	Tin	Zinc
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	10	10	10	10	10	10	0.1	0.1	1	10	10	10	10	1	10	0.1	2	0.5	2	5	2	50	2	5	0.05	1	1	2	0.1	1	5
Clyde WARP SSTL (Direct Contact - Commercial)						1200000	240000	24000	24000	470000	470000			9500	9500	9500	7100	7100				21000[#1]	3600														
Clyde WARP SSTL (Direct Contact - Construction Worker)						310000	62000	62000	62000	370000	370000			25000	25000	25000	18000	18000				8200[#1]	1400														
Clyde WARP SSTL (Direct Contact - IMW)						3700000	740000	740000	740000	4400000	4400000			300000	300000	300000	220000	220000				100000[#1]	17000														
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																																					
4-6m						1400	2200	1800	33000					420	1400	9800																					
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																																					
1-1.99m						610	980	600	8300					150	430	2800																					
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																																					
2-3.99m						880	1400	980	17000					230	750	5100																					
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																																					
0-0.99m						480	760	430	4300					110	280	430																					
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)						NL	NL	NL	NL					NL	NL	NL																					
Clyde WARP SSTL (Vapour Intrusion - IMW)						NL	NL	NL	NL					NL	NL	NL	NL	NL																			
NEPM (1999) HIL D - Commercial/Industrial																			3000		900		3600			240000		1500		730		6000	10000			400000
NEPM (1999) HSL D Comm/Indust - Asbestos																																					
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																																					
Alternative_Name	**Monitoring_Zone**	**Location_Code**	**Field_ID**	**Sample_Depth_Range**	**Sampled_Date_Time**																																	
Lot 59	59	TP21/42	TP21/42_0.2	0.2	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	38	-	1.9	410	-	-	-	180	-	780	-	19	-	190	-	-	-	5100
Lot 59	59	TP21/42	DUP05_210315	0.7	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/42	TP21/42_0.7	0.7	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/42	TRIP05_210315	0.7	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/64	TP21/64_1.0	1	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5	-	<0.4	34	-	-	-	20	-	22	-	<0.1	-	13	-	-	-	39
Lot 59	59	TP21/64	TP21/64_2.0	2	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/66	DUP06_210316	1	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/66	TP21/66_1.0	1	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	8.9	-	<0.4	33	-	-	-	17	-	22	-	<0.1	-	11	-	-	-	22
Lot 59	59	TP21/66	TRIP06_210316	1	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/66	TP21/66_2.0	2	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/10	TP21/10-0.5	0.5	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	7.6	-	<0.4	37	-	-	-	100	-	30	-	<0.1	-	110	-	-	-	140
Lot 60	60	TP21/10	TP21/10-1.2	1.2	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/11	TP21/11-0.5	0.5	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	<0.4	21	-	-	-	14	-	14	-	<0.1	-	<5	-	-	-	26
Lot 60	60	TP21/11	TP21/11-2.0	2	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/16	TP21/16_2.0	2	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/17	TP21/17_1.0	1	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	9.9	-	<0.4	49	-	-	-	26	-	54	-	0.3	-	17	-	-	-	180
Lot 60	60	TP21/17	TP21/17_2.2	2.2	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/68	TP21/68_0.7	0.7	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	<0.4	41	-	-	-	23	-	25	-	<0.1	-	9.3	-	-	-	27
Lot 60	60	TP21/68	TP21/68_1.5	1.5	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/71	TP21/71_0.2	0.2	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	7.9	-	0.4	83	-	-	-	100	-	140	-	1.6	-	72	-	-	-	920
Lot 60	60	TP21/71	TP21/71_1.5	1.5	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/72	TP21/72_0.4	0.4	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	7.6	-	<0.4	33	-	-	-	9.2	-	53	-	<0.1	-	6.8	-	-	-	13
Lot 60	60	TP21/72	TP21/72_0.9	0.9	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/95	TP21/95_0.5	0.5	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	8.8	-	<0.4	22	-	-	-	17	-	19	-	<0.1	-	<5	-	-	-	11
Lot 60	60	TP21/95	DUP08_210318	1	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/95	TP21/95_1.0	1	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/95	TRIP08_210318	1	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/18	TP21/18-0.6	0.6	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	0.4	24	-	-	-	22	-	58	-	<0.1	-	<5	-	-	-	54
Lot 63	63	TP21/18	TP21/18-2.2	2.2	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/19	TP21/19-0.5	0.5	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	<0.4	250	-	-	-	77	-	69	-	0.2	-	170	-	-	-	230
Lot 63	63	TP21/19	TP21/19-3.0	3	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/20	TP21/20-0.6	0.6	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	7.5	-	<0.4	<5	-	-	-	8.4	-	7.7	-	<0.1	-	<5	-	-	-	120
Lot 63	63	TP21/20	TP21/20-1.0	1	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/21	TP21/21-0.5	0.5	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-	<0.4	250	-	-	-	170	-	2000	-	6.3	-	<5	-	-	-	260
Lot 63	63	TP21/21	TP21/21-1.0	1	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/22	DUP01_210308	0.2	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5	-	<0.4	24	-	-	-	88	-	<5	-	<0.1	-	130	-	-	-	78
Lot 63	63	TP21/22	TP21/22-0.2	0.2	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	6.4	-	<0.4	21	-	-	-	79	-	5.6	-	<0.1	-	130	-	-	-	92
Lot 63	63	TP21/22	TRIP01_210308	0.2	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	8	-	-	-	64	-	<5	-	<0.1	-	72	-	-	-	33
Lot 63	63	TP21/22	TP21/22-1.0	1	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/23	TP21/23-0.2	0.2	9/03/2021	<0.1	<10	120	86	140	49	67	-	<0.1	12	60	140	46	100	11	-	<0.4	23	-	-	-	7.4	-	21	-	<0.1	-	<5	-	-	-	19
Lot 63	63	TP21/23	TP21/23-3.1	3.1	9/03/2021	<0.1	<10	120	42	49	19	16	-	<0.1	5.4	33	55	18	26	21	-	<0.4	20	-	-	-	16	-	29	-	<0.1	-	<5	-	-	-	16
Lot 63	63	TP21/24	TP21/24-0.5	0.5	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	<0.4	12	-	-	-	10	-	44	-	0.2	-	<5	-	-	-	55
Lot 63	63	TP21/24	TP21/24-1.5	1.5	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/74	TP21/74_1	1	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	<0.4	910	-	-	-	31	-	96	-	0.2	-	32	-	-	-	180
Lot 63	63	TP21/74	TP21/74_2.5	2.5	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/76	TP21/76_0.2	0.2	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	<0.4	23	-	-	-	32	-	70	-	<0.1	-	32	-	-	-	500
Lot 63	63	TP21/76	DUP07_210317	2	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/76	TP21/76_2.0	2	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/76	TRIP07_210317	2	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/79	TP21/79_0.2	0.2	15/03/2021	<0.1	180	320	1100	1800	770	1300	-	<0.1	15	330	820	550	1200	6.6	-	<0.4	29	-	-	-	26	-	27	-	<0.1	-	<5	-	-	-	27
Lot 63	63	TP21/79	TP21/79_1.0	1	15/03/2021	<0.1	25	76	140	240	100	200	-	<0.1	1.7	35	110	67	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/79	TP21/79_2.0	2	15/03/2021	<0.1	190	220	780	1100	490	780	-	<0.1	6.8	380	840	480	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/79	TP21/79_2.8	2.8	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	14	TP20/21	TP20/21_0.8	0.7-0.9	16/09/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	14	TP20/22	TP20/22_1.5	1.4-1.6	16/09/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	14	TP20/23	TP20/23_1.5	1.4-1.6	16/09/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	14	TP20/24	TP20/24_1.0	0.9-1	30/09/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	14	TP20/25	TP20/25_0.7	0.7-0.8	7/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	14	TP20/29a	TP20/29A_0.8	0.7-0.8	16/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	14	TP20/29b	TP20/29B_0.5	0.4-0.6	16/10/2020	<0.2	140	160	370	1700	1400	1100	-	<0.2	5.7	170	990	1500	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	14	TP20/29b	TP20/29B_0.5	0.5-0.6	16/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	14	TP20/29c	TP20/29C_0.5	0.4-0.5	16/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	14	TP20/29c	TP20/29C_0.5	0.4-0.6	16/10/2020	<0.1	29	130	510	1600	520	200	-	<0.1	1.6	31	200	160	160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	14	TP20/30	TP20/30_0.5	0.4-0.5	16/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	14	TP20/30	TP20/30_0.5	0.4-0.6	16/10/2020	<0.2	120	270	1000	1700	960	1300	-	<0.2	6.7	290	1000	2500	11,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																																					
Number of Results					10	10	10	10	10	10	10	1	10	10	10	10	10	10	108	0	108	108	19	19	0	108	0	108	0	108	0	108	0	0	0	108
Number of Detects					1	7	9	10	10	10	10	1	0	9	10	10	10	10	77	0	9	103	0	10	0	106	0	103	0	18	0	66	0	0	0	99
Minimum Concentration					<0.1	<10	<10	42	49	19	16	0.3	<0.1	<1	18	55	18	26	<1	99999	<0.1	<2	<0.5	<5	99999	2.7	99999	2.2	99999	<0.05	99999	<1	99999	99999	99999	<5
Minimum Detect					0.3	25	76	42	49	19	16	0.3	ND	1.6	18	55	18	26	1.3	ND	0.1	2.6	ND	5	ND	2.7	ND	2.2	ND	0.05	ND	1	ND	ND	ND	5
Maximum Concentration					0.3	190	320	1100	1900	1500	1300	0.3	<0.2	15	380	1000	2500	11000	38	0	1.9	910	<1	150	0	180	0	2000	0	19	0	190	0	0	0	5100
Maximum Detect					0.3	190	320	1100	1900	1500	1300	0.3	ND	15	380	1000	2500	11000	38	ND	1.9	910	ND	150	ND	180	ND	2000	ND	19	ND	190	ND	ND	ND	5100
Average Concentration					0.085	89	156	433	1105	665	563		0.06	6.8	139	485	620	1609	6.2		0.3	40	0.46	21		30		57		0.35		22				127
Median Concentration					0.05	74.5	135	310	1350	645	355	0.3	0.05	6.2	49	380	335	265	5		0.2	20	0.5	5		17		18		0.05		3.75				19.5
Standard Deviation					0.078	82	92	399	741	531	516		0.021	5	143	397	798	3363	5.6		0.24	100	0.094	37		33		206		2		38				508
Number of Guideline Exceedances					0	0	0	4	0	0	0	0	0	0	3	4	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)					0	0	0	4	0	0	0	0	0	0	3	4	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0

Env Stds Comments

#1:Assumes Total chromium is 17% Hexavalent chromium

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	Benzo(b&k)fluoranthene	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ (zero)	Benzo(b)fluoranthene	Benzo(a)pyrene TEQ (lower bound)*	Benzo(a)pyrene TEQ (upper bound)*	Benzo(a)pyrene TEQ (medium bound)*	Benzo(b&j)fluoranthene	Benzo(b&j)fluoranthene (TEF 0.1)	Benz(a,h,)berylene	Benzo(b)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Dibromob	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Pentachlorophenol	Perylene	Phenol	Phenols Total	Polycyclic aromatic hydrocarbons EPA448	Pyrene	Tetrachlorophenols	Phenols (Total Halogenated)	Total Non-Halogenated Phenol	PAHs (Sum of total)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	1	0.05	0.05	0.1	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	20	0.1	0.1	0.1	0.5	0.1	0.1	5	0.5	0.1	10	1	20	0.05
Clyde WARP SSTL (Direct Contact - Commercial)							40																				
Clyde WARP SSTL (Direct Contact - Construction Worker)							200																				
Clyde WARP SSTL (Direct Contact - IMW)							3000																				
Clyde WARP SSTL (Vapour Intrusion - Commercial) >-4m 4-6m																											
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m 1-1.99m																											
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m 2-3.99m																											
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m 0-0.99m																											
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)																											
Clyde WARP SSTL (Vapour Intrusion - IMW)																											
NEPM (1999) HIL D - Commercial/Industrial																		660		240000							4000
NEPM (1999) HSL D Comm/Indust - Asbestos																											
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																											

Alternative_Name	Monitoring_Zone	Location_Code	Field_ID	Sample_Depth_Range	Sampled_Date_Time																									
Lot 60	2	MW12/04	MW12/04_0.1	0.1-0.1	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	MW12/04	MW12/04_4.7	4.7-4.7	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	SB10B	SB10B_0.5	0.4-0.6	2/02/2018	-	1.2	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	0.6	0.6	-	-	-	-
Lot 60	2	SB10B	SB10B_1.0	0.9-1.1	2/02/2018	-	3.5	3.4	-	-	-	-	-	1.7	<0.5	<0.5	8.4	0.7	-	5	<0.5	<0.5	<2	3	<0.5	-	40.6	10.5	-	-	-	-
Lot 60	2	SB7B	SB7B_1.0	0.9-1.1	2/02/2018	-	1.2	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-
Lot 60	2	SB7B	SB7B_2.0	1.9-2	2/02/2018	-	1.2	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-
Lot 60	2	SB8B	SB8B_0.2	0.2-0.4	2/02/2018	-	1.2	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-
Lot 60	2	SB8B	SB8B_1.0	0.9-1.1	2/02/2018	-	1.2	0.6	-	-	-	-	-	0.6	<0.5	<0.5	0.5	<0.5	-	1.8	<0.5	<0.5	<2	0.8	<0.5	-	6.4	1.6	-	-	-	-
Lot 60	2	SB9B	SB9B_1.0	0.9-1.1	1/02/2018	-	1.4	0.8	-	-	-	-	-	0.8	<0.5	<0.5	0.9	<0.5	-	2.1	<0.5	<0.5	<2	1.5	<0.5	-	9	2.3	-	-	-	-
Lot 60	2	SB9B	SB9B_2.0	1.9-2	1/02/2018	-	1.3	<0.5	-	-	-	-	-	1	<0.5	<0.5	1.7	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	3.3	0.6	-	-	-	-
Lot 60	2	TP18/29	TP18/29_0.3	0.3-0.3	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP18/29	TP18/29_1.2	-1.2	6/02/2018	-	8.6	8.6	-	-	-	-	6.5	-	1.9	1.4	17.7	2.3	-	7.3	0.5	2	<2	3.7	<0.5	-	-	21.4	-	-	-	80.9
Lot 60	2	TP18/29	QC18_100	1.2-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP18/29	TP18/29_1.2	1.2-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP18/29	TP18/29_2.2	2.2-2.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP18/29	TP18/29_3.0	-3	6/02/2018	-	1.2	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	0.9	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	-	1	-	-	-	2.6
Lot 60	2	TP18/29	TP18/29_3.0	3-3	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP19/14	TP19/14_1.0	0.9-1.1	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP19/14	TP19/14_3.0	2.9-3.1	18/07/2019	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	0.5	<0.5	<1	2.8	<0.5	-	-	<0.5	<10	<1	<20	4.5
Lot 60	2	TP19/15	TP19/15_0.8	0.7-0.9	18/07/2019	-	-	-	-	8.9	8.9	8.9	2.2	-	2.3	2.1	12	3.8	<20	2.9	0.7	6.4	<1	16	<0.5	-	-	6.2	<10	<1	<20	68.4
Lot 60	2	TP19/15	TP19/15_2.0	1.9-2.1	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	MW11/18	MW11/18_0.3	0.3-0.3	22/09/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 61	3	MW11/18	MW11/18_3.2	3.2-3.2	22/09/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 63	3	MW11/19	D_230911_01	0.4-0.4	22/09/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 63	3	MW11/19	MW11/19_0.4	0.4-0.4	23/09/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 63	3	MW11/19	MW11/19_2.3	2.3-2.3	22/09/2011	<10	-	-	-	-	-	-	-	-	<0.5	-	<5	<0.5	-	<5	<5	<0.5	<10	<5	<5	-	-	<5	-	-	-	<10
Lot 62	3	MW11/20	MW11/20_0.2	0.2-0.2	23/09/2011	<10	-	-	-	-	-	-	-	-	<0.5	-	<5	<0.5	-	<5	<5	<0.5	<10	<5	<5	-	-	<5	-	-	-	<10
Lot 62	3	MW11/20	MW11/20_5.0	5-5	22/09/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 63	3	MW12/03	MW12/03_1.0	1-1	27/02/2012	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	12
Lot 63	3	MW12/03	MW12/03_3.3	3.3-3.3	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	3	SB1B	SB1B_0.5	0.4-0.6	2/02/2018	-	1.2	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-
Lot 60	3	SB1B	SB1B_2.0	1.9-2	2/02/2018	-	1.2	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-
Lot 60	3	SB1B	T02_020218	1.9-2	2/02/2018	<0.2	<0.5	<0.5	-	-	-	-	-	-	<0.1	-	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	<0.1	-	<5	-	<0.1	-	-	-	<0.05
Lot 63	3	SB2B	D02_020218	0.9-1.1	2/02/2018	-	1.2	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	0.5	<0.5	<2	0.6	<0.5	-	1.1	<0.5	-	-	-	-
Lot 63	3	SB2B	SB2B_1.0	0.9-1.1	2/02/2018	-	1.2	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	0.5	<0.5	<2	0.6	<0.5	-	1.1	<0.5	-	-	-	-
Lot 63	3	SB2B	SB2B_2.0	1.9-2	2/02/2018	-	1.2	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-
Lot 63	3	SB3B	SB3B_0.2	0.2-0.4	2/02/2018	-	1.2	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	0.5	<0.5	-	<0.5	<0.5	<0.5	<2	1.1	<0.5	-	1.6	<0.5	-	-	-	-
Lot 63	3	SB3B	SB3B_1.0	0.9-1.1	2/02/2018	-	1.2	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-
Lot 63	3	SB3B	SB3B_2.0	1.9-2	2/02/2018	-	1.2	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-
Lot 63	3	SB4B	SB4B_0.2	0.2-0.4	5/02/2018	-	1.2	0.6	-	-	-	-	-	<0.5	<0.5	<0.5	0.8	<0.5	-	0.7	<0.5	<0.5	<2	<0.5	<0.5	-	3.5	0.9	-	-	-	-
Lot 63	3	SB4B	SB4B_2.0	1.9-2	5/02/2018	-	1.2	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-
Lot 60	3	TP18/18	TP18/18_0.3	-0.3	6/02/2018	-	1.2	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 60	3	TP18/18	TP18/18_0.3	0.3-0.3	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	3	TP18/18	TP18/18_1.2	-1.2	6/02/2018	-	1.2	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	-	<0.5	-	-	-	<0.5
Lot 60	3	TP18/18	TP18/18_1.2	1.2-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	3	TP18/18	TP18/18_3.0	3-3	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/19	TP18/19_0.3	0.3-0.3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/19	TP18/19_1.2	1.2-1.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/19	TP18/19_3.0	3-3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/22	TP18/22_0.3	-0.3	7/02/2018	-	1.2	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 63	3	TP18/22	TP18/22_0.3	0.3-0.3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/22	TP18/22_1.2	-1.2	7/02/2018	-	1.2	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	-	<0.5	-	-	-	<0.5

	Benzo (b)&(k) fluoranthene	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ (zero)	Benzo (b) fluoranthene	Benzo(a)pyrene TEQ (lower bound)*	Benzo(a)pyrene TEQ (upper bound)*	Benzo(a)pyrene TEQ (medium bound)*	Benzo (b &j) fluoranthene	Benzo (b &j) fluoranthene (TEF 0.1)	Benz o(a,h,)perylene	Benzo(b)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Dioxsb	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Pentachlorophenol	Phenanthrene	Phenol	Phenolics Total	Polycyclic aromatic hydrocarbons EPA448	Pyrene	tetrachlorophenols	Phenols (Total Halogenated)	Total Non-Halogenated Phenol	PAHs (Sum of total)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	1	0.05	0.05	0.1	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	20	0.1	0.1	0.1	0.5	0.1	0.1	5	0.5	0.1	10	1	20	0.05
Clyde WARP SSTL (Direct Contact - Commercial)							40																				
Clyde WARP SSTL (Direct Contact - Construction Worker)							200																				
Clyde WARP SSTL (Direct Contact - IMW)							3000																				
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m 4-6m																											
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m 1-1.99m																											
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m 2-3.99m																											
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m 0-0.99m																											
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)																											
Clyde WARP SSTL (Vapour Intrusion - IMW)																											
NEPM (1999) HIL D - Commercial/Industrial																		660		240000							4000
NEPM (1999) HSL D Comm/Induct - Asbestos																											
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																											

Alternative_Name	Monitoring_Zone	Location_Code	Field_ID	Sample_Depth_Range	Sampled_Date_Time																								
Lot 63	3	TP18/22	TP18/22_1.2	1.2-1.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/22	TP18/22_3.0	3-3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP19/16	TP19/16_0.8	0.7-0.9	17/07/2019	-	-	-	-	300	300	300	84	-	30	71	720	76	<50	93	18	39	<4	100	<2	-	-	250	<10	<4	<50	2212.6
Lot 63	3	TP19/16	TP19/16_1.2	1.1-1.3	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP19/17	TP19/17_0.5	0.4-0.6	18/07/2019	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	1.9	<0.5	<1	2.5	<0.5	-	-	<0.5	<10	<1	<20	15.4
Lot 63	3	TP19/17	TP19/17_3.5	3.4-3.6	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP19/18	TP19/18_0.3	0.2-0.4	17/07/2019	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	<10	<1	<20	<0.5
Lot 63	3	TP19/18	TP19/18_0.6	0.5-0.7	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP19/33	DOI_240719	0.2-0.4	24/07/2019	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	<10	<1	<20	<0.5
Lot 63	3	TP19/33	T01_240719	0.2-0.4	24/07/2019	-	1.2	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	-	<0.5	-	-	-	<0.5
Lot 63	3	TP19/33	TP19/33_0.3	0.2-0.4	24/07/2019	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	<10	<1	<20	<0.5
Lot 63	3	TP19/33	TP19/33_0.5	0.4-0.6	24/07/2019	-	0.71	<0.05	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	<0.05
Lot 63	3	TP19/33	TP19/33_1.2	1.1-1.3	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP19/34	TP19/34_0.3	0.2-0.3	24/07/2019	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	<10	<1	<20	<0.5
Lot 63	3	TP19/34	TP19/34_0.7	0.6-0.8	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	3	TP19/35	TP19/35_0.7	0.6-0.8	23/07/2019	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	<10	<1	<20	3.2
Lot 60	3	TP19/35	TP19/35_0.1	0-0.2	23/07/2019	-	2.02	1.48	-	-	-	-	-	-	2.9	-	0.6	<0.5	-	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	-	-	0.9	-	-	-	7.02
Road alignment	8	TP19/07	TP19/07_0.4	0.3-0.5	2/08/2019	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	1.7	<0.5	<1	4.3	<0.5	-	-	0.9	<10	<1	<20	8
Road alignment	8	TP19/07	TP19/07_0.1	0-0.2	2/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	11	BH12/34	D_140312_01	-0.3	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	11	BH12/34	BH12/34_0.3	0.3-0.3	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	11	BH12/34	BH12/34_0.6	0.6-0.6	14/03/2012	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	1.9	<0.5	-	-	<0.5	-	-	-	1.9
Road alignment	11	BH12/34	BH12/34_1.1	1.1-1.1	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	BH12/35	BH12/35_0.1	0.1-0.1	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	BH12/35	BH12/35_1.05	1.05-1.05	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	SB18/12	SB18/12_0.3_20180214	0.3-0.3	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	SB18/12	SB18/12_1.2_20180214	-1.2	14/02/2018	-	1.6	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	4.4	<0.5	-	3.7	7.7	<0.5	<2	58.9	<0.5	-	-	6.6	-	-	-	113
Lot 59	11	SB18/12	SB18/12_1.2_20180214	1.2-1.2	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	SB18/12	SB18/12_2.1_20180214	-2.1	14/02/2018	-	1.2	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	2.4	-	-	-	<0.5	-	-	-	2.4
Lot 59	11	SB18/12	SB18/12_2.1_20180214	2.1-2.1	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	SB18/16	SB18/16_0.3_20180214	-0.3	14/02/2018	-	1.4	0.8	-	-	-	-	<0.5	-	<0.5	<0.5	3.3	<0.5	-	1.4	0.9	<0.5	<2	9.6	<0.5	-	-	3.6	-	-	-	22.9
Lot 59	11	SB18/16	SB18/16_0.3_20180214	0.3-0.3	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	13	TP19/56	TP19/56_0.2	0.1-0.3	1/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	14	TP19/02	TP19/02_0.2	0.1-0.3	30/07/2019	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	<10	<1	<20	<0.5
Lot 59	15	MW11/06	MW11/06_0.5	0.5-0.5	20/09/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 59	15	MW11/06	MW11/06_2.2	2.2-2.2	20/09/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Road alignment	15	MW11/07	MW11/07_0.5	0.5-0.5	20/09/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Road alignment	15	MW11/07	MW11/07_1.0	1-1	20/09/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Road alignment	15	MW11/07	MW11/07_5.0	5-5	20/09/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 60	15	MW11/09	MW11/09_1.0	1-1	21/09/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 60	15	MW11/09	MW11/09_3.3	3.3-3.3	21/09/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 60	15	MW11/14	MW11/14_0.3	0.3-0.3	23/09/2011	3	-	-	-	-	-	-	-	-	0.9	-	6.2	2.1	-	0.5	<0.5	1.1	<1	0.6	<0.5	-	-	1.3	-	-	-	21
Lot 60	15	MW11/14	MW11/14_2.8	2.8-2.8	23/09/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 63	15	MW12/02	MW12/02_0.15	0.15-0.15	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW12/02	MW12/02_5.5	5.5-5.5	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	SB6B	D03_050218	0.9-1.1	5/02/2018	-	1.2	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	<0.5	<0.5	-	-	-
Lot 63	15	SB6B	SB6B_1.0	0.9-1.1	5/02/2018	-	1.2	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	<0.5	<0.5	-	-	-
Lot 63	15	SB6B	SB6B_2.0	1.9-2	5/02/2018	-	1.2	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	<0.5	<0.5	-	-	-
Lot 59	15	TP18/15	TP18/15_0.3_180209	-0.3	9/02/2018	-	1.2	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	-	<0.5	-	-	-	<0.5
Lot 59	15	TP18/15	TP18/15_0.3-180209	0.3-0.3	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	TP18/31	TP18/31_0.3_20180208	0.3-0.3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	TP18/31	TP18/31_1.2_20180208	-1.2	8/02/2018	-	1.2	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	-	<0.5	-	-	-	<0.5
Road alignment	15	TP18/31	TP18/31_1.2_20180208	1.2-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	TP18/31	TP18/31_3.0_20180208	-3	8/02/2018	-	1.2	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	0.5
Road alignment	15	TP18/31	TP18/31_3.0_20180208	3-3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	TP18/35	TP18/35_0.3	0.3-0.3	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	TP18/35	TP18/35_1.2	-1.2	6/02/2018	-	1.2	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	-	<0.5	-	-	-	<0.5
Lot 63	15	TP18/35	TP18/35_1.2	1.2-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	TP18/35	TP18/35_2.2	-2.2	6/02/2018	-	1.2	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 63	15	TP18/35	TP18/35_2.2	2.2-2.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	TP19/03	TP19/03_0.1	0-0.2	24/07/2019	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	<10	<1	<20	<0.5
Lot 59	15	TP19/37	TP19/37_0.2	0.1-0.3	24/07/2019	-	-	-	-	16	16	16	11	-	4.5	3.4	17	3.8	<20	2	1.5	5.8	<1	6.7	<0.5	-	-	21	<10	<1	<20	96.5
Lot 59	15	TP19/37	TP19/37_1.0	0.9-1.1	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	TP19/38	TP19/38_0.3	0.2-0.4	24/07/2019	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	<10	<1	<20	<0.5
Lot 59	15	TP19/38	TP19/38_2.0	1.9-2.1	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/07	TP21/07_0.5	0.5	10/03/2021	-	-	-	-	83	83	83	27	-	14	15	97	30	-	18	15	18	-	120	-	-	-	50	-	-	-	551.1
Lot 59	59	TP21/07	TP21/07_1.5	1.5	10/03/2021	-	-	-	-	1.7	1.8	1.7	0.7	-	<0.5	<0.5	2	0.6	-	0.7	<0.5	<0.5	-	1.1	-	-	-	1.1	-	-	-	8.7
Lot 59	59	TP21/08	TP21/08_1.1	1.1	10/03/2021	-	-	-	-	7.9	7.9	7.9	2.6	-	1.2	1.4	9	2.8	-	2	1.7	1.3	-	9.5	-	-	-	5.9	-	-	-	51.9
Lot 59	59	TP21/08	TP21/08_1.5	1.5	10/03/2021	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	0.9	-	-	-	<0.5	-	-	-	0.9
Lot 59	59	TP21/09	TP21/09_1.0	1	10/03/2021	-	-	-	-	3.4	3.4	3.4	1.3	-	0.7	0.7	5.1	1.1	-	0.7	<0.5	0.7	-	1.4	-	-	-	2.1	-	-	-	19.6
Lot 59	59	TP21/09	TP21/09_1.6	1.6	10/03/2021	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	1.1	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	1.1
Lot 59	59	TP21/09	TP21/09_2.2	2.2	10/03/2021	-	-	-	-	0.6	1.2	0.9	<0.5	-	<0.5	<0.5	0.7	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	1.8

	Benzo(b)&(k)fluoranthene	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ (zero)	Benzo(b)fluoranthene	Benzo(a)pyrene TEQ (lower bound)*	Benzo(a)pyrene TEQ (upper bound)*	Benzo(a)pyrene TEQ (medium bound)*	Benzo(b&j)fluoranthene	Benzo(b&j)fluoranthene (TEF 0.1)	Benz(a,h,)berylene	Benzo(b)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Dioxsob	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Pentachlorophenol	Phenanthrene	Phenol	Phenolics Total	Polycylic aromatic hydrocarbons EPA448	Pyrene	Tetrachlorophenols	Phenols (Total Halogenated)	Total Non-Halogenated Phenol	PAHs (Sum of total)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	1	0.05	0.05	0.1	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	20	0.1	0.1	0.1	0.5	0.1	0.1	5	0.5	0.1	10	1	20	0.05
Clyde WARP SSTL (Direct Contact - Commercial)							40																					
Clyde WARP SSTL (Direct Contact - Construction Worker)							200																					
Clyde WARP SSTL (Direct Contact - IMW)							3000																					
Clyde WARP SSTL (Vapour Intrusion - Commercial) >4m 4-6m																												
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m 1-1.99m																												
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m 2-3.99m																												
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m 0-0.99m																												
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)																												
Clyde WARP SSTL (Vapour Intrusion - IMW)																												
NEPM (1999) HIL D - Commercial/Industrial																		660		240000								4000
NEPM (1999) HSL D Comm/Indust - Asbestos																												
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																												

| Alternative_Name | Monitoring_Zone | Location_Code | Field_ID | Sample_Depth_Range | Sampled_Date_Time | | | | | | | | | | | | | | | | | | |

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	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	cis-1,4-Dichloro-2-butene	Cyclohexane	Dibromomethane	Dichlorodifluoromethane	Dichloromethane	Iodomethane	Isopropylbenzene	n-Butylbenzene	n-propylbenzene	Pentachloroethane	p-isopropyltoluene	sec-butylbenzene	Styrene	TCE	tert-butylbenzene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	trans-1,4-Dichloro-2-butene	Trichlorofluoromethane	Vic EPA IWRG 621 CHC (Total)*	Vic EPA IWRG 621 Other CHC (Total)*	Vinyl acetate	Vinyl chloride
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	
Clyde WARP SSTL (Direct Contact - Commercial)																												
Clyde WARP SSTL (Direct Contact - Construction Worker)																												
Clyde WARP SSTL (Direct Contact - IMW)																												
Clyde WARP SSTL (Vapour Intrusion - Commercial) >-4m 4-6m																												
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m 1-1.99m																												
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m 2-3.99m																												
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m 0-0.99m																												
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)																												
Clyde WARP SSTL (Vapour Intrusion - IMW)																												
NEPM (1999) HIL D - Commercial/Industrial																												
NEPM (1999) HSL D Comm/Indust - Asbestos																												
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																												

Alternative_Name	Monitoring_Zone	Location_Code	Field_ID	Sample_Depth_Range	Sampled_Date_Time																									
Lot 60	2	MW12/04	MW12/04_0.1	0.1-0.1	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	MW12/04	MW12/04_4.7	4.7-4.7	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	SB10B	SB10B_0.5	0.4-0.6	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	SB10B	SB10B_1.0	0.9-1.1	2/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 60	2	SB7B	SB7B_1.0	0.9-1.1	2/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 60	2	SB7B	SB7B_2.0	1.9-2	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	SB8B	SB8B_0.2	0.2-0.4	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	SB8B	SB8B_1.0	0.9-1.1	2/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 60	2	SB9B	SB9B_1.0	0.9-1.1	1/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 60	2	SB9B	SB9B_2.0	1.9-2	1/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP18/29	TP18/29_0.3	0.3-0.3	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP18/29	TP18/29_1.2	-1.2	6/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 60	2	TP18/29	QC18_100	1.2-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP18/29	TP18/29_1.2	1.2-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP18/29	TP18/29_2.2	2.2-2.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP18/29	TP18/29_3.0	-3	6/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 60	2	TP18/29	TP18/29_3.0	3-3	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP19/14	TP19/14_1.0	0.9-1.1	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP19/14	TP19/14_3.0	2.9-3.1	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP19/15	TP19/15_0.8	0.7-0.9	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	TP19/15	TP19/15_2.0	1.9-2.1	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	MW11/18	MW11/18_0.3	0.3-0.3	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	MW11/18	MW11/18_3.2	3.2-3.2	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW11/19	D_230911_01	0.4-0.4	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW11/19	MW11/19_0.4	0.4-0.4	23/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW11/19	MW11/19_2.3	2.3-2.3	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW11/20	MW11/20_0.2	0.2-0.2	23/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW11/20	MW11/20_5.0	5-5	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03_1.0	1-1	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03_3.3	3.3-3.3	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	3	SB1B	SB1B_0.5	0.4-0.6	2/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 60	3	SB1B	SB1B_2.0	1.9-2	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	3	SB1B	T02_020218	1.9-2	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	SB2B	D02_020218	0.9-1.1	2/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 63	3	SB2B	SB2B_1.0	0.9-1.1	2/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 63	3	SB2B	SB2B_2.0	1.9-2	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	SB3B	SB3B_0.2	0.2-0.4	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	SB3B	SB3B_1.0	0.9-1.1	2/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 63	3	SB3B	SB3B_2.0	1.9-2	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	SB4B	SB4B_0.2	0.2-0.4	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	SB4B	SB4B_2.0	1.9-2	5/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 60	3	TP18/18	TP18/18_0.3	-0.3	6/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 60	3	TP18/18	TP18/18_0.3	0.3-0.3	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	3	TP18/18	TP18/18_1.2	-1.2	6/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 60	3	TP18/18	TP18/18_1.2	1.2-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	3	TP18/18	TP18/18_3.0	3-3	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/19	TP18/19_0.3	0.3-0.3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/19	TP18/19_1.2	1.2-1.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/19	TP18/19_3.0	3-3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/22	TP18/22_0.3	-0.3	7/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 63	3	TP18/22	TP18/22_0.3	0.3-0.3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/22	TP18/22_1.2	-1.2	7/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5

	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	cis-1,4-Dichloro-2-butene	Cyclohexane	Dibromomethane	Dichlorodifluoromethane	Dichloromethane	Iodomethane	Isopropylbenzene	n-Butylbenzene	n-propylbenzene	Pentachloroethane	p-isopropyltoluene	sec-butylbenzene	Styrene	TCE	tert-butylbenzene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	trans-1,4-Dichloro-2-butene	Trichlorofluoromethane	VIC EPA NWG 621 CHC (Total)*	VIC EPA NWG 621 Other CHC (Total)*	Vinyl acetate	Vinyl chloride
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	0.5	
Clyde WARP SSTL (Direct Contact - Commercial)																												
Clyde WARP SSTL (Direct Contact - Construction Worker)																												
Clyde WARP SSTL (Direct Contact - IMW)																												
Clyde WARP SSTL (Vapour Intrusion - Commercial) >4m 4-6m																												
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m 1-1.99m																												
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m 2-3.99m																												
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m 0-0.99m																												
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)																												
Clyde WARP SSTL (Vapour Intrusion - IMW)																												
NEPM (1999) HIL D - Commercial/Industrial																												
NEPM (1999) HSL D Comm/Indust - Asbestos																												
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																												

Alternative_Name	Monitoring_Zone	Location_Code	Field_ID	Sample_Depth_Range	Sampled_Date_Time																									
Lot 63	3	TP18/22	TP18/22_1.2	1.2-1.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/22	TP18/22_3.0	3-3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP19/16	TP19/16_0.8	0.7-0.9	17/07/2019	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Lot 63	3	TP19/16	TP19/16_1.2	1.1-1.3	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP19/17	TP19/17_0.5	0.4-0.6	18/07/2019	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	0.7	-	-	-	-	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Lot 63	3	TP19/17	TP19/17_3.5	3.4-3.6	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP19/18	TP19/18_0.3	0.2-0.4	17/07/2019	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Lot 63	3	TP19/18	TP19/18_0.6	0.5-0.7	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP19/33	DOI_240719	0.2-0.4	24/07/2019	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Lot 63	3	TP19/33	T01_240719	0.2-0.4	24/07/2019	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 63	3	TP19/33	TP19/33_0.3	0.2-0.4	24/07/2019	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Lot 63	3	TP19/33	TP19/33_0.5	0.4-0.6	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP19/33	TP19/33_1.2	1.1-1.3	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP19/34	TP19/34_0.3	0.2-0.3	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP19/34	TP19/34_0.7	0.6-0.8	24/07/2019	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Lot 60	3	TP19/35	TP19/35_0.7	0.6-0.8	23/07/2019	<2.5	<2.5	<2.5	<2.5	-	-	<2.5	<2.5	<2.5	<2.5	<2.5	-	-	-	-	-	<2.5	<2.5	-	<2.5	<2.5	<2.5	<2.5	<2.5	-	<2.5
Lot 60	3	TP19/35	TP19/35_0.1	0-0.2	23/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	8	TP19/07	TP19/07_0.4	0.3-0.5	2/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	8	TP19/07	TP19/07_0.1	0-0.2	2/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	11	BH12/34	D_140312_01	-0.3	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	11	BH12/34	BH12/34_0.3	0.3-0.3	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	11	BH12/34	BH12/34_0.6	0.6-0.6	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	11	BH12/34	BH12/34_1.1	1.1-1.1	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	BH12/35	BH12/35_0.1	0.1-0.1	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	BH12/35	BH12/35_1.05	1.05-1.05	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	SB18/12	SB18/12_0.3_20180214	0.3-0.3	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	SB18/12	SB18/12_1.2_20180214	-1.2	14/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 59	11	SB18/12	SB18/12_1.2_20180214	1.2-1.2	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	SB18/12	SB18/12_2.1_20180214	-2.1	14/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 59	11	SB18/12	SB18/12_2.1_20180214	2.1-2.1	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	11	SB18/16	SB18/16_0.3_20180214	-0.3	14/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 59	11	SB18/16	SB18/16_0.3_20180214	0.3-0.3	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	13	TP19/56	TP19/56_0.2	0.1-0.3	1/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	14	TP19/02	TP19/02_0.2	0.1-0.3	30/07/2019	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5
Lot 59	15	MW11/06	MW11/06_0.5	0.5-0.5	20/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06_2.2	2.2-2.2	20/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	MW11/07	MW11/07_0.5	0.5-0.5	20/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	MW11/07	MW11/07_1.0	1-1	20/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	MW11/07	MW11/07_5.0	5-5	20/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	15	MW11/09	MW11/09_1.0	1-1	21/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	15	MW11/09	MW11/09_3.3	3.3-3.3	21/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	15	MW11/14	MW11/14_0.3	0.3-0.3	23/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	15	MW11/14	MW11/14_2.8	2.8-2.8	23/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW12/02	MW12/02_0.15	0.15-0.15	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW12/02	MW12/02_5.5	5.5-5.5	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	SB6B	D03_050218	0.9-1.1	5/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 63	15	SB6B	SB6B_1.0	0.9-1.1	5/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 63	15	SB6B	SB6B_2.0	1.9-2	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	TP18/15	TP18/15_0.3_180209	-0.3	9/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 59	15	TP18/15	TP18/15_0.3-180209	0.3-0.3	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	TP18/31	TP18/31_0.3_20180208	0.3-0.3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	TP18/31	TP18/31_1.2_20180208	-1.2	8/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Road alignment	15	TP18/31	TP18/31_1.2_20180208	1.2-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	TP18/31	TP18/31_3.0_20180208	-3	8/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Road alignment	15	TP18/31	TP18/31_3.0_20180208	3-3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	TP18/35	TP18/35_0.3	0.3-0.3	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	TP18/35	TP18/35_1.2	-1.2	6/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 63	15	TP18/35	TP18/35_1.2	1.2-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	TP18/35	TP18/35_2.2	-2.2	6/02/2018	<0.5	<5	<0.5	<0.5	<0.5	-	<0.5	<5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 63	15	TP18/35	TP18/35_2.2	2.2-2.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	TP19/03	TP19/03_0.1	0-0.2	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	TP19/37	TP19/37_0.2	0.1-0.3	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	TP19/37	TP19/37_1.0	0.9-1.1	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	TP19/38	TP19/38_0.3	0.2-0.4	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	TP19/38	TP19/38_2.0	1.9-2.1	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/07	TP21/07_0.5	0.5	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/07	TP21/07_1.5	1.5	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/08	TP21/08_1.1	1.1	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/08	TP21/08_1.5	1.5	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/09	TP21/09_1.0	1	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/09	TP21/09_1.6	1.6	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/09	TP21/09_2.2	2.2	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	cis-1,4-Dichloro-2-butene	Cyclohexane	Dibromomethane	Dichlorodifluoromethane	Dichloromethane	Iodomethane	Isopropylbenzene	n-Butylbenzene	n-propylbenzene	Pentachloroethane	p-isopropyltoluene	sec-butylbenzene	Styrene	TCE	tert-butylbenzene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	trans-1,4-Dichloro-2-butene	Trichlorofluoromethane	Vic EPA IWRG 621 CHC (Total)*	Vic EPA IWRG 621 Other CHC (Total)*	Vinyl acetate	Vinyl chloride
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	5	0.5
Clyde WARP SSTL (Direct Contact - Commercial)																												
Clyde WARP SSTL (Direct Contact - Construction Worker)																												
Clyde WARP SSTL (Direct Contact - IMW)																												
Clyde WARP SSTL (Vapour Intrusion - Commercial) >4m 4-6m																												
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m 1-1.99m																												
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m 2-3.99m																												
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m 0-0.99m																												
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)																												
Clyde WARP SSTL (Vapour Intrusion - IMW)																												
NEPM (1999) HIL D - Commercial/Industrial																												
NEPM (1999) HSL D Comm/Indust - Asbestos																												
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																												

Alternative_Name	Monitoring_Zone	Location_Code	Field_ID	Sample_Depth_Range	Sampled_Date_Time																									
Lot 59	59	TP21/42	TP21/42_0.2	0.2	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/42	DUP05_210315	0.7	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/42	TP21/42_0.7	0.7	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/42	TRIP05_210315	0.7	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/64	TP21/64_1.0	1	16/03/2021	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	-	-	-	-	-	-
Lot 59	59	TP21/64	TP21/64_2.0	2	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/66	DUP06_210316	1	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/66	TP21/66_1.0	1	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/66	TRIP06_210316	1	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/66	TP21/66_2.0	2	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/10	TP21/10-0.5	0.5	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/10	TP21/10-1.2	1.2	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/11	TP21/11-0.5	0.5	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/11	TP21/11-2.0	2	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/16	TP21/16_2.0	2	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/17	TP21/17_1.0	1	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/17	TP21/17_2.2	2.2	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/68	TP21/68_0.7	0.7	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/68	TP21/68_1.5	1.5	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/71	TP21/71_0.2	0.2	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/71	TP21/71_1.5	1.5	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/72	TP21/72_0.4	0.4	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/72	TP21/72_0.9	0.9	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/95	TP21/95_0.5	0.5	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/95	DUP08_210318	1	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/95	TP21/95_1.0	1	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/95	TRIP08_210318	1	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/18	TP21/18-0.6	0.6	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/18	TP21/18-2.2	2.2	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/19	TP21/19-0.5	0.5	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/19	TP21/19-3.0	3	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/20	TP21/20-0.6	0.6	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/20	TP21/20-1.0	1	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/21	TP21/21-0.5	0.5	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/21	TP21/21-1.0	1	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/22	DUP01_210308	0.2	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/22	TP21/22-0.2	0.2	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/22	TRIP01_210308	0.2	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/22	TP21/22-1.0	1	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/23	TP21/23-0.2	0.2	9/03/2021	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	-	-	-	-	<5	<5	<5	-	<5	<5	<5	-	<5
Lot 63	63	TP21/23	TP21/23-3.1	3.1	9/03/2021	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	0.5	-	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5
Lot 63	63	TP21/24	TP21/24-0.5	0.5	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/24	TP21/24-1.5	1.5	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/74	TP21/74_1	1	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/74	TP21/74_2.5	2.5	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/76	TP21/76_0.2	0.2	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/76	DUP07_210317	2	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/76	TP21/76_2.0	2	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/76	TRIP07_210317	2	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/79	TP21/79_0.2	0.2	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/79	TP21/79_1.0	1	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/79	TP21/79_2.0	2	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/79	TP21/79_2.8	2.8	15/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	14	TP20/21	TP20/21_0.8	0.7-0.9	16/09/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	14	TP20/22	TP20/22_1.5	1.4-1.6	16/09/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	14	TP20/23	TP20/23_1.5	1.4-1.6	16/09/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	14	TP20/24	TP20/24_1.0	0.9-1	30/09/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	14	TP20/25	TP20/25_0.7	0.7-0.8	7/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	14	TP20/29a	TP20/29A_0.8	0.7-0.8	16/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	14	TP20/29b	TP20/29B_0.5	0.4-0.6	16/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	14	TP20/29b	TP20/29B_0.5	0.5-0.6	16/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	14	TP20/29c	TP20/29C_0.5	0.4-0.5	16/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	14	TP20/29c	TP20/29C_0.5	0.4-0.6	16/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	14	TP20/30	TP20/30_0.5	0.4-0.5	16/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	14	TP20/30	TP20/30_0.5	0.4-0.6	16/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary

Number of Results	36	36	36	36	26	0	36	36	10	36	36	26	26	26	26	26	36	36	26	36	36	36	26	36	10	10	26	36
Number of Detects	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<0.5	<0.5	<0.5	<0.5	<0.5	99999	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5	ND	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<5	<5	<5	<5	<0.5	0	<5	<5	<5	<5	<5	<0.5	0.7	<0.5	<0.5	<0.5	<5	<5	<0.5	<5	<5	<5	<0.5	<5	<5	<5	<5	<5
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.7	ND	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration	0.34	2	0.34	0.34	0.25		0.34	2	0.58	0.34	0.36	0.25	0.27	0.25	0.25	0.25	0.34	0.34	0.25	0.34	0.34	0.34	0.25	2	0.58	0.58	2.5	2
Median Concentration	0.25	2.5	0.25	0.25	0.25		0.25	2.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	2.5	0.25	0.25	2.5	2.5
Standard Deviation	0.41	0.95	0.41	0.41	0		0.41	0.95	0.75	0.41	0.41	0	0.088	0	0	0	0.41	0.41	0	0.41	0.41	0.41	0	0.95	0.75	0.75	0	0.95
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Comments

#1:Assumes Total chromium is 17% Hexavalent chromium

| | | | | | | | OCs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OPs | | | | | | | | | | | | | | | | | | |

| | | | | | | | SVOC | | | | | | |

						Asbestos Detected	FA- Comment	AF- Comment
						Comment	Comment	Comment
NEPM (1999) HSL Asbestos (Commercial/Industrial)								
Field_ID	Location_Code	Sample_Depth_Avg	Sample_Type	Sampled_Date_Time	RSI Area ID	-	-	-
TP21/12_0.2	TP21/12	0.2	Normal	18/03/2021	15	No	Nil	Nil
TP21/12_0.6	TP21/12	0.6	Normal	18/03/2021	15	No	Nil	Nil
TP21/13_0.2	TP21/13	0.2	Normal	18/03/2021	15	No	Nil	Nil
TP21/13_0.8	TP21/13	0.8	Normal	18/03/2021	15	No	Nil	Nil
TP21/14_0.1	TP21/14	0.1	Normal	18/03/2021	15	No	Nil	Nil
TP21/14_0.6	TP21/14	0.6	Normal	18/03/2021	15	No	Nil	Nil
TP21/15_0.3	TP21/15	0.3	Normal	18/03/2021	15	No	Nil	Nil
TP21/15_1.0	TP21/15	1	Normal	18/03/2021	15	No	Nil	Nil
TP21/16_0.4	TP21/16	0.4	Normal	18/03/2021	15	No	Nil	Nil
TP21/16_1.5	TP21/16	1.5	Normal	18/03/2021	15	No	Nil	Nil
TP21/19-0.5	TP21/19	0.5	Normal	18/03/2021	15	No	Nil	Nil

Statistical Summary

Number of Results	0	0	0
Number of Detects	0	0	0
Minimum Concentration	99999	99999	99999
Minimum Detect	ND	ND	ND
Maximum Concentration	0	0	0
Maximum Detect	ND	ND	ND
Average Concentration			
Median Concentration			
Standard Deviation			

						Asbestos														
						ACM - Comment	Asbestos fibres	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	Asbestos Sample Dimensions	Mass ACM	Mass Asbestos in ACM	Mass Asbestos in FA & AF	Soil Mass sieved to 7mm	Mass of test sample for extraction	Mass asbestos in AF	Mass Asbestos in FA	Mass FA	Organic Fibres - Comment	Respirable Fibres - Comment	Synthetic Fibres - Comment
						Comment	g	%w/w	%w/w	Comment	g	g	g	g	g	g	g	g	Comment	COMMENT	COMMENT
NEPM (1999) HSL Asbestos (Commercial/Industrial)								0.05	0.001											
Field_ID	Location_Code	Sample_Depth_Avg	Sample_Type	Sampled_Date_Time	RSI Area ID	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
TP21/12_0.2	TP21/12	0.2	Normal	18/03/2021	15	-	ND	ND	ND	-	0	ND	ND	11000	611	ND	ND	ND	Yes	-	Yes
TP21/12_0.6	TP21/12	0.6	Normal	18/03/2021	15	-	ND	ND	ND	-	0	ND	ND	11000	504	ND	ND	ND	Yes	-	-
TP21/13_0.2	TP21/13	0.2	Normal	18/03/2021	15	-	ND	ND	ND	-	0	ND	ND	11000	616	ND	ND	ND	Yes	-	Yes
TP21/13_0.8	TP21/13	0.8	Normal	18/03/2021	15	-	ND	ND	ND	-	0	ND	ND	11000	597	ND	ND	ND	Yes	-	-
TP21/14_0.1	TP21/14	0.1	Normal	18/03/2021	15	-	ND	ND	ND	-	0	ND	ND	11000	950	ND	ND	ND	Yes	-	Yes
TP21/14_0.6	TP21/14	0.6	Normal	18/03/2021	15	-	ND	ND	ND	-	0	ND	ND	11000	521	ND	ND	ND	Yes	-	-
TP21/15_0.3	TP21/15	0.3	Normal	18/03/2021	15	-	ND	ND	ND	-	0	ND	ND	11000	639	ND	ND	ND	Yes	-	Yes
TP21/15_1.0	TP21/15	1	Normal	18/03/2021	15	-	ND	ND	ND	-	0	ND	ND	11000	426	ND	ND	ND	Yes	-	-
TP21/16_0.4	TP21/16	0.4	Normal	18/03/2021	15	-	ND	ND	ND	-	0	ND	ND	11000	574	ND	ND	ND	Yes	-	Yes
TP21/16_1.5	TP21/16	1.5	Normal	18/03/2021	15	-	ND	ND	ND	-	0	ND	ND	11000	546	ND	ND	ND	Yes	-	-
TP21/19-0.5	TP21/19	0.5	Normal	18/03/2021	15	-	ND	ND	ND	-	0	ND	ND	11000	953	ND	ND	ND	Yes	-	-
Statistical Summary																				
Number of Results						11	11	11	11	0	11	11	11		11	11	11	11	0	11	6
Number of Detects						11	0	0	0	0	11	0	0		11	0	0	0	0	11	6
Minimum Concentration						99999	0	0	0	99999	0	0	0		426	0	0	0	99999	99999	99999
Minimum Detect						ND	ND	ND	ND	ND	ND	ND	ND		426	ND	ND	ND	ND	ND	ND
Maximum Concentration						0	0	0	0	0	0	0	0		953	0	0	0	0	0	0
Maximum Detect						ND	ND	ND	ND	ND	ND	ND	ND		953	ND	ND	ND	ND	ND	ND
Average Concentration							0	0	0		0	0	0		631	0	0	0			
Median Concentration							0	0	0		0	0	0		597	0	0	0			
Standard Deviation							0	0	0		0	0	0		170	0	0	0			

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							ASLP	OCP		Per- and Polyfluoroalkyl Subst										PFOS and PFOA															
										Epichlorohydrin	Final pH	Initial pH	Leachate Fluid	pH (Leachate fluid)	pH (AUS 2HE - orf)	Vic EPA IWRG 621 OCP (Total)*	Vic EPA IWRG 621 Other OCP (Total)*	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOS	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Sum of PFAS	Sum of PFAS (WA DER List)	Sum of PFHxS and PFOS	PFOS	Perfluorooctanoate	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FtS)	8:2 Fluorotelomer sulfonate	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	N-Ethyl perfluorooctane sulfonamidoacetic acid (Et	N-Methyl perfluorooctane sulfonamidoacetic acid	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid	Perfluorodecanesulfonic acid (PFDS)	Perfluorohexanesulfonic acid (PFHxS)	Perfluoroundecanoic acid (PFUnA)	Perfluorododecanoic acid (PFDA)
										µg/L	pH_units	pH_units	mg/l	pH Units	PH UNITS	MG/KG	MG/KG	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL										0.2	0.1	0.1		0.1	0.1	0.001	0.001	0.05	0.05	0.05	0.05	0.01	0.01	0.1	0.05	0.01	0.01	0.01	0.01	0.05	0.01	0.01	0.05	0.05	0.01	0.05	0.01	0.01	0.01	0.01
Clyde SSTL PFAS - Intrusive Maintenance Worker (Direct Contact)																																				
NEPM (1999) GIL - Marine Water																																				
NEPM (2013) - Marine Water																																				
NEPM (2013) - Recreational										5																										
NHMRC (2019) Recreational Water																																				
PFAS NEMP 2018 Table 5 Interim marine 95%																																				
Monitoring_Zone	**Location_Code**	**Field_ID**	**Sample_Depth_Avg**	**Sampled_Date_Time**	**Sample_Type**																															
3	TP19/33	TP19/33_0.3	0.3	24/07/2019	Normal	-	7.8	8.1	4	7	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	0.32	0.26	0.26	0.26	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	0.02	<0.01
3	TP19/33	TP19/33_0.5	0.5	24/07/2019	Normal	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	TP19/34	TP19/34_0.3	0.3	24/07/2019	Normal	-	9.8	9.6	4	7	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	0.16	0.16	0.16	0.12	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.01	0.04	<0.01	<0.01
3	TP19/35	TP19/35_0.1	0.1	23/07/2019	Normal	<0.2	4.5	4.8	4	7	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	0.16	0.14	0.13	0.12	0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.01	0.01	<0.01	<0.01
Statistical Summary																																				
Number of Results						2	3	3	3	3	0	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Number of Detects						0	3	3	3	3	0	0	0	0	0	0	0	0	0	3	3	3	3	1	0	0	0	0	0	0	0	0	0	2	1	0
Minimum Concentration						<0.2	4.5	4.8	4	7	99999	99999	99999	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	0.16	0.14	0.13	0.12	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01
Minimum Detect						ND	4.5	4.8	4	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.16	0.14	0.13	0.12	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	0.02	ND
Maximum Concentration						<0.2	9.8	9.6	4	7	0	0	0	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	0.32	0.26	0.26	0.26	0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.01	0.04	0.02	<0.01
Maximum Detect						ND	9.8	9.6	4	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.32	0.26	0.26	0.26	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04	0.02	ND
Average Concentration							7.4	7.5	4	7				0.025	0.025	0.025	0.025	0.005	0.005	0.21	0.19	0.18	0.17	0.0067	0.005	0.025	0.005	0.005	0.025	0.025	0.005	0.025	0.005	0.018	0.01	0.005
Median Concentration						0.1	7.8	8.1	4	7				0.025	0.025	0.025	0.025	0.005	0.005	0.16	0.16	0.16	0.12	0.005	0.005	0.025	0.005	0.005	0.025	0.025	0.005	0.025	0.005	0.01	0.005	0.005
Standard Deviation							2.7	2.5	0	0				0	0	0	0	0	0	0.092	0.064	0.068	0.081	0.0029	0	0	0	0	0	0	0	0	0	0.019	0.0087	0
Number of Guideline Exceedances						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

										BTEX						Naphthalene	TRH NEPM (1999)					TRH NEPM (2013)							TRH	Metals										
										Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorododecanoic acid (PFDoA)	Perfluorononanoic acid (PFNA)	Perfluorooctanesulfonamide (PFOSA)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Naphthalene	TRH >C6-C9 Fraction	TRH >C10-C14 Fraction	TRH >C15-C28 Fraction	TRH >C29-C36 Fraction	TRH >C10-C36 Fraction	TRH C6-C10 Fraction	TRH C6-C10 less BTEX	TRH >C10-C16 Fraction	TRH >C10-C16 Fraction less N	TRH >C16-C34 Fraction	TRH >C10-C40 Fraction	TRH >C34-C40 Fraction	TRH (Total)	Arsenic	Cadmium	Chromium	Chromium (hexavalent)	Chromium (Trivalent)	Copper	Lead	Mercury	Nickel	Zinc	4,4-DDE
										µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL										0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05	20	20	20	20	20	60	1	1000	50	100	100	100	1000	20	50	50	100	100	100	100	5	0.5	10	5	5	10	10	0.1	10	10	0.1
Clyde SSTL PFAS - Intrusive Maintenance Worker (Direct Contact)																																											
NEPM (1999) GIL - Marine Water																		500|950	180	5	350	275		50													2.3	0.7	4.4			1.3	4.4	0.1	7	8|15	
NEPM (2013) - Marine Water																		500						50														0.7		4.4	27	1.3	4.4	0.1	7	15	
NEPM (2013) - Recreational																		10	8000	3000			6000													100	20		500		20000	100	10	200	30000	
NHMRC (2019) Recreational Water																																												
PFAS NEMP 2018 Table 5 Interim marine 95%																																												
Monitoring_Zone	**Location_Code**	**Field_ID**	**Sample_Depth_Avg**	**Sampled_Date_Time**	**Sample_Type**																																							
3	TP19/33	TP19/33_0.3	0.3	24/07/2019	Normal	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	TP19/33	TP19/33_0.5	0.5	24/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	TP19/34	TP19/34_0.3	0.3	24/07/2019	Normal	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	TP19/35	TP19/35_0.1	0.1	23/07/2019	Normal	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																																												
Number of Results						3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Detects						0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration						<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	99999	99999	99999	####	####	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	####	####	####	####	####	99999	####	99999	99999	99999	99999
Minimum Detect						ND	ND	ND	ND	ND	ND	0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration						<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum Detect						ND	ND	ND	ND	ND	ND	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration						0.005	0.005	0.005	0.005	0.005	0.005	0.022	0.025																																	
Median Concentration						0.005	0.005	0.005	0.005	0.005	0.005	0.02	0.025																																	
Standard Deviation						0	0	0	0	0	0	0.018	0																															
Number of Guideline Exceedances						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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	Organic				PAH/Phenols																																		PCBs								Pesticides		SVOC								
	Perfluorononanesulfonic acid (PFNS)	Perfluoropropanesulfonic acid (PFPrS)	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	Sum of US EPA PFAS (PFOS + PFOA)*	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,6-dichlorophenol	2-chlorophenol	2-methylphenol	2-nitrophenol	3-&4-methylphenol	4,6-Dinitro-2-methylphenol	4-chloro-3-methylphenol	4-nitrophenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b&j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Dinoseb	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Pentachlorophenol	Phenanthrene	Phenol	Pyrene	tetrachlorophenols	Phenols (Total Halogenated)	Total Non-Halogenated Phenol	PAHs (Sum of total)	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Sum of total)	Bolstar (Sulprofos)	Merphos	4,6-Dinitro-o-cyclohexyl phenol	Coumaphos	Demeton-O	Demeton-S	EPN	Ethoprop	Fensulfothion	Hexachlorobenzene
	UG/L	UG/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.01	0.01	0.01	0.01	10	10	3	3	30	3	3	3	10	6	30	10	30	1	1	1	1	1	1	1	1	1	100	1	1	1	10	1	3	1	30	10	100	1	5	1	5	5	5	5	5	1	2	0.002	100	20	2	20	2	2	2	0.1
Clyde SSTL PFAS - Intrusive Maintenance Worker (Direct Contact)																																																								
NEPM (1999) GIL - Marine Water						20	160				490									0.01		0.2						1.4				2	400																								
NEPM (2013) - Marine Water																															11		400																							
NEPM (2013) - Recreational						200	2000				3000																				100															100							10	100		
NHMRC (2019) Recreational Water																																																							
PFAS NEMP 2018 Table 5 Interim marine 95%																																																						

| Monitoring_Zone | Location_Code | Field_ID | Sample_Depth_Avg | Sampled_Date_Time | Sample_Type | | | | | | | | | | | | | | | | | | |

	BTEX							Naphthalene	TRH NEPM (1999)						TRH NEPM (2013)						TRH	TRH Silica Gel Cleanup								
	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene (Sum of m,p & o.)	Xylene Total	BTEX	Naphthalene	TRH>C6-C9fraction	TRH >C9-C16fraction	TRH >C10-C16fraction	TRH >C15-C28fraction	TRH >C16-C34fraction	TRH >C28-C36fraction	TRH >C34-C40fraction	TRH >C6-C10fraction	TRH >C10-C16fraction	TRH >C16-C34fraction	TRH >C34-C40fraction	TRH >C10-C40	TRH >C10-C16fraction minus BTEX	TRH >C16-C34fraction minus N	TRH >C10-C16fraction minus N	TRH >C6-C10fraction minus BTEX	TRH >C6-C10 less BTEX (F1)	TRH >C10-C16 less Naphthalene	TRH >C16-C34 less Naphthalene	TRH >C34-C40 less Naphthalene	TRH >C10-C40 less Naphthalene
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	1	1	1	1	2	3	1	1	0.05	20	20	50	100	-	50	50	20	20	50	50	100	100	100	100	100	50	50	50	100	100	100	50	100
ANZG (2018) TV - Marine water (95%)	700[#1]	180[#1]	80	350[#1]	275[#1]	-	-	-	70[#1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clyde WARP SSTL - GW VI - Commercial	5000								13000									6200				NL									
Clyde WARP SSTL - GW VI - Construction	NL								NL									NL				NL									
Clyde WARP SSTL - GW VI - IWW	NL								NL								-	NL	-	-	-	NL	-	-	-	-					
NEPM (2013) - Marine Water	500								50																						
NEPM (2013) - Recreational	10	8000	3000					6000																							
NHMRC (2019) HBGV - Recreational Water																															
PFAS NEMP 2020 Interim Marine 95%																															
PFAS NEMP 2020 Interim Marine 99%																															

Lot ID	AEC	Field_ID	Location_Code	Sampled_Date_Time																																		
Lot 60	2	MW12/04	MW12/04	23/03/2012	<1	<1	<1	<1	<2	<3	<6	<0.05	<20	-	<50	-	-	<50	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	<100	-	<100	-
Lot 60	2	MW12/04	MW12/04	7/12/2012	<1	<1	<1	<1	<2	<3	<6	<5	<20	-	<50	<100	<200	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 60	2	-	MW12/04	5/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	MW12/04	MW12/04	5/12/2013	<1	<1	<1	<1	<2	<3	<6	<20	<20	-	<50	<100	<200	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 60	2	-	MW12/04	5/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	2	MW12/04	MW12/04	5/12/2014	<1	<1	<1	<1	<2	<3	<6	<20	<20	-	<50	<100	-	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	3	BH141	BH141	22/06/2010	<3	<3	<1	-	-	<3	<6	<20	<20	-	<50	<100	300	350	<100	375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	BH141	BH141	23/11/2010	<1	<1	<1	<1	<2	<3	<6	-	<20	-	<50	<100	<100	<100	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	BH141	BH141	9/06/2011	<1	<1	<1	<1	<2	<3	<6	-	<1	-	60	800	800	850	<100	900 - 910	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	BH141	BH141	7/10/2011	<1	<1	<1	<1	<2	<3	<6	<1	<20	-	<50	-	-	-	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 63	3	D_071011-02	BH141	7/10/2011	<1	<1	<1	<1	<2	<3	<6	<1	<20	-	60	-	-	-	<20	<100 - 60	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 63	3	T_071011_02	BH141	7/10/2011	<1	<5	<2	<2	<2	<2	<3	<1	<20	270	2340	2630	290	2900	<20	<20	470	-	2220	2840	150	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	BH141	BH141	19/06/2012	<1	<1	<1	<1	<2	<3	<6	16	<20	-	100	700	900	200	1000	-	<20	<20	230	220	700	-	200	-	-	-	-	-	-	-	-	-	-
Lot 63	3	BH141	BH141	7/12/2012	<1	<1	<1	<1	<2	<3	<6	<20	<20	-	<50	700	750	<100	700 - 775	-	<20	<20	90	90	600	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	3	BH141	BH141	18/06/2013	<1	<1	<1	<1	<2	<3	<6	<20	<20	-	<50	400	450	<100	400 - 475	-	<20	<20	100	100	400	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	3	-	BH141	5/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	BH141	BH141	5/12/2013	<1	<1	<1	<1	<2	<3	<6	<20	<20	-	<50	700	750	<100	700 - 775	-	<20	<20	150	150	600	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	3	-	BH141	26/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	BH141	BH141	26/05/2014	<1	<1	<1	<1	<2	<3	<6	<20	<20	-	<50	600	650	<100	600 - 675	-	<20	<20	100	100	600	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	3	DUP_02_260514	BH141	26/05/2014	<1	<1	<1	<1	<2	<3	<6	<20	<20	-	60	700	750	<100	800 - 810	-	<20	<20	180	180	700	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TRIP_02_260514	BH141	26/05/2014	<1	<1	<1	<1	<2	<3	<6	<5	<20	-	1780	14,000	17,760	3760	19,500 - 19,540	-	<20	<20	3640	3640	15,800	21,000	1510	-	-	-	-	-	-	-	-	-	-
Lot 63	3	-	BH141	8/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	BH141	BH141	8/12/2014	<1	<1	<1	<1	<2	<3	<6	<20	<20	-	<50	200	-	<100	200	-	<20	<20	<50	<50	200	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	3	BH141	BH141	25/11/2015	<1	<1	<1	<1	<2	<3	<6	<10	<20	-	110	1100	-	100	1300	-	<20	<20	240	240	1000	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW11/19	MW11/19	4/10/2011	<1	<1	<1	<1	<2	<3	<6	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 63	3	-	MW11/19	8/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	-	MW11/19	18/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW11/19	MW11/19	18/08/2016	<1	<1	<1	<1	<2	<3	<6	<20	<20	<50	<50	<100	-	<100	<100	-	20	20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	3	-	MW11/19	22/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW11/19	MW11/19	22/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	23/03/2012	<1	<1	<1	<1	<2	<3	<6	<0.05	<20	-	1800	-	-	-	1800 - 3000	-	<20	<20	2400	2400	600	-	<100	-	-	-	-	1200	-	<100	-	-	-
Lot 63	3	DUP_11	MW12/03	19/06/2012	11	<1	6	5	4	-	9	26.5 - 30	4 - 120	90	-	2700	2200	2250	<100	4900 - 4950	130	110	3400	3300	1700	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	19/06/2012	11	<1	6	5	4	-	9	26.5 - 30	<1 - 100	80	-	2900	2100	2150	<100	5000 - 5050	130	100	3700	3600	1500	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	3	DUP_09	MW12/03	11/12/2012	10	<1	11	7	8	-	15	36.5 - 40	150 - 190	120	-	3900	3600	3700	100	7600	210	170	4800	4700	2300	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	11/12/2012	10	<1	11	7	8	-	15	36.5 - 40	130 - 152	110	-	3700	3200	3250	<100	6900 - 6950	200	160	4400	4300	2100	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TRIP-05	MW12/03	11/12/2012	8	<2	8	6	8	-	14	30 - 31	122 - 128	100	7930	4460	4510	50	12,440	190	160	7030	-	3160	10,200	<100	-	-	-	12,400	-	-	-	-	-	-	-	-
Lot 63	3	DUP_04	MW12/03	19/06/2013	20	<1	13	7	8	-	15	41.5	130 - 160	130	1600	2700	2750	<100	6300 - 6350	220	170	4500	4400	1700	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	19/06/2013	11	<1	5	3	3	-	6	22.5	50 - 170	80	-	3900	3100	3150	<100	7000 - 7050	130	110	4800	4800	2100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TRIP_04	MW12/03	19/06/2013	14	<2	11	6	8	-	14	39 - 40	124 - 141	110	-	4550	3260	3285	<50	7810 - 7835	160	120	5460	-	2060	7520	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	-	MW12/03	5/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	DUP_06	MW12/03	5/12/2013	7	<1	8	4	4	-	8	23.5	67 - 90	140	-	2500	2400	2450	<100	4900 - 4950	230	200	3600	3500	1500	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	5/12/2013	7	<1	8	4	4	-	7	19.5	85 - 100	140	-	2600	2600	2650	<100	5800 - 5850	240	220	4500	4400	1800	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TRIP_04	MW12/03	5/12/2013	7	<1	7	4	4	-	7 - 8	21.5	60 - 90	130	-	2500	2400	2450	<100	4900 - 4950	210	190	3600	3600	1500	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	-	MW12/03	20/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	D04_200514	MW12/03	20/05/2014	9	<1	8	4	5	-	9	26.5	82 - 170	160	-	2900	2400	2450	<100	5300 - 5350	270	250	3700	3500	1500	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	20/05/2014	9	<1	7	4	4	-	8	24.5	93 - 170	160	-	3700	3100	3150	<100	6800 - 6850	270	240	4700	4500	1900	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TD4_200514	MW12/03	20/05/2014	7	<1	8	4	5	-	9	24 -25	120 - 125	190	-	3370	2280	2305	<50	5650 - 5675	300	280	3990	3870	1270	5260	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	-	MW12/03	5/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	DUP_04_051214	MW12/03	5/12/2014	2	<1	7	4	5	-	9	18.5	37 - 130	180	-	2300	2800	-	<100	5100	320	300	4000	3900	1900	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	5/12/2014	2	<1	7	4	5	-	9	18.5	55 - 130	190	-	3100	3600	-	<100	6700	340	320	4700	4700	2500	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	D04_240815	MW12/03	24/08/2015	3	<1	2	1	<2	-	<3	7	60	70	-	3100	3500	-	<100	6600	120	110	4500	4000	2400	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	24/08/2015	2	<1	2	1	<2	-	<3	6	40	70	-	1900	1900	-	<100	3800	120	110	2400	2400	1200	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	25/11/2015	9	<1	8	5	5	-	10	27.5	130	180	-	2500	2300	-	<100	4800	310	280	3300	3200	1400	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	-	MW12/03	17/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	17/08/2016	2	<1	3	2	<2	-	<3	-	40	100	100	2100	2100	-	100	4300	160	150	2600	2600	1400	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	-	MW12/03	14/12/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	14/12/2016	12	<1	8	5	5	-	10	-	8 - 150	-	160	1600	1100	-	<100	2700	280	250	1900	1800	600	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	-	MW12/03	6/12/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	6/12/2017	8	<2	7	4	4	-	8	23	11.1 - 143	140	-	2240	1870	-	<50	4110	200	180	2660	2520	1240	3900	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	25/06/2018	16	<2	10	7	5	-	12	38	184	140	-	2360	1510	-	<50	3870	220	180	2900	2720	920	3820	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	5/12/2018	11	<2	9	6	4	-	10	30	198	140	-	1740	1410	-	<50	3150	210	180	2130	1930	930	3060	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	-	MW12/03	11/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	11/06/2019	14	<2	10	7	5	-	12	36	271	140	-	1980	990	-	100	3070	210	170	2240	1970	640	2880	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	-	-
Lot 63	3	-	MW12/03	22/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	22/11/2019	11	<2	8	6	4	-	10	29	149	90	-	1580	1470	-	230	3280	160	130	2750	2600	950	3700	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	-	-
Lot 63	3	-	MW12/03	6/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	6/12/2020	7	<2	4	4	2	-	6	17	108	100	-	1010	650	-	<50	1660	130	110	1220	1110	350	1570	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	-	-
Lot 59	15	MW11/06	MW11/06	5/10/2011	<1	<1	<1	<1	2	<2	<3 - 3	<6	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 59	15	DUP_07	MW11/06	8/12/2011	<1	<1	<1	<1	<2	<2	<3	<6	<5	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06	8/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06	13/06/2012	<1	<1	1	<2	<2	<3 - 2	<6	<1	<20	<50	<100	<200	<100	<100	<100	20	20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06	6/12/2012	<1	<1	<1	<1	<2	<3	<6	<5	<20	<50	<100	<200	<100	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	DUP09	MW11/06	26/06/2013	<1	<1	<1	<1	<2	<3	<3 - 3	<6	<20	<50	100	150	<100	100 - 175	<20	<20	<50	<50	100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06	26/06/2013	<1	<1	<1	2	<2	<3	<3 - 3	<6	<20	<20	<50	100	150	<100	100 - 175	30	30	<50	<50	200	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	-	MW11/06	11/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	DUP_09	MW11/06	11/12/2013	<1	<1	<1	<1	<2	<3	<6	<20	<20	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06	11/12/2013	<1	<1	<1	<1	<2	<3	<6	<20	<20	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	-	MW11/06	27/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06	27/05/2014	<1	<1	<1	<1	<2	<3	<6	<20	<20	<50	200	250	<100	200 - 275	<20	<20	<50	<50	200	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	-	MW11/06	5/11/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06	5/12/2014	<1	<1	<1	<1	<2	<3	<6	<20	<20	<50	100	-	<100	<0	<20	<20	<50	<50	200	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06	25/11/2015	<1	<1	<1	<1	<2	<3	<6	<10	<20	<50	200	-	<100	200	<20	<20	100	100	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	DD5_251115_TT	MW11/06	25/11/2015	<1	<1	<1	<1	<2	<3	<6	<5	<20	<50	<100	-	<100	<50	<20	<20	<100	<100	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	-	MW11/06	19/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06	19/08/2016	<1	<1	<1	<1	<2	<3	<6	<10	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	-	MW11/06	16/12/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06	16/12/2016	<1	<1	<1	<1	<2	<3	<6	<10	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	-	MW11/06	29/05/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06	29/05/2017	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	<50	130	-	<50	130	-	<20	<20	<100	<100	170	170	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	TD2_290517	MW11/06	29/05/2017	<1	<1	<1	<1	<2	<3	<6	<5	<20	-	<50	<100	-	<100	<100	-	<20	<20	<100	<100	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	-	MW11/06	11/12/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06	11/12/2017	<1	<2	<2	<2	<2	<2	<1	<5	<20	<50	<100	140	-	<50	140	-	<20	<20	<100	<100	170	170	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06	22/06/2018	<1	<2	<2	<2	<2	<2	<1	<5	<20	<50	<100	-	400	400	<20	<20	<100	<100	360	470	110	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW11/06	MW11/06	6/12/2018	<1	<2	<2	<2	<2	<2	<1	<5	<20	<50	<100	-	120	190	<20	<20	<100	<100	120	120	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	MW11/07	MW11/07	5/10/2011	<1	<1	<1	<1	<2	<3	<6	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Road alignment	15	MW11/07	MW11/07	25/11/2015	<1	<1	<1	<1	<2	<3	<6	<10	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	D04_190816_TT	MW11/07	19/08/2016	<1	<1	<1	<1	<2	<3	<6	<10	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	MW11/07	MW11/07	19/08/2016	<1	<1	<1	<1	<2	<3	<6	<10	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	DD1_161216_PM	MW11/07	16/12/2016	<1	<1	<1	<1	<2	<3	<6	<10	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	MW11/07	MW11/07	16/12/2016	<1	<1	<1	<1	<2	<3	<6	<10	<20	<50	150	-	<100	150	<20	<20	80	80	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	-	MW11/07	29/05/2017	<1	<1	<1	<1	<2	<2	<1	<5	<20	-	<50	<100	-	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	MW11/07	MW11/07	29/05/2017	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	<50	<100	-	<50	<50	-	20	20	<100	<100	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	DD1_111217	MW11/07	11/12/2017	<1	<2	<2	<2	<2	<2	<1	<5	<20	<50	160	-	<50	160	<20	<20	<100	<100	150	150	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	MW11/07	MW11/07	11/12/2017	<1	<2	<2	<2	<2	<2	<1	<5	<20	<50	190	-	<50	190	20	20	130	130	280	280	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	TD1_111217	MW11/07	11/12/2017	<1	<1	<1	<1	<2	<3	<6	<10	<20	<50	300	-	<100	300	<20	<20	140	140	100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	MW11/07	MW11/07	22/06/2018	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	<50	<100	-	540	540	-	<20	<20	<100	<100	470	610	140	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	DD2_201812O6

	BTEX								Naphthalene	TRH NEPM (1999)						TRH NEPM (2013)							TRH	TRH Silica Gel Cleanup								
	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene (Sum of m,p & o.)	Xylene Total	BTEX	Naphthalene	TRH C6-C9 Fraction	TRH >C6-C9Fraction	TRH >C10-C14Fraction	TRH >C15-C28Fraction	TRH >C15-C28Fraction	TRH >C29-C36Fraction	TRH >C29-C36Fraction	TRH C6-C9Fraction	TRH C10-C14Fraction	TRH >C10-C16Fraction	TRH >C10-C16Fraction minus N	TRH >C16-C34Fraction	TRH >C16-C34Fraction	TRH >C34-C40Fraction	TRH >C34-C40Fraction	TRH >C10-C40	TRH >C10-C16 Fraction minus Naphthalene	TRH >C16-C34 Fraction Silica Gel Cleanup	TRH >C10-C16 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C34-C40 Silica Gel Cleanup
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	1	1	1	1	2	3	1	1	0.05	20	20	50	100		50	50	20	20	50	50	100	100	100	100	100	100	50	50	100	100	100	100
ANZG (2018) TV - Marine water (95%)	700[#]	180[#]	80	350[#]	275[#]				70[#]																							
Clyde WARP SSTL - GW VI - Commercial	5000								13000									6200		NL												
Clyde WARP SSTL - GW VI - Construction	NL								NL									NL	-	NL												
Clyde WARP SSTL - GW VI - IWW	NL								NL								-	NL	-	NL	-	-	-	-								
NEPM (2013) - Marine Water	500								50																							
NEPM (2013) - Recreational	10	8000	3000				6000																									
NHMRC (2019) HBGV - Recreational Water																																
PFAS NEMP 2020 Interim Marine 95%																																
PFAS NEMP 2020 Interim Marine 99%																																

Lot ID	AEC	Field_ID	Location_Code	Sampled_Date_Time																																		
Lot 59	15	MW94/4	MW94/4	1/09/2007	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<60	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	11/09/2007	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	25/02/2008	<1	<1	<1	-	-	-	<3	<6	-	-	-	-	-	<200	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	14/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	14/11/2008	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	23/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	23/04/2009	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	19/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	19/11/2009	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	QC05	MW94/4	19/11/2009	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	25/06/2010	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	25/11/2010	<1	<1	<1	<1	<2	<3	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	8/06/2011	<1	<1	<1	<1	<2	<3	<3	<6	-	<20	-	<50	100	150	<100	100 - 175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	5/10/2011	<1	<1	<1	<1	<2	<3	<3	<6	-	<20	-	<50	-	-	-	<55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 59	15		MW94/4	9/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	9/12/2014	<1	<1	<1	<1	<2	<3	<3	<6	<20	<20	-	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	19/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	19/08/2016	<1	<1	<1	<1	<2	<3	<3	-	<10	<20	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	16/12/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	16/12/2016	<1	<1	<1	<1	<2	<3	<3	-	<10	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	DD2_290517	MW94/4	29/05/2017	<1	<2	<2	<2	<2	<3	<3	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	29/05/2017	<1	<2	<2	<2	<2	<3	<3	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	T01_290517	MW94/4	29/05/2017	<1	<1	<1	<1	<2	<3	<3	<1	<10	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	11/12/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	DD2_112217	MW94/4	11/12/2017	<1	<2	<2	<2	<2	<3	<3	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	11/12/2017	<1	<2	<2	<2	<2	<3	<3	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	22/06/2018	<1	<2	<2	<2	<2	<2	<2	<1	<5	<20	-	210	160	-	360	730	<20	<20	220	220	410	800	170	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	DD3_20181206	MW94/4	6/12/2018	<1	<2	<2	<2	<2	<2	<3	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	6/12/2018	<1	<2	<2	<2	<2	<2	<3	<1	<5	<20	-	<50	<100	-	80	80	<20	<20	<100	<100	150	150	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	7/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	7/06/2019	<1	<2	<2	<2	<2	<2	<3	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	-	-
Lot 59	15		MW94/4	22/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	22/11/2019	<1	<2	<2	<2	<2	<2	<3	<1	<5	<20	-	<50	<100	-	530	530	<20	<20	<100	<100	380	580	200	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	-	-
Lot 63	15		MW94/5	1/01/2004	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<60	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	5/01/2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	1/03/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<60	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	16/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	2/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	13/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	14/09/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<60	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	28/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	31/03/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<60	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	29/09/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<60	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	1/09/2007	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<60	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	27/09/2007	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	22/02/2008	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	12/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	BH94/5	MW94/5	12/11/2008	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	22/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	22/04/2009	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	17/11/2009	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	18/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	22/06/2010	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	23/11/2010	<1	<1	<1	<1	<2	<3	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	9/06/2011	<1	<1	<1	<1	<2	<3	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	7/10/2011	<1	<1	<1	<1	<2	<3	<3	<6	<1	<20	-	<50	<100	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-

Statistical Summary

Number of Results	137	137	137	111	111	0	137	123	105	127	15	136	124	70	124	137	96	96	96	92	96	34	96	0	7	7	7	8	7	19	7	19	7
Number of Detects	27	0	27	31	24	0	28	25	28	25	3	42	53	30	19	64	33	33	46	43	58	25	9	0	0	0	0	1	0	1	0	0	0
Minimum Concentration	<1	<1	<1	<1	<2	####	<1	<1	<0.05	<20	<20	<60	<100	<150	<50	<0	<20	<20	<50	<50	<100	<100	<100	99999	<100	<50	<100	<50	<100	<100	<100	<50	<100
Minimum Detect	2	ND	2	1	2	ND	6	6	4	70	100	60	100	150	50	80	20	20	80	60	100	120	110	ND	ND	ND	ND	13400	ND	1200	ND	ND	ND
Maximum Concentration	20	<5	13	7	8	0	15	48.5	271	190	160	7930	14000	17760	3760	19540	340	320	7030	4800	15800	21000	1510	0	<100	<50	<100	12400	<100	1200	<100	<100	<100
Maximum Detect	20	ND	13	7	8	ND	15	48.5	271	190	160	7930	14000	17760	3760	19540	340	320	7030	4800	15800	21000	1510	ND	ND	ND	ND	12400	ND	1200	ND	ND	ND
Average Concentration	2.2	0.64	1.9	1.7	1.9		2.8	7.2	33	33	32	633	758	1031	107	1381	67	59	1143	1023	755	2122	77		50	25	50	1572	50	111	50	41	50
Median Concentration	0.5	0.5	0.5	1	1		1.5	3	5	10	10	25	50	100	50	125	10	10	50	50	170	380	50		50	25	50	25	50	50	50	50	50
Standard Deviation	3.9	0.27	3	1.9	1.8		3.5	11	55	50	47	1292	1600	2218	350	2761	96	85	1770	1593	1725	4090	154		0	0	0	4375	0	264	0	12	0
Number of Guideline Exceedances	12	0	23	0	0	0	0	0	25	0	0	0	0	0	0	0	96	0	96	92	96	0	96	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances/Detects Only	12	0	23	0	0	0	0	0	25	0	0	0	0	0	0	0	96	0	96	92	96	0	96	0	0	0	0	0	0	0	0	0	0

Env Stds Comments

#1:Moderate reliability
#2:Low reliability
#3:High reliability, DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
#4:Very high reliability
#5:High reliability
#6:Low reliability, DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
#7:Moderate reliability DGV may not protect key test species from chronic toxicity (this refers to experimental chronic values or geometric mean for species). Check toxicant DGV technical brief for spread of data and its significance.
#8:Moderate Reliability
#9:Unknown level of species protection; Unknown Reliability
#10:High Reliability
#11:Very high Reliability
#12:Low Reliability

| | Field | | | | | | | | | | | | Ether-oxoanates | | | MNA | | | | | | OCP | | Inorganics | | Metals | | | | | | | | | | | |

| | Field | | | | | | | | | | | | Ether-oxyanesates | | | | MNA | | | | | | | OCP | | Inorganics | | Metals | | | | | | | | | | | |

| | | | | Per- and Polyfluoroalkyl Subst | | | | | | | | | | | | | | | | | | PFOS and PFOA | | | | | | | | | | | | | | | | | |

	Per- and Polyfluoroalkyl Subst													PFOS and PFOA																													
	1H,1H,2H,2H-perfluorooctane sulfonic acid	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-ethyl perfluorooctanesulfonamidoacetic acid	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexane sulfonic acid (PFHxS)	Sum of PFAS	Sum of PFAS (WA DER List)	Sum of PFOS and PFOS	PFOS	Perfluorooctanoic acid (PFOA)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonate (8:2 FTS)	8:2 Fluorotelomer alcohol	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	N-Ethyl perfluorooctane sulfonamidoacetic acid	N-Methyl perfluorooctanesulfonamidoacetic acid	Perfluorododecanoic acid (PFDoA)	Perfluorobutane sulfonic acid	Perfluorobutanoic acid	Perfluorodecanoic acid (PFDA)	Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctanoic acid (PFOA)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnA)	Perfluorobutanesulfonic acid (PFBS)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorononanesulfonic acid (PFNS)	Perfluorooctanesulfonic acid (PFOS)	Sum of Perfluoroalkyl carboxylic acids (PFAC)	Sum of US EPA PFAS (PFOS + PFOA)	Perfluorooctanesulfonamide (PFOSA)
	ng/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	100	0.05	0.00005	0.05	0.05	0.05	0.05	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.05			0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
ANZG (2018) TV - Marine water (95%)																																										
Clyde WARP SSTL - GW VI - Commercial																																										
Clyde WARP SSTL - GW VI - Construction																																										
Clyde WARP SSTL - GW VI - IWW																																										
NEPM (2013) - Marine Water																																										
NEPM (2013) - Recreational																																										
NHMRC (2019) HBGV - Recreational Water													2	2	10												2																
PFAS NEMP 2020 Interim Marine 95%														0.13	2.20																												
PFAS NEMP 2020 Interim Marine 99%														**0.00023**	**19**																												
Lot ID	**AEC**	**Field_ID**	**Location_Code**	**Sampled_Date_Time**																																								
Lot 59	15		MW94/4	MW94/4	1/09/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	11/09/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	25/02/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15			MW94/4	14/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	14/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15			MW94/4	21/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	23/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15			MW94/4	19/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	19/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		QC05	MW94/4	19/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	25/06/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	25/11/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	8/06/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	5/10/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15			MW94/4	9/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	9/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15			MW94/4	19/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	19/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15			MW94/4	16/12/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	16/12/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		DD2_290517	MW94/4	29/05/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	29/05/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		T01_290517	MW94/4	29/05/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15			MW94/4	11/12/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		DD2_112217	MW94/4	11/12/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	11/12/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	22/06/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		DD3_20181206	MW94/4	6/12/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	6/12/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15			MW94/4	7/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	7/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15			MW94/4	22/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	MW94/4	22/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	MW94/5	1/01/2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	MW94/5	5/01/2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	MW94/5	1/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	MW94/5	16/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	MW94/5	2/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15			MW94/5	19/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	MW94/5	14/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	MW94/5	28/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	MW94/5	31/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	MW94/5	29/09/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	MW94/5	1/09/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	MW94/5	27/09/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW84/5	MW84/5	22/02/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15			MW84/5	12/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		BH04/5	MW84/5	12/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15			MW84/5	22/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW84/5	MW84/5	22/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	MW84/5	17/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15			MW84/5	18/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW84/5	MW84/5	22/06/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	MW84/5	23/11/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	MW84/5	9/06/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	MW84/5	7/10/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																																										
Number of Results						0	0	0	1	1	1	1	1	1	1	1	1	2	2	1	2	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1
Number of Detects						0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0
Minimum Concentration						####	99999	99999	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.45	0.45	0.04	<0.02	<0.02	<0.05	0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.1	99999	<0.02	0.02	<0.02	<0.02	0.1	0.09	0.1	<0.05	<0.02	<0.02	<0.02	99999	99999	99999	<0.02
Minimum Detect						ND	ND	ND	ND	ND	ND	ND	ND	0.45	0.45	0.45	0.04	0.02	0.07	ND	0.05	ND	ND	ND	ND	ND	ND	ND	ND	0.02	ND	ND	0.1	0.09	0.1	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration						0	0	0	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.45	0.45	0.04	0.02	0.07	<0.05	<0.1	<0.05	<0.05	<0.02	<0.02	<0.02	<0.1	0	<0.02	0.02	<0.02	<0.02	0.1	0.09	0.1	<0.05	<0.02	<0.02	<0.02	0	0	0	<0.02
Median Detect						ND	ND	ND	ND	ND	ND	ND	ND	0.45	0.45	0.45	0.04	0.02	0.07	ND	0.05	ND	ND	ND	ND	ND	ND	ND	ND	0.02	ND	ND	0.1	0.09	0.1	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration																																											
Median Concentration									0.025	0.025	0.025	0.025	0.01	0.01	0.45	0.45	0.04	0.015	0.04	0.025	0.05	0.025	0.025	0.01	0.01	0.01	0.05		0.01	0.02	0.01	0.01	0.1	0.09	0.1	0.025	0.01	0.01	0.01					0.01
Standard Deviation																																										
Number of Guideline Exceedances						0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances/Detects Only						0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Comments

#1:Moderate reliability
#2:Low reliability
#3:High reliability, DGV may not protect key test species from chronic toxicity (this refers to experimental cl
#4:Very high reliability
#5:High reliability
#6:Low reliability, DGV may not protect key test species from chronic toxicity (this refers to experimental ch
#7:Moderate reliability DGV may not protect key test species from chronic toxicity (this refers to experimer
#8:Moderate Reliability
#9:Unknown level of species protection; Unknown Reliability
#10:High Reliability
#11:Very high Reliability
#12:Low Reliability

| | | | | Microbiology | | | OCs | | | |

| | Microbiology | | | OCs | | |

| | | |

| | PAH/Phenols | | |

					Canister Sampling - Field Data	Ether-oxygenates	Permanent Gases					Pressure					
					Temperature - As Received	Vacuum - As received	Methyltributyl Ether	Carbon Dioxide (free)	Methane	Carbon Monoxide	Hydrogen	Oxygen	Pressure - As received	Pressure - Laboratory Atmosphere	TRH >C5-C6 Aliphatic	TRH >C6-C8 Aliphatic	TRH >C8-C10 Aliphatic	TRH C6-C10 Aliphatic
					°C	mg/m3	ug/m3	Mol %	Mol %	mg/m³	mg/m³	Mol %	kPaa	kPaa	mg/m³	mg/m³	mg/m³	mg/m³
EQL					0.1	0.03	180	0.005	0.05	0.0005	0.005	0.1	0.1	0.1	16.5	20	25	20
Clyde WARP SSTL - SV VI - Commercial 0.15 m																**76,000**	**4,200**	
Monitoring_Zone	**Field_ID**	**Location_Code**	**Well**	**Sampled_Date_Time**														
2	SV19/04	SV19/04	SV19/04	28/08/2019	21	1.83	<180	8190	4.95	0.003	<0.01[#1]	12.3	96	102	<16.5	<20	<25	<20
3	D01_280819	SV19/03	SV19/03	28/08/2019	21	1.3	<360[#1]	176,000	33.1	<0.001[#1]	<0.01[#1]	10.8	97.7	102	384	1390	2970	3690
3	SV19/03	SV19/03	SV19/03	28/08/2019	21	1.24	<360[#1]	171,000	34.2	<0.001[#1]	<0.01[#1]	10.9	98	102	374	1360	2890	3630
3	SV19/10	SV19/10	SV19/10	28/08/2019	21	0.5	<180	27,700	0.202	0.0039	<0.01[#1]	12.7	100	102	<16.5	<20	<25	<20
Statistical Summary																		
Number of Results					4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Detects					4	4	0	4	4	2	0	4	4	4	2	2	2	2
Minimum Concentration					21	0.5	<180	8190	0.202	<0.001	<0.01	10.8	96	102	<16.5	<20	<25	<20
Minimum Detect					21	0.5	ND	8190	0.202	0.003	ND	10.8	96	102	374	1360	2890	3630
Maximum Concentration					21	1.83	<360	176000	34.2	0.0039	<0.01	12.7	100	102	384	1390	2970	3690
Maximum Detect					21	1.83	ND	176000	34.2	0.0039	ND	12.7	100	102	384	1390	2970	3690
Average Concentration					21	1.2	135	95723	18	0.002	0.005	12	98	102	194	693	1471	1835
Median Concentration					21	1.27	135	99350	19.03	0.00175	0.005	11.6	97.85	102	191.13	685	1451.25	1820
Standard Deviation					0	0.55	52	90185	18	0.0017	0	0.97	1.6	0	214	788	1685	2107
Number of Guideline Exceedances					0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)					0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Comments

#1:CRC CARE (2011) Intrusive Maintenance Worker

Data Comments

#1 Reported Analyte LOR is higher than Requested Analyte LOR

					TRH Aliphatic/Aromatic Split									BTEX						Iso-propanol	Naphthalene	SVOC					
					TRH >C10-C12 Aliphatic	TRH >C10-C16 Aliphatic	TRH >C5-C7 Aromatic	TRH >C7-C8 Aromatic	TRH >C8-C10 Aromatic	TRH C6-C10 Aromatic	TRH C6-C10 less BTEX Aromatic	TRH >C10-C12 Aromatic	TRH >C10-C16 Aromatic	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Iso-propanol	Naphthalene	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Benzyl chloride	Hexachlorobutadiene
					mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	mg/m³	ppmv	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³
EQL					30	37	0.16	0.19	1.25	3	1.4	2.5	1.4	0.1	0.19	0.22	0.22	0.43	0.65	0.12	0.1	0.37	0.3	0.3	0.3	0.26	0.53
Clyde WARP SSTL - SV VI - Commercial 0.15 m					**4,200**				**4,200**			**830**		**18**							**14**						
Monitoring_Zone	**Field_ID**	**Location_Code**	**Well**	**Sampled_Date_Time**																							
2	SV19/04	SV19/04	SV19/04	28/08/2019	<30	<37	<0.16	<0.19	<1.25	<3	<1.4	<2.5	<1.4	<0.1	<0.19	<0.22	<0.22	<0.43	<0.65	<0.12	<0.1	<0.37	<0.3	<0.3	<0.3	<0.26	<0.53
3	D01_280819	SV19/03	SV19/03	28/08/2019	1040	1710	1.33	<0.38[#1]	150	152	127	28.1	28.1	1.55	<0.38[#1]	26.7	<0.44[#1]	<0.86[#1]	<1.3[#1]	<0.24[#1]	6.76	<0.74[#1]	<0.6[#1]	<0.6[#1]	<0.6[#1]	<0.52[#1]	<1.06[#1]
3	SV19/03	SV19/03	SV19/03	28/08/2019	1010	1660	1.31	<0.38[#1]	144	145	121	26.2	26.2	1.52	<0.38[#1]	25.7	<0.44[#1]	<0.86[#1]	<1.3[#1]	<0.24[#1]	5.55	<0.74[#1]	<0.6[#1]	<0.6[#1]	<0.6[#1]	<0.52[#1]	<1.06[#1]
3	SV19/10	SV19/10	SV19/10	28/08/2019	<30	<37	<0.16	<0.19	<1.25	<3	<1.4	<2.5	<1.4	<0.1	<0.19	<0.22	<0.22	<0.43	<0.65	<0.12	<0.1	<0.37	<0.3	<0.3	<0.3	<0.26	<0.53
Statistical Summary																											
Number of Results					4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Detects					2	2	2	0	2	2	2	2	2	2	0	2	0	0	0	0	2	0	0	0	0	0	0
Minimum Concentration					<30	<37	<0.16	<0.19	<1.25	<3	<1.4	<2.5	<1.4	<0.1	<0.19	<0.22	<0.22	<0.43	<0.65	<0.12	<0.1	<0.37	<0.3	<0.3	<0.3	<0.26	<0.53
Minimum Detect					1010	1660	1.31	ND	144	145	121	26.2	26.2	1.52	ND	25.7	ND	ND	ND	ND	5.55	ND	ND	ND	ND	ND	ND
Maximum Concentration					1040	1710	1.33	<0.38	150	152	127	28.1	28.1	1.55	<0.38	26.7	<0.44	<0.86	<1.3	<0.24	6.76	<0.74	<0.6	<0.6	<0.6	<0.52	<1.06
Maximum Detect					1040	1710	1.33	ND	150	152	127	28.1	28.1	1.55	ND	26.7	ND	ND	ND	ND	6.76	ND	ND	ND	ND	ND	ND
Average Concentration					520	852	0.7	0.14	74	75	62	14	14	0.79	0.14	13	0.17	0.32	0.49	0.09	3.1	0.28	0.23	0.23	0.23	0.2	0.4
Median Concentration					512.5	839.25	0.695	0.1425	72.3125	73.25	60.85	13.725	13.45	0.785	0.1425	12.905	0.165	0.3225	0.4875	0.09	2.8	0.2775	0.225	0.225	0.225	0.195	0.3975
Standard Deviation					583	962	0.72	0.055	85	85	71	15	15	0.86	0.055	15	0.064	0.12	0.19	0.035	3.6	0.11	0.087	0.087	0.087	0.075	0.15
Number of Guideline Exceedances					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Comments

#1:CRC CARE (2011) Intrusive Maintenance Worker

Data Comments

#1 Reported Analyte LOR is higher than Requested Analyte LOR

Monitoring_Zone	Field_ID	Location_Code	Well	Sampled_Date_Time	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,2,4-trimethylbenzene	1,2-dibromoethane	1,2-dichloroethane	1,2-dichloropropane	1,3,5-trimethylbenzene	1,3-Butadiene	1,4-Dioxane	1-methyl-4 ethyl benzene	2-butanone (MEK)	2-hexanone (MBK)	4-methyl-2-pentanone (MIBK)	Acetone	Allyl chloride	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane
					mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³
EQL					0.27	0.34	0.27	0.2	0.2	0.24	0.38	0.2	0.23	0.24	0.11	0.18	0.24	0.15	0.2	0.2	0.12	0.16	0.34	0.52	0.19	0.16	0.31	0.23	0.43
Clyde WARP SSTL - SV VI - Commercial 0.15 m																													
2	SV19/04	SV19/04	SV19/04	28/08/2019	<0.27	<0.34	<0.27	<0.2	<0.2	<0.24	<0.38	<0.2	<0.23	<0.24	<0.11	<0.18	<0.24	<0.15	<0.2	<0.2	<0.12	<0.16	<0.34	<0.52	<0.19	0.168	<0.31	<0.23	<0.43
3	D01_280819	SV19/03	SV19/03	28/08/2019	<0.54[#1]	<0.68[#1]	<0.54[#1]	<0.4[#1]	<0.4[#1]	89.4	<0.76[#1]	<0.4[#1]	<0.46[#1]	43.7	<0.22[#1]	<0.36[#1]	1.28	<0.3[#1]	<0.4[#1]	<0.4[#1]	<0.24[#1]	<0.32[#1]	<0.68[#1]	<1.04[#1]	<0.38[#1]	<0.32[#1]	<0.62[#1]	<0.46[#1]	<0.86[#1]
3	SV19/03	SV19/03	SV19/03	28/08/2019	<0.54[#1]	<0.68[#1]	<0.54[#1]	<0.4[#1]	<0.4[#1]	85	<0.76[#1]	<0.4[#1]	<0.46[#1]	41.8	<0.22[#1]	<0.36[#1]	1.23	<0.3[#1]	<0.4[#1]	<0.4[#1]	<0.24[#1]	<0.32[#1]	<0.68[#1]	<1.04[#1]	<0.38[#1]	<0.32[#1]	<0.62[#1]	<0.46[#1]	<0.86[#1]
3	SV19/10	SV19/10	SV19/10	28/08/2019	<0.27	<0.34	<0.27	<0.2	<0.2	<0.24	<0.38	<0.2	<0.23	<0.24	<0.11	<0.18	<0.24	<0.15	<0.2	<0.2	0.205	<0.16	<0.34	<0.52	<0.19	0.358	<0.31	<0.23	<0.43

Statistical Summary

Number of Results	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Detects	0	0	0	0	0	2	0	0	0	2	0	0	2	0	0	0	1	0	0	0	0	2	0	0	0
Minimum Concentration	<0.27	<0.34	<0.27	<0.2	<0.2	<0.24	<0.38	<0.2	<0.23	<0.24	<0.11	<0.18	<0.24	<0.15	<0.2	<0.2	<0.12	<0.16	<0.34	<0.52	<0.19	0.168	<0.31	<0.23	<0.43
Minimum Detect	ND	ND	ND	ND	ND	85	ND	ND	ND	41.8	ND	ND	1.23	ND	ND	ND	0.205	ND	ND	ND	ND	0.168	ND	ND	ND
Maximum Concentration	<0.54	<0.68	<0.54	<0.4	<0.4	89.4	<0.76	<0.4	<0.46	43.7	<0.22	<0.36	1.28	<0.3	<0.4	<0.4	<0.24	<0.32	<0.68	<1.04	<0.38	0.358	<0.62	<0.46	<0.86
Maximum Detect	ND	ND	ND	ND	ND	89.4	ND	ND	ND	43.7	ND	ND	1.28	ND	ND	ND	0.205	ND	ND	ND	ND	0.358	ND	ND	ND
Average Concentration	0.2	0.26	0.2	0.15	0.15	44	0.29	0.15	0.17	21	0.083	0.14	0.69	0.11	0.15	0.15	0.13	0.12	0.26	0.39	0.14	0.21	0.23	0.17	0.32
Median Concentration	0.2025	0.255	0.2025	0.15	0.15	42.56	0.285	0.15	0.1725	20.96	0.0825	0.135	0.675	0.1125	0.15	0.15	0.12	0.12	0.255	0.39	0.1425	0.164	0.2325	0.1725	0.3225
Standard Deviation	0.078	0.098	0.078	0.058	0.058	50	0.11	0.058	0.066	25	0.032	0.052	0.66	0.043	0.058	0.058	0.06	0.046	0.098	0.15	0.055	0.098	0.089	0.066	0.12
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Comments

#1:CRC CARE (2011) Intrusive Maintenance Worker

Data Comments

#1 Reported Analyte LOR is higher than Requested Analyte LOR

					OC																								
					Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Cyclohexane	Dichlorodifluoromethane	Dichloromethane	Ethyl acetate	Freon 113	Freon 114	Heptane	Hexane	Isooctane	Propene	Styrene	TCE	Tetrachloroethene	Tetrahydrofuran	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichlorofluoromethane	Vinyl acetate	Vinyl bromide (bromoethene)	Vinyl chloride
					mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³
EQL					0.13	0.24	0.1	0.02	0.23	0.17	0.25	0.17	0.18	0.38	0.35	0.2	0.18	0.23	0.09	0.21	0.005	0.34	0.15	0.2	0.23	0.28	0.18	0.22	0.0051
Clyde WARP SSTL - SV VI - Commercial 0.15 m																													
Monitoring_Zone	**Field_ID**	**Location_Code**	**Well**	**Sampled_Date_Time**																									
2	SV19/04	SV19/04	SV19/04	28/08/2019	<0.13	<0.24	<0.1	<0.02	<0.23	<0.17	<0.25	<0.17	<0.18	<0.38	<0.35	<0.2	<0.18	<0.23	0.767	<0.21	<0.005	<0.34	<0.15	<0.2	<0.23	<0.28	<0.18	<0.22	<0.0051
3	D01_280819	SV19/03	SV19/03	28/08/2019	<0.26[#1]	<0.48[#1]	<0.2[#1]	<0.4[#1]	<0.46[#1]	2.34	<0.5[#1]	<0.34[#1]	<0.36[#1]	<0.76[#1]	<0.7[#1]	<0.4[#1]	<0.36[#1]	34.9	0.18	<0.42[#1]	<0.5[#1]	<0.68[#1]	<0.3[#1]	<0.4[#1]	<0.46[#1]	<0.56[#1]	<0.36[#1]	<0.44[#1]	<0.255[#1]
3	SV19/03	SV19/03	SV19/03	28/08/2019	<0.26[#1]	<0.48[#1]	<0.2[#1]	<0.4[#1]	<0.46[#1]	2.29	<0.5[#1]	<0.34[#1]	<0.36[#1]	<0.76[#1]	<0.7[#1]	<0.4[#1]	<0.36[#1]	34.2	0.196	<0.42[#1]	<0.5[#1]	<0.68[#1]	<0.3[#1]	<0.4[#1]	<0.46[#1]	<0.56[#1]	19.8	<0.44[#1]	<0.255[#1]
3	SV19/10	SV19/10	SV19/10	28/08/2019	<0.13	<0.24	<0.1	<0.02	<0.23	<0.17	<0.25	<0.17	<0.18	<0.38	<0.35	<0.2	<0.18	<0.23	0.862	<0.21	<0.25[#1]	<0.34	<0.15	<0.2	<0.23	<0.28	<0.18	<0.22	<0.0051
Statistical Summary																													
Number of Results					4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Detects					0	0	0	0	0	2	0	0	0	0	0	0	0	2	4	0	0	0	0	0	0	0	1	0	0
Minimum Concentration					<0.13	<0.24	<0.1	<0.02	<0.23	<0.17	<0.25	<0.17	<0.18	<0.38	<0.35	<0.2	<0.18	<0.23	0.18	<0.21	<0.005	<0.34	<0.15	<0.2	<0.23	<0.28	<0.18	<0.22	<0.0051
Minimum Detect					ND	ND	ND	ND	ND	2.29	ND	ND	ND	ND	ND	ND	ND	34.2	0.18	ND	ND	ND	ND	ND	ND	ND	19.8	ND	ND
Maximum Concentration					<0.26	<0.48	<0.2	<0.4	<0.46	2.34	<0.5	<0.34	<0.36	<0.76	<0.7	<0.4	<0.36	34.9	0.862	<0.42	<0.5	<0.68	<0.3	<0.4	<0.46	<0.56	19.8	<0.44	<0.255
Maximum Detect					ND	ND	ND	ND	ND	2.34	ND	ND	ND	ND	ND	ND	ND	34.9	0.862	ND	ND	ND	ND	ND	ND	ND	19.8	ND	ND
Average Concentration					0.098	0.18	0.075	0.11	0.17	1.2	0.19	0.13	0.14	0.29	0.26	0.15	0.14	17	0.5	0.16	0.16	0.26	0.11	0.15	0.17	0.21	5	0.17	0.065
Median Concentration					0.0975	0.18	0.075	0.105	0.1725	1.1875	0.1875	0.1275	0.135	0.285	0.2625	0.15	0.135	17.158	0.4815	0.1575	0.1875	0.255	0.1125	0.15	0.1725	0.21	0.135	0.165	0.065025
Standard Deviation					0.038	0.069	0.029	0.11	0.066	1.3	0.072	0.049	0.052	0.11	0.1	0.058	0.052	20	0.36	0.061	0.12	0.098	0.043	0.058	0.066	0.081	9.8	0.064	0.072
Number of Guideline Exceedances					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Comments

#1:CRC CARE (2011) Intrusive Maintenance Worker

Data Comments

#1 Reported Analyte LOR is higher than Requested Analyte LOR

				Pre Purge									Post Purge					Analytical Results		
				Borehole Flow Rate	LEL	PID	Oxygen	Methane	Carbon Dioxide	LEL	PID	Oxygen	Methane	Carbon Dioxide	Carbon Dioxide (free)	Oxygen	Methane
				L/Hr	%	ppm	%	%	%	%	ppm	%	%	%	Mol %	Mol %	Mol %
															0.005	0.1	0.05
Hazardous Ground Gas Subsurface Monitoring Criterion (Benchmark Technique 16) EPA (2012)															5		1.25
Field_ID	**Monitoring Zone**	**Location_Code**	**Sampled_Date**														
SV19/03	3	SV19/03	28-Aug-19	-	0	30.7	0.8	98.5	13.2	0	85.2	11	42	8	9.52	10.9	34.2
SV19/03	3	SV19/03	26-Nov-19	1.6	36	-	0	100	26.6	-	-	-	-	-	-	-	-
SV19/04	2	SV19/04	28-Aug-19	-	0	1.4	3.6	13	0.6	0	2.7	15.9	2.4	0.4	0.456	12.3	4.95
SV19/04	2	SV19/04	26-Nov-19	0.3	0	-	2.3	14.4	2.9	-	-	-	-	-	-	-	-

* = Instrument not displaying reading
** = Field Measurement Only

Statistical Summary

Number of Results	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Number of Detects	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Minimum Concentration	0.3	0	1.4	0	13	0.6	0	2.7	11	2.4	0.4	0.456	10.9	4.95	
Minimum Detect	0.3	36	1.4	0.8	13	0.6	ND	2.7	11	2.4	0.4	0.456	10.9	4.95	
Maximum Concentration	1.6	36	30.7	3.6	100	26.6	0	85.2	15.9	42	8	9.52	12.3	34.2	
Maximum Detect	1.6	36	30.7	3.6	100	26.6	ND	85.2	15.9	42	8	9.52	12.3	34.2	
Average Concentration		9		1.7	56	11									
Median Concentration	0.95	0	16.1	1.55	56.45	8.05	0	43.95	13.45	22.2	4.2	4.988	11.6	19.58	
Standard Deviation		18		1.6	49	12									
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	

				Flow Rate	Field (pre-purge)		Field (post-purge)		Analytical Data			Gas Screening Value		Modified Wilson and Card	
				Borehole Flow Rate[#3]	Methane	Carbon Dioxide	Methane	Carbon Dioxide	Carbon Dioxide (free)	Oxygen	Methane	GSV Carbon Dioxide (free) [#1]	GSV Methane [#1]	Characteristic Gas Situation	Risk Classification [#2]
				L/Hr	%	%	%	%	Mol %	Mol %	Mol %				
									0.005	0.1	0.05				
Field_ID	Monitoring Zone	Location_Code	Sampled_Date												
SV19/03	3	SV19/03	28-Aug-19	1.6	98.5	13.2	42	8	9.52	10.9	33.1	0.2	0.53	2	Low Risk
SV19/03	3	SV19/03	26-Nov-19	1.6	100	26.6	-	-	-	-	-	-	-	-	-
SV19/04	2	SV19/04	28-Aug-19	0.3	13	0.6	2.4	0.4	0.456	12.3	4.95	0.0	0.01	1	Very Low Risk
SV19/04	2	SV19/04	26-Nov-19	0.3	14.4	2.9	-	-	-	-	-	-	-	-	-
Statistical Summary															
Number of Results				4	4	4	4	4	4	4	4	4	4	4	-
Number of Detects				4	4	4	4	4	4	4	4	4	4	4	-
Minimum Concentration				0.3	13	0.6	2.4	0.4	0.456	10.9	4.95	0.001368	0.01485	1	-
Minimum Detect				0.3	13	0.6	2.4	0.4	0.456	10.9	4.95	0.001368	0.01485	1	-
Maximum Concentration				1.6	100	26.6	42	8	9.52	12.3	33.1	0.15232	0.5296	2	-
Maximum Detect				1.6	100	26.6	42	8	9.52	12.3	33.1	0.15232	0.5296	2	-
Average Concentration				0.95	56	11									-
Median Concentration				0.95	56.45	8.05	22.2	4.2	4.988	11.6	19.025	0.076844	0.272225	1.5	-
Standard Deviation				0.75	49	12									-

Note:
#1 GSV= maxiumum borehole flow rate (L/hr) x maximum gas concentration (%)
#2 Refer to Table 6 in *Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases* (EPA 2012)
- A Risk Classification has been calculated where methane or carbon dioxide gases exceed adopted screening levels and oxygen conventrations (<5%) indicate anaerobic conditions.
#3 Flow rates not measured for SV19/06, SV19/07, SV19/10 - a flow rate of 1.6 L/Hr has been adopted conservatively and represents the upper limit of the available dataset

Existing Sampling density - Stage 2 Subdivisions						NSW Sampling Guideline Recommendation Table A - Sampling density				Desired/Achieved Sampling Density					
Subdivision	**Area (m2)**	**Area (ha)**	**Existing soil sampling points**	**Sample Locations/ ha**	**Existing Circular Hotspot Radius (m)**	**Sample Points**	**Eq. Sample Density**	**Circular Hotspot Diameter (m)**	**Additional sampling proposed?**	**Proposed new sampling points**	**Sampling points achieved during Stage 2 ESA**	**Total Sampling Points**	**Revised Sample Location/ ha**	**Revised Circular Hotspot Radius (m)***	**Rationale/ Comments on Sample Density**
59	21350	2.135	12	5.6	23.46	30	15.0	23.46	Y	**8**	**8**	20	9.4	18.17	Lateral delineation of hydrocarbon impacts identified to backfill sands identified from drainage validation test pits (TP20/30, TP220/29a and b)
60	33180	3.318	9	2.7	33.77	40	13.3	33.77	Y	**17**	**17**	26	7.8	19.87	Increased systematic spatial coverage. 3 x locations to increase spatial coverage (no known sources of impact in these areas). Up to 5 x locations to determine requirement for remediation/management of asbestos identified at AEC-15a (single ACM fragment identified at MW11/14 in 2011)
63	36630	3.663	22	6.0	22.69	45	12.9	22.69	Y	**14**	**14**	36	9.8	17.74	Increased systematic spatial coverage. Lateral delineation of remediation and management required (AEC-3c and AEC-3d)
Road Alignment	12075	1.2075	15	12.4	15.58	21	21.0	15.78	Y	**1**	**1**	16	13.3	15.28	
STAGE 2	103235	10.3235	58	5.6						40		98.0	9.49	19.16	

* Hotspot radius calculated using Visual Sample Plan 7. Based on number of sample locations and sample area per lot and systematic triangular grid spacing between samples. Hotspot diameter is the smallest circular hotspot that can be detected with 95% probability

NSW Sampling Guideline Recommendation - Table A

Size of the site (hectare) 1 hectare = 10,000 m²	Number of sampling points recommended	Equivalent sampling density (points/hectare)	Diameter of the hot spot that can be detected with 95% confidence (metre)
0.05	5	100.0	11.8
0.1	6	60.0	15.2
0.2	7	35.0	19.9
0.3	9	30.0	21.5
0.4	11	27.5	22.5
0.5	13	26.0	23.1
0.6	15	25.0	23.6
0.7	17	24.3	23.9
0.8	19	23.8	24.2
0.9	20	22.2	25.0
1.0	21	21.0	25.7
1.5	25	16.7	28.9
2.0	30	15.0	30.5
2.5	35	14.0	31.5
3.0	40	13.3	32.4
3.5	45	12.9	32.9
4.0	50	12.5	33.4
4.5	52	11.6	34.6
5.0	55	11.0	35.6

Stockpile Register

Stockpile ID	Location on Site (Remediation Stage)	Location on Site	Source	Backfill Location/ Destination	Dimensions		Est Volume (m3)	Material Description	Soil Sampling Required?	Existing Sample Numbers	Asbestos Present?	Asbestos comment	WARP - Suitable for re-use?	Report Reference
					Basal area (m2)	Average Height								
SP1	Stage 2	Tankfarm A3	AEC-9 Trial Excavation - biopiled material	ACTIVE	-	-	50	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2020) 0515132RP09_Clyde WARP RAP Stage 1_Draft_v2
SP2	Stage 2	Tankfarm A3	AEC-9 Trial Excavation - biopiled material	ACTIVE	-	-	50	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2020) 0515132RP09_Clyde WARP RAP Stage 1_Draft_v2
SP3	Stage 2	Tankfarm A3	AEC-9 Trial Excavation - landfarmed material	ACTIVE	-	-	50	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2020) 0515132RP09_Clyde WARP RAP Stage 1_Draft_v2
SP4	Stage 2	Near former AFFF storage tank	AEC-9 Trial Excavation - landfarmed material	ACTIVE	-	-	50	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2020) 0515132RP09_Clyde WARP RAP Stage 1_Draft_v2
SP5	Terminal	Combined SP5,6,7 - used by Viva for a Driveway?	Process East (trials Exc)	TBC - Viva Ops	-	-	10	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP6	Terminal	Combined SP5,6,7 - used by Viva for a Driveway?	Process East (trials Exc)	TBC - Viva Ops	-	-	10	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP7	Terminal	Combined SP5,6,7 - used by Viva for a Driveway?	Process East (trials Exc)	TBC - Viva Ops	-	-	10	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP8	Stage 3	Process East - used for backfill	Recycled B&D material from Tankfarm B2	Process East	-	-	110	Soil - Fill (Crushed building materials)	No	5	No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP9	Stage 3	Process East	Recycled B&D material from Tankfarm B2	ACTIVE	-	-	38	Soil - Fill (Crushed building materials)	No	3	No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP10	Terminal	Sludge Drying Bay - relocated to adjacent landfarm area by Ventia, adjacent SP21	CTCP projects	ACTIVE	-	-	100	Soil and demolition rubble	No	4	Yes	2 x ACM fragments observed within eastern side of stockpile, quantification below on-site re-use criteria	Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP11	Terminal	Sludge Drying Bay - added to SP12	CTCP projects	Combined with SP12 prior to characterisation	20	0.5	10	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP12	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	100	1	100	Asphalt and soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP13	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE			10	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP14	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	43.47	1	43	Concrete	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP15	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	460	2	920	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP16	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	395	2	790	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP17	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	165	2	330	Concrete and Brick	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP18	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	105	2.5	263	Concrete (Large slabs)	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP19	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	80	1.2	96	Soil and Rubble	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP20	Terminal	Sludge Drying Bay (East)	CTCP projects	ACTIVE	500	2.5	1250	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP21	Terminal	Landfarm Area	CTCP projects	Landfarm Area	340	1.5	510	Concrete	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01

Stockpile ID	Location on Site (Remediation Stage)	Location on Site	Source	Backfill Location/ Destination	Dimensions		Est Volume (m3)	Material Description	Soil Sampling Required?	Existing Sample Numbers	Asbestos Present?	Asbestos comment	WARP - Suitable for re-use?	Report Reference
					Basal area (m2)	Average Height								
SP22	Terminal	Landfarm Area	Liberty Bio- Trial (Bitumen tankfarm)	Landfarm Area	410	0.5	205	Soil	Yes - completed		No		No	
SP23a	Terminal	Landfarm Area	CTCP projects	Landfarm Area	10	1	10	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP23b	Terminal	Landfarm Area	CTCP projects	Landfarm Area	10	1	10	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP24	Terminal	Landfarm Area	Liberty Bio- Trial (Bitumen tankfarm)	Landfarm Area	215	0.5	107.5	Soil	Yes - completed		No		No	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP25	Terminal	Landfarm Area	CTCP projects	Landfarm Area	90	2.5	225	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP26	Terminal	Landfarm Area	CTCP projects	Landfarm Area	138	3	414	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP27	Terminal	Landfarm Area	CTCP projects	Landfarm Area	80	3	240	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP28	Terminal	Landfarm Area	CTCP projects	Landfarm Area	110	3.5	385	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP29	Stage 2	Removed from site	Liberty Demo - Asbestos Waste	ACTIVE - disposed from site	55	1	55	Liberty Demo - Asbestos Waste	Yes - completed	3	Yes	Abundant bonded asbestos present	No	ERM (2022) - 0561882RP13 - AA1 Validation Report
SP30	Stage 2	Removed from site	Western Area Demo - 2020	Disposed from site	85	0.5	42.5	Brick and Concrete with ACM	Yes - completed	1 ACM	Yes	ACM unable to be quantified for validation in oversized material. 1 x fragment identified	No	ERM (2022) - 0561882RP14 - AA2 Validation Report
SP31	Stage 2 - AA2 and AA3	South of Tarkfarm A2	Western Area Demo - substation	ACTIVE	215	1.5	322.5	Brick, concrete and Metal	Yes - completed		No	No visible ACM	Yes	ERM 2021b - Stage 2 Stockpile Validation Report
SP32	Stage 2 - AA2	South of former water tanks (88 and 89)	Western Area Demo - 2020	ACTIVE	520	1.5	780	Brick, concrete and soil	Yes - completed	10	No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP33	Stage 2 - AA2	South of former water tanks (88 and 89)	Western Area Demo - 2020	ACTIVE	30	0.5	15	Concrete, Soil, Asphalt, Metal	Yes - completed	3	No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP34	Stage 2 - AA2	South of former water tanks (88 and 89)	Western Area Demo - 2020	ACTIVE	100	0.8	80	Brick	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP35	Stage 2 - AA2	South of former water tanks (88 and 89)	Western Area Demo - 2020	ACTIVE	90	1	90	Concrete	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP36	Stage 2 - AA2	South of former water tanks (88 and 89)	Western Area Demo - 2015	ACTIVE	60	0.5	30	Bricks and Concrete	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP37	Stage 2 - AA2 and AA3	Tankfarm J	Western Area Demo - 2015	ACTIVE	2250	2.3	5175	Soil, concrete and Bricks	Yes - completed	22	Yes	Compliant bonded asbestos present	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP38	Stage 2 - AA3	Tankfarm J	Western Area Demo - 2015	ACTIVE	520	0.5	260	Concrete	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP39	Stage 2 - AA2	South of former water tanks (88 and 89)	Western Area Demo - 2015	ACTIVE	1000	1.8	1800	Concrete	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP40	Stage 2 - AA3	Former laboratory area	Western Area Demo - 2020	ACTIVE	75	0.4	30	Brick, glass and concrete	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP41	Stage 2 - AA2	Former fire station area	Western Area Demo - 2015	ACTIVE	500	2.5	1250	Concrete, Brick	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP42	Stage 2 - AA2	Former fire station area	Western Area Demo - 2015	ACTIVE	175	1	175	Concrete, Brick	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP43	Stage 2 - AA2	South of former water tanks (88 and 89)	Western Area Demo - 2015	ACTIVE	210	1.2	252	Concrete, Brick	Yes - completed		No	No visible ACM	Yes	ERM 2021 - Stage 2 Stockpile Validation Report
SP44	Stage 1	Process West	Western Area Demo - 2015	Stage 1 - South east of AEC_9 Excavation	600	1.8	1080	Soil, Brick	Yes - completed	10	No		Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP45	Stage 3	Process East	Unknown onsite source	Combined with SP91 prior to characterisation	-	-	10	Hydrocarbon stained soil and rubble	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01

Stockpile ID	Location on Site (Remediation Stage)	Location on Site	Source	Backfill Location/ Destination	Dimensions		Est Volume (m3)	Material Description	Soil Sampling Required?	Existing Sample Numbers	Asbestos Present?	Asbestos comment	WARP - Suitable for re-use?	Report Reference
					Basal area (m2)	Average Height								
SP46	Stage 3	Process East	Unknown onsite source	Combined with SP91 prior to characterisation	-	-	5	Hydrocarbon stained soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP47	Stage 3	Process East	Unknown onsite source	Combined with SP91 prior to characterisation	-	-	5	Soil (clay) and bricks	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP48	Stage 3	Process East	Unknown onsite source	Combined with SP91 prior to characterisation	-	-	5	Soil (shale pieces throughout)	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP49	Stage 3	Process East	Unknown onsite source	ACTIVE	-	-	40	Soil - grass covered stockpile	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP50	Stage 3	Process East	Unknown onsite source	ACTIVE	340	0.8	272	Soil with demolition rubble throughout	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP51A	Stage 3	Process East	Unknown onsite source	ACTIVE	130	0.3	39	Soil - hydrocarbon stained	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP51B	Stage 3	Process East	Unknown onsite source	Combined with SP51A prior to characterisation	-	-	5	Soil - hydrocarbon stained	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP52A	Stage 3	Process East	Unknown onsite source	ACTIVE	35	0.5	17.5	Soil - clean river gravels/sand	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP52B	Stage 3	Process East	Unknown onsite source	ACTIVE	25	0.5	12.5	Soil - clean river gravels/sand	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP53	Stage 3	Process East	Unknown onsite source	ACTIVE	345	1	345	Soil, concrete, pipe lagging	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP54	Stage 3	Process East	Unknown onsite source	ACTIVE	25	0.5	30	Soil - sand, dark grey	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP55	Stage 3	WWTP (AEC-6), former sludge drying bay	Unknown onsite source	ACTIVE	95	0.8	76	Soil - Potential ACM identified during RSI works	Yes - completed		Yes		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP56	Stage 3	WWTP (AEC-6), former sludge drying bay	Unknown onsite source, used as earthen bund in sludge drying area	ACTIVE	95	0.8	76	Soil used for bunding of sludge drying bay - Potential ACM identified during RSI works	Yes - completed		Yes		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP57	Stage 3	WWTP (AEC-6), former sludge drying bay	Unknown onsite source, used as earthen bund in sludge drying area	ACTIVE	100	0.8	80	Soil used for bunding of sludge drying bay - Potential ACM identified during RSI works	Yes - completed		Yes		No	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP58A	Stage 3	WWTP (AEC-6), former sludge drying bay	Unknown onsite source, used as earthen bund in sludge drying area	ACTIVE	75	0.8	60	Soil used for bunding of sludge drying bay - Potential ACM identified during RSI works	Yes - completed		Yes		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP58B	Stage 3	WWTP (AEC-6), former sludge drying bay	Unknown onsite source, used as earthen bund in sludge drying area	ACTIVE	75	0.8	60	Soil used for bunding of sludge drying bay - Potential ACM identified during RSI works	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP59	Stage 3	WWTP (AEC-6), former sludge drying bay	Unknown onsite source, used as earthen bund in sludge drying area	ACTIVE	85	0.8	68	Soil used for bunding of sludge drying bay - Potential ACM identified during RSI works	Yes - completed		Yes		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP60	Terminal	Former State Office Building Footprint	Former State Office Demolition (2020)	ACTIVE	775	2	1550	Concrete, bricks	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP61	Terminal	Sludge Bay (central)	Approx 100 x 1m3 'Bulka Bags' of soil/ demolition waste from Gore Bay projects in late 2018	Disposed Offsite	-	-	100	Soil/ Demolition Waste in bulka bags (Gore Bay Terminal?)	Yes - completed		No		No	ERM (2021) Waste Classification Report - SP61, 23rd November 2021
SP62	Terminal	Sludge Bay (south-east)	Approx 20 x 1m3 'Bulka Bags' of soil/ demolition waste from Gore Bay Project completed in early 2019	Disposed Offsite	-	-	20	Soil/ Demolition Waste in bulka bags (Gore Bay Terminal)	Yes - completed		No		No	ERM (2021) Waste Classification Report - SP62, 23rd November 2021
SP63	Stage 2	Tankfarm A1	Sandy material excavated from previously backfilled drainage pits in Western Area, excavated by Ventia	Tankfarm A1 - spread out beneath biopile pad on 7/19/2020	-	-	45	Soil	Yes - completed	4	No	No visible ACM	Yes	N/A
Sandstone VENM	Stage 1	South of AEC-9 - J8/J9/J10/J11	Off site	AEC-9	-	-		Sandstone VENM	Yes - completed	NA	No	No visible ACM	Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)

Stockpile ID	Location on Site (Remediation Stage)	Location on Site	Source	Backfill Location/ Destination	Dimensions		Est Volume (m3)	Material Description	Soil Sampling Required?	Existing Sample Numbers	Asbestos Present?	Asbestos comment	WARP - Suitable for re-use?	Report Reference
					Basal area (m2)	Average Height								
SP64	Stage 1	Stage 1 - Former Process West adjacent SP44	Concrete hardstand from AEC-9 excavation	Handed over to Downer - Stage 1	-	-	1500	Hammered concrete of varying size with large quanity of reo	Yes - completed	NA	No	No visible ACM	Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP65	Stage 1	West of AEC-9	AEC-9 excavation - surface scrape	SP72 & SP73 (Material fed through the screen)	-	-	40	Light brown surface soil with metal	Yes - completed	3	No	Validated as suitable for re-use in accordance with NEPM	Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP66	Stage 1	West of AEC-9	AEC-9 excavation - surface scrape	Handed over to Downer - Stage 1	-	-	35	Dark brown surface soil	Yes - completed	3	No		Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP67	Stage 1	South of AEC-9 - H10/H11	AEC-9 excavation - impacted soil - C9/C10/D9/D10 - 1.6m BGL	Handed over to Downer - Stage 1	-	-	326	Impacted soil	Yes - completed	5	No		Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP68	Stage 1	South of AEC-9 - I10/I11	AEC-9 excavation - impacted soil - C11/D11/E11/F11 - 1.7m BGL	Handed over to Downer - Stage 1	-	-	353	Impacted soil	Yes - completed	4	No		Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP69	Stage 1	South of AEC-9 - H8/H9	AEC-9 excavation - impacted soil - E9/E10/F9/F10 - 1.7m BGL	SP72 & SP73 (Material fed through the screen)	-	-	331	Impacted soil	Yes - completed	N/A	No		N/A	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP70	Stage 1	South of AEC-9 - I9	AEC-9 excavation - less impacted soil	Consolidated with SP68 after SP68 was validated	-	-	3	Clay, less impacted	Yes - completed	N/A	No		N/A	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP71	Stage 1	South of AEC-9 - H4/H5/H6	AEC-9 excavation - impacted soil - E7/E8/F7/F8/E5/E6/F5/F6/E4/F4/C7/C8/ D7/D8/C6/D6/C5/D5 - 1.5m BGL	SP72 & SP73 (Material fed through the screen)	-	-	302	Impacted soil	Yes - completed	N/A	No		N/A	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP72	Stage 1	South of AEC-9 - J1/J2	AEC-9 excavation - screened oversize (50mm +)	Handed over to Downer - Stage 1	-	-	1622	Oversize soil (50mm +)	Yes - completed	N/A	No		No	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP73	Stage 1	South of AEC-9 - J3/J4	AEC-9 excavation - screened undersize (50mm -)	Stage 1 - South of AEC9 - J3/J4	-	-	1267	Undersize soil (50mm -)	Yes - completed	14	No		Yes	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP73a	N/A - combined		Screened oversize from AEC9 (50mm +)	Consolidated to biopiles, SP75, SP76	-	-	355	Clay oversize (odour, staining and localised LNAPL)	Yes - completed	N/A	No		No	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP74	Stage 1		Impacted Soils - B2/B3/C2/B3/D2/D3 - 2.2m BGL	SP72 & SP73 (Material fed through the screen)	-	-	427	Heavy staining / black material observed.	Yes - completed	N/A	No		N/A	ERM (2020) - Clyde WARP Stage 1 Validation (0561882_RP02)
SP75	Stage 2	Takfarm A2 - Consolidated into SP96	AEC-9 Excavated Soils (SP72, SP73a)	Consolidated into SP96 following biopile validation	-	-	1003	Biopile 1 of 3 - Tarped and connected to SVE system	Yes - completed	10	No		N/A	ERM 2021 - 0561882_RP10_Stage 1 Biopiles Validation
SP76	Stage 2	Takfarm A2 - Consolidated into SP96	AEC-9 Excavated Soils (SP72, SP73a)	Consolidated into SP96 following biopile validation	-	-	944	Biopile 2 of 3 - Tarped and connected to SVE system	Yes - completed	10	No		N/A	ERM 2021 - 0561882_RP10_Stage 1 Biopiles Validation
SP77	Stage 2	Takfarm A2 - Consolidated into SP96	AEC-9 Excavated Soils (SP72)	Consolidated into SP96 following biopile validation	-	-	427	Biopile 3 of 3 - Tarped and connected to SVE system	Yes - completed	10	No		N/A	ERM 2021 - 0561882_RP10_Stage 1 Biopiles Validation
SP78	Stage 2 - AA1	Tankfarm A2	Road 2 removal - Concrete kerbs	ACTIVE	-	-	400	Road 2 removal - Concrete kerbs	Yes - completed		No		Yes	ERM (2022) - 0561882RP13 - AA1 Validation Report

Stockpile ID	Location on Site (Remediation Stage)	Location on Site	Source	Backfill Location/ Destination	Dimensions		Est Volume (m3)	Material Description	Soil Sampling Required?	Existing Sample Numbers	Asbestos Present?	Asbestos comment	WARP - Suitable for re-use?	Report Reference
					Basal area (m2)	Average Height								
SP79	Stage 2 - AA1	Tankfarm A3	Road 2 removal - Asphalt	ACTIVE	-	-	675	Road 2 removal - Asphalt	Yes - completed		No		Yes	ERM (2022) - 0561882RP13 - AA1 Validation Report
SP80	Stage 2 -AA1	Tankfarm A3	Road 2 removal - Roadbase	ACTIVE	-	-	350	Road 2 removal - Roadbase	Yes - completed	10	No		Yes	1) 0561882_L01_Env Summary 2) 0561882_L03_Interim Asb Clearance_Road 2
SP81	Stage 2 - AA1 and AA3	Tankfarm A3	Road 2 utilities easement trench spoil	ACTIVE	-	-	630	Road 2 utilities easement trench spoil	Yes - completed	10	No		Yes	1) 0561882_L01_Env Summary 2) 0561882_L03_Interim Asb Clearance_Road 2
SP82	Stage 2 - AA1	Grassed Area - NW portion of site	Road 2 utility easement - degrub utility easement within the NE grassed area.	ACTIVE	-	-	206	Road 2 utility easement - degrub utility easement within the NE grassed area.	Yes - completed	9	No		Yes	1) 0561882_L01_Env Summary 2) 0561882_L04_Interim Asb Clearance_Road 2
SP83	Stage 2 - AA1	AA1 - Proposed Lot 52	Sediment Basin extent degrubbing spoil - primarily grass / shrub vegetation (<5% topsoil present)	ACTIVE	-	-	210	Sediment Basin extent degrubbing spoil - primarily grass / shrub vegetation (<5% topsoil present)	Yes - completed		No		Yes	N/A
SP84	Stage 2 - AA2	South of former water tanks (88 and 89)	Excavated material from Sediment Basin Extent - saturated yellow sandstone	ACTIVE	-	-	350	Excavated material from Sediment Basin Extent - saturated yellow sandstone	Yes - completed	0	No		Yes	ERM (2022) - 0561882RP14 - AA2 Validation Report
SP85	Stage 2 - AA3	North of Sediment Basin	Excavated material from Sediment Basin Extent - red clay (saturated)	Landformed North of sediment basin - beneath soil screening area (former Transformer 3 Location)	-	-	1799	Excavated material from Sediment Basin Extent - red clay (saturated)	Yes - completed		No		Yes	N/A
SP86	Stage 2 - AA2	South of former water tanks (88 and 89)	Excavated material from Sediment Basin Extent - grey clay	ACTIVE	-	-	1057	Excavated material from Sediment Basin Extent - grey clay	Yes - completed	0	No		Yes	ERM (2022) - 0561882RP14 - AA2 Validation Report
SP87	Stage 2 - AA3	North of Sediment Basin	Excavated material from Sediment Basin Extent - loamy soil (low% anthropogenic materials present)	Landformed North of sediment basin - beneath soil screening area (former Transformer 3 Location)	-	-	1015	Excavated material from Sediment Basin Extent - loamy soil (low% anthropogenic materials present)	Yes - completed		No		Yes	N/A
SP88	Stage 2 - AA3	North of Sediment Basin	Excavated material from Sediment Basin Extent - loamy soil (low% anthropogenic materials present)	Landformed North of sediment basin - beneath soil screening area (former Transformer 3 Location)	-	-	133	Excavated material from Sediment Basin Extent - loamy soil (low% anthropogenic materials present)	Yes - completed		No		Yes	N/A
SP89	Stage 2 - AA2	South of former water tanks (88 and 89)	Excavated material from Sediment Basin Extent - concrete from historical footings	ACTIVE	-	-	190	Excavated material from Sediment Basin Extent - concrete from historical footings	Yes - completed		No		Yes	ERM (2022) - 0561882RP14 - AA2 Validation Report
SP90	Stage 2 - AA1, AA2 and AA3	Tankfarm A2	Imported material from Stage 1 (Downer) - Saturated clays	ACTIVE	-	-	2800	Imported material from Stage 1 (Downer) - Saturated clays	Yes - completed		No		Yes	0561882_L10_SP90 Cover Letter AA1 Movement of excavated soil from Stage 1 to Stage 2 (Audit Area 1)
SP91	Stage 3	Process East	SP45-48 combined	ACTIVE	180	2	360	Soil	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP92	Stage 3	Process East	Unknown onsite source	ACTIVE	60	1	60	Concrete, bricks	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP93	Stage 3	Process East	Unknown onsite source	ACTIVE	10	1	10	Concrete, metal	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP94	Stage 3	Process East	Unknown onsite source	ACTIVE	10	1	10	Soil with building waste	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP95	Stage 3	Process East	Unknown onsite source	ACTIVE	15	1	15	Soil with building waste	Yes - completed		No		Yes	ERM (2021) 0561882_R16_Clyde Stage 3 SP Validation_Draft Rev01
SP96	Stage 2 - AA1 & AA2	Tankfarm A2	Biopiles generated from Stage 1 remediation works	ACTIVE	-	-	2,500	Light brown sandy clays	No		No		Yes	ERM 2021 - 0561882_RP10_Stage 1 Biopiles Validation

Stockpile ID	Location on Site (Remediation Stage)	Location on Site	Source	Backfill Location/ Destination	Dimensions		Est Volume (m3)	Material Description	Soil Sampling Required?	Existing Sample Numbers	Asbestos Present?	Asbestos comment	WARP - Suitable for re-use?	Report Reference
					Basal area (m2)	Average Height								
SP97	Stage 2 - AA2	Sample store	Concrete stockpile from Stage 2 AEC remediation areas	ACTIVE	-	-	413	Concrete - uncrushed	No		No		Yes	ERM (2022) - 0561882RP14 - AA2 Validation Report
SP98	Stage 2 - AA3	Stockpile screening area - screened for biopiles	Stockpiled material from AEC-14A, AEC14B, AEC-3A	>50mm fraction to SP102B <50mm fraction to temporary SP102A (final destination SP105 and SP106)			4,215	Red, brown, black clays, impacted with petroleum hydrocarbons	N/A - temporary stockpile		No		N/A	AA3 Validation Report
SP99	Stage 2 - AA2	Removed from site	Unexpected find - concrete encased asbestos pipe from under bridge on Road 12 A (AEC-14B)	Disposed Offsite (GSW-A)			4	Sols impacted with asbestos pipe and concrete	N/A - temporary stockpile		Yes		No	ERM (2022) - 0561882RP14 - AA2 Validation Report
SP100	Stage 2 - AA3	Stockpile screening area	Fill material separating AEC-3A/3B	ACTIVE				Sandy soils with building demolition rubble	Yes - completed		Yes	Suitable for site re-use, subject to no unexpected finds of ACM at finished ground surface once backfilled	Yes	AA3 Validation Report
SP101	Stage 2 - AA3	Stockpile screening area - screened for biopiles	Stockpiled material from AEC-3D	>50mm fraction to SP102B <50mm fraction to temporary SP102A (final destination SP107)			907	Red, brown, black clays, impacted with petroleum hydrocarbons	N/A - temporary stockpile		No		N/A	AA3 Validation Report
SP102A	Stage 2 - AA3	Stockpile screening area - screened for biopiles	Screened undersize materials from stockpiles 98, 101, 103 and 104	Progressively formed into biopiles SP105- SP109			N/A	<50mm homogenous clays	N/A - temporary stockpile		No		N/A	AA3 Validation Report
SP102B	Stage 2 - AA3	Stockpile screening area	Screened oversize materials from stockpiles 98, 101, 103 and 104	ACTIVE			3,724	>50mm oversized materials and clay (bricks, concrete, pipework)	Yes - results TBC		No		To be confirmed	AA3 Validation Report
SP103	Stage 2 - AA3	Stockpile screening area - screened for biopiles	Stockpiled material from AEC-3E	>50mm fraction to SP102B <50mm fraction to biopile SP102A			1,417	Red, brown, black clays, impacted with petroleum hydrocarbons	N/A - temporary stockpile		No		N/A	AA3 Validation Report
SP104	Stage 2 - AA3	Stockpile screening area - screened for biopiles	Stockpiled material from AEC-3E southern wall	>50mm fraction to SP102B <50mm fraction to biopile SP102A			324	Red, brown, black clays, impacted with petroleum hydrocarbons	N/A - temporary stockpile		No		N/A	AA3 Validation Report
SP105	Stage 2 - AA3	Biopad / Tankfarm A1	Stage 2 Biopile - 1 of 5 Screened <50mm fraction from SP98 (AEC-3A, 14A, 14B excavations)	ACTIVE			1,000	Screened (<50mm) homogenous clays, tarped	Yes - results TBC		No		To be confirmed following biopile treatment	AA3 Validation Report
SP106	Stage 2 - AA3	Biopad / Tankfarm A1	Stage 2 Biopile - 2 of 5 Screened <50mm fraction from SP98 (AEC-3A, 14A, 14B excavations)	ACTIVE			1,000	Screened (<50mm) homogenous clays, tarped	Yes - results TBC		No		To be confirmed following biopile treatment	AA3 Validation Report
SP107	Stage 2 - AA3	Biopad / Tankfarm A1	Stage 2 Biopile - 3 of 5 Screened <50mm fraction from SP98 (AEC-3A) and SP101 (AEC-3D excavations	ACTIVE			1,000	Screened (<50mm) homogenous clays, tarped	Yes - results TBC		No		To be confirmed following biopile treatment	AA3 Validation Report
SP108	Stage 2 - AA3	Biopad / Tankfarm A1	Stage 2 Biopile - 4 of 5 (AEC-3E excavation)	ACTIVE			1,000	Screened (<50mm) homogenous clays, tarped	Yes - results TBC		No		To be confirmed following biopile treatment	AA3 Validation Report
SP109	Stage 2 - AA3	Biopad / Tankfarm A1	Stage 2 Biopile - 5 of 5 AEC-3E excavation - post pipe removal)	ACTIVE			800	Screened (<50mm) homogenous clays, tarped	Yes - results TBC		No		To be confirmed following biopile treatment	AA3 Validation Report

Notes:

Dark grey shading illustrates stockpile no longer exists - removed from site or merged with other stockpile/s.

Light grey shading shows stockpiles located outside of the AA2 footprint

Appendix C-2 Tables from Stage 2 AAQ summary

TABLE 1 - SUMMARY OF IMPLEMENTATION OF AQ MANAGEMENT PROCEDURE				
Day of Week	Date	Activities Undertaken	Trigger Level Reached (Y/N)	Action(s) taken in response to Trigger Level
Monday	15/11/2021	Contaminated Soil Screening	N	-
Tuesday	16/11/2021	Excavation (AEC-3E), Contaminated Soil Screening	N	-
Wednesday	17/11/2021	Excavation (AEC-3E), Contaminated Soil Screening, VENM import/backfilling (AEC-3A, AEC-3B)	N	-
Thursday	18/11/2021	Contaminated Soil Screening / MPG Waterline installation	N	-
Friday	19/11/2021	Biopile construction / Stockpiling and VENM import for 3A & B co	N	-
Saturday	20/11/2021			
Sunday	21/11/2021			
Monday	22/11/2021	No works - inclement weather and waterlogged site conditions	N/A	-
Tuesday	23/11/2021	No works - inclement weather and waterlogged site conditions	N/A	-
Wednesday	24/11/2021	No works - inclement weather and waterlogged site conditions	N/A	-
Thursday	25/11/2021	No works - inclement weather and waterlogged site conditions	N/A	-
Friday	26/11/2021	No works - inclement weather and waterlogged site conditions	N/A	-
Saturday	27/11/2021			
Sunday	28/11/2021			
Monday	29/11/2021	No works due to waterlogged site conditions	N	-
Tuesday	30/11/2021	No works due to waterlogged site conditions	N	-
Wednesday	1/12/2021	No works due to waterlogged site conditions	N	-
Thursday	2/12/2021	No works due to waterlogged site conditions	N	-
Friday	3/12/2021	No works due to waterlogged site conditions	N	-
Saturday	4/12/2021			
Sunday	5/12/2021			
Monday	6/12/2021	Screening, levelling/compacting	N	-
Tuesday	7/12/2021	Screening, backfilling of 3D	N	-
Wednesday	8/12/2021	Screening, compacting, backfilling	N	-
Thursday	9/12/2021	No works due to inclement weather	N	-
Friday	10/12/2021	No works due to inclement weather	N	-
Saturday	11/12/2021			
Sunday	12/12/2021			
Monday	13/12/2021	Contaminated Soil Screening, transport to biopile area	N	-
Tuesday	14/12/2021	Contaminated Soil Screening, transport to biopile area	N	-
Wednesday	15/12/2021	Contaminated Soil Screening, transport to biopile area	N	-
Thursday	16/12/2021	Contaminated Soil Screening, transport to biopile area, backfilling (AEC-3D)	N	-
Friday	17/12/2021	Contaminated Soil Screening, transport to biopile area	N	-
Saturday	18/12/2021			
Sunday	19/12/2021			
Monday	20/12/2021	Contaminated Soil Screening, transport to biopile area	N	-
Tuesday	21/12/2021	Contaminated Soil Screening, transport to biopile area	N	-
Wednesday	22/12/2021	Contaminated Soil Screening, transport to biopile area	N	-
Thursday	23/12/2021	Site control setup	N/A	-
Friday	24/12/2021	**No work - Christmas shutdown**		
Saturday	25/12/2021	**No work - Christmas shutdown**		
Sunday	26/12/2021	**No work - Christmas shutdown**		
Monday	27/12/2021	**No work - Christmas shutdown**		
Tuesday	28/12/2021	**No work - Christmas shutdown**		
Wednesday	29/12/2021	**No work - Christmas shutdown**		
Thursday	30/12/2021	**No work - Christmas shutdown**		
Friday	31/12/2021	**No work - Christmas shutdown**		
Saturday	1/01/2022	**No work - Christmas shutdown**		
Sunday	2/01/2022	**No work - Christmas shutdown**		
Monday	3/01/2022	**No work - Christmas shutdown**		
Tuesday	4/01/2022	**No work - Christmas shutdown**		
Wednesday	5/01/2022	**No work - Christmas shutdown**		
Thursday	6/01/2022	**No work - Christmas shutdown**		
Friday	7/01/2022	**No work - Christmas shutdown**		
Saturday	8/01/2022	**No work - Christmas shutdown**		
Sunday	9/01/2022	**No work - Christmas shutdown**		
Monday	10/01/2022	No works - inclement weather and waterlogged site conditions	N	-
Tuesday	11/01/2022	VENM import (AEC-3E), SVE system commissioning	N	-
Wednesday	12/01/2022	Contaminated Soil Screening, transport to biopile area	N	-
Thursday	13/01/2022	No works - inclement weather and waterlogged site conditions	N	-
Friday	14/01/2022	No works - inclement weather and waterlogged site conditions	N	-
Saturday	15/01/2022			
Sunday	16/01/2022			
Monday	17/01/2022	Contaminated Soil Screening, transport to biopile area	N	-
Tuesday	18/01/2022	Contaminated Soil Screening, transport to biopile area and MGP sewer installation	N	-
Wednesday	19/01/2022	No works - inclement weather and waterlogged site conditions	N	-
Thursday	20/01/2022	Contaminated Soil Screening, transport to biopile area	N	-
Friday	21/01/2022	Contaminated Soil Screening, transport to biopile area	N	-
Saturday	22/01/2022			
Sunday	23/01/2022			
Monday	24/01/2022	SVE System commissioning	N	-
Tuesday	25/01/2022	SVE System commissioning	N	-
Wednesday	26/01/2022	PUBLIC HOLIDAY	N	-
Thursday	27/01/2022	SVE System commissioning	N	-
Friday	28/01/2022	SVE System commissioning	N	-
Saturday	29/01/2022			
Sunday	30/01/2022			
Monday	31/01/2022	SVE System commissioning	N	-
Tuesday	1/02/2022	SVE System commissioning	N	-
Wednesday	2/02/2022	SVE System commissioning	N	-
Thursday	3/02/2022	SVE System commissioning	N	-
Friday	4/02/2022	SVE System commissioning	N	-
	5/02/2022			
	6/02/2022			

TABLE 2 - AMBIENT AIR MONITORING DATA SUMMARY											
Date	Time	Wind Direction/ Speed (km/h)	Monitoring Location	Monitoring Location Type - Boundary/Area Monitoring	PID Measurement - Total VOCs (ppm)	Dust Present (Y/N)	Dust Comment	Odour Present (Y/N)	Odour Comment	Action Required (Y/N)	Action Comment
2/09/2021			SSA-SW	Area	0	N	-	N	-	N	
2/09/2021			SSA-CW	Area	0	N	-	N	-	N	
2/09/2021			SSA-NW	Area	0	N	-	N	-	N	
2/09/2021			SSA-NE	Area	0	N	-	N	-	N	
2/09/2021			SSA-CE	Area	0	N	-	N	-	N	
2/09/2021			SSA-SE	Area	0	N	-	N	-	N	
14/09/2021			N BP Place	Area	0.3	N	-	Y	Very minor	N	
14/09/2021	9:30		S BP Place	Area	0.2	N	-	Y	Very minor	N	
14/09/2021	9:30		S Biopile	Area	1.6	N	-	Y	Very minor	N	
14/09/2021	9:30		N Biopile	Area	1	N	-	Y	Very minor	N	
14/09/2021	9:30		SSA NW	Area	0.1	N	-	N	N	N	
14/09/2021	9:30		SSA NE	Area	0	N	-	N	N	N	
15/09/2021	8:30		Biopile East	Area	0	N	-	N	-	N	
15/09/2021	8:30		Biopile West	Area	0.1	N	-	N	-	N	
15/09/2021	8:30		AEC-14B	Area	0	N	-	N	-	N	
15/09/2021	8:30		Tank Farm A1	Area	0.2	N	-	N	-	N	
15/09/2021	8:30		SSA-NE	Area	0.1	N	-	N	-	N	
15/09/2021	8:30		SSA-SE	Area	0	N	-	N	-	N	
15/09/2021	11:00		Biopile East	Area	0.7	N	-	N	-	N	
15/09/2021	11:00		Biopile West	Area	0.8	N	-	Y	HC localised odour present	N	
15/09/2021	11:00		AEC-14B	Area	0.7	N	-	N	-	N	
15/09/2021	11:00		Tank Farm A1	Area	0.7	N	-	N	-	N	
15/09/2021	11:00		SSA-NW	Area	0.7	N	-	N	-	N	
15/09/2021	11:00		SSA-NE	Area	0.7	N	-	N	-	N	
15/09/2021	11:00		SSA-SE	Area	0.7	N	-	N	-	N	
16/09/2021	8:33	NW	Biopile East	Area	0	N	-	N	-	N	
16/09/2021	8:33	NW	Biopile West	Area	0	N	-	N	-	N	
16/09/2021	8:33	NW	Tank Farm A1	Area	0	N	-	Y	very faint organic odour during loading of piles	N	
16/09/2021	8:33	NW	SSA-SW	Area	0	N	-	N	-	N	
16/09/2021	10:17		Biopile East	Area	0.1	N	-	N	-	N	
16/09/2021	10:17		Biopile West	Area	0	N	-	N	-	N	
16/09/2021	10:17		Tank Farm A1	Area	0	N	-	N	-	N	
16/09/2021	10:17		SSA-SW	Area	0.1	N	Minor dust during dumping	Y	Faint earthy odour	N	
16/09/2021	12:00		Biopile East	Area	0	N	-	N	-	N	
16/09/2021	12:00		Biopile West	Area	0	N	-	N	-	N	
16/09/2021	12:00		Tank Farm A1	Area	0.1	N	-	N	-	N	
16/09/2021	12:00		SSA-SW	Area	0.1	N	-	N	-	N	
16/09/2021	21:30		Biopile East	Area	0	N	-	N	-	N	
16/09/2021	21:30		Biopile West	Area	0	N	-	N	-	N	
16/09/2021	21:30		Tank Farm A1	Area	0	N	-	N	-	N	
16/09/2021	21:30		SSA-SW	Area	0	N	-	N	-	N	
17/09/2021	8:30		Biopile (DW)	Area	0	N	-	N	-	N	
17/09/2021	8:30		Tank Farm A1	Area	0.1	N	-	N	-	N	
17/09/2021	8:30		3A-NE	Area	0.1	Y	Minor dust during loading	N	-	N	
17/09/2021	8:30		Biopile	Area	0.1	N	-	N	-	N	
17/09/2021	10:00		Biopile	Area	0.3	N	-	N	-	N	
17/09/2021	10:00		Downer	Area	0	N	-	N	-	N	
17/09/2021	10:00		Tank Farm A1	Area	0	Y	Minor dust from machinery	N	-	N	
17/09/2021	10:00		VENM Import	Area	0.1	N	-	N	-	N	
17/09/2021	12:00		Biopile	Area	0.1	N	-		-	N	
17/09/2021	12:00		Downer	Area	0.5	N	-		-	N	
17/09/2021	12:00		Tank Farm A1	Area	0.5	Y	Minor dust from machinery	Y	Minimal HC odour	N	
17/09/2021	12:00		VENM Import	Area	0.4	N	-	N	-	N	
17/09/2021	14:00		Biopile	Area	0	Y	Dust generation in biopile pay	N	-	N	
17/09/2021	14:00		Downer	Area	0.1	Y	Minor dust from dump trucks	N	-	N	
17/09/2021	14:00		Tank Farm A1	Area	0.1	N	-	N	-	N	
17/09/2021	14:00		VENM Import	Area	0.3	Y	Moderate dust from VENM import trucks	N	-	N	
21/09/2021	8:45		Treated Placement AS	Area	0.1	N	-	Y	Minor	N	
21/09/2021	8:45		Treated Placement AE	Area	0.9	N	-	Y	Minor	N	
21/09/2021	8:45		Treated Placement AN	Area	0.1	N	-	Y	Minor	N	
21/09/2021	8:45		Bioplile West	Area	0.8	N	-	N	-	N	
21/09/2021	8:45		Bioplile North	Area	0.8	N	-	N	-	N	
21/09/2021	8:45		Bioplile East	Area	0.9	N	-	N	-	N	
21/09/2021	8:45		Bioplile South	Area	0.8	N	-	N	-	N	
22/09/2021	9:30	SW / 12	14B-NW	Area	0.5	N	-	N	-	N	
22/09/2021	9:30	SW / 12	14B-SW	Area	0.2	N	-	N	-	N	
22/09/2021	9:30	SW / 12	14B-W	Area	0.2	N	-	N	-	N	
22/09/2021	15:20		14B-W	Area	4	N	-	Y	Due to excavation	N	
22/09/2021	15:20		14B-NW	Area	3.3	N	-	N	-	N	
22/09/2021	15:20		14B-SW	Area	3	N	-	N	-	N	
23/09/2021	14:00	NW	14B-NW	Area	0.1	N	-	N	-	N	
23/09/2021	14:00	NW	14B-SW	Area	0.1	N	-	N	-	N	
23/09/2021	14:00	NW	14B-W	Area	0.1	N	-	N	-	N	
23/09/2021	14:00	NW	SSA-CW	Area	0.1	N	-	N	-	N	
23/09/2021	14:00	NW	SSA-SW	Area	0	N	-	N	-	N	
23/09/2021	14:00	NW	SSA-SE	Area	0	N	-	N	-	N	
23/09/2021	14:00	NW	SSA-CE	Area	0	N	-	N	-	N	
24/09/2021	11:00	NW / 12	14B-NW	Area	0	N	-	N	-	N	
24/09/2021	11:00	NW / 12	14B-SW	Area	0	N	-	N	-	N	
24/09/2021	11:00	NW / 12	14B-W	Area	0.1	N	-	N	-	N	
24/09/2021	11:00	NW / 12	SSA-CW	Area	0	N	-	N	-	N	
24/09/2021	11:00	NW / 12	SSA-SW	Area	0.2	N	-	N	-	N	
24/09/2021	11:00	NW / 12	SSA-CE	Area	0	N	-	N	-	N	
24/09/2021	11:00	NW / 12	SSA-SE	Area	0.3	N	-	N	-	N	
24/09/2021	11:00	NW / 12	3A-S	Area	0	N	-	N	-	N	
24/09/2021	11:00	NW / 12	3A-NW	Area	0	N	-	N	-	N	
24/09/2021	11:00	NW / 12	3A-NE	Area	1.2	N	-	Y	Moderate HC odour	N	
24/09/2021	14:20		14B-NW	Area	0.2	N	-	N	-	N	
24/09/2021	14:20		14B-SW	Area	0.2	N	-	N	-	N	
24/09/2021	14:20		14B-W	Area	0.2	N	-	N	-	N	
24/09/2021	14:20		SSA-SW	Area	0.4	N	-	N	-	N	
24/09/2021	14:20		SSA-SE	Area	0.6	N	-	N	-	N	
24/09/2021	14:20		SSA-CE	Area	0.5	N	-	N	-	N	
24/09/2021	14:20		SSA-CW	Area	0.4	N	-	N	-	N	
24/09/2021	14:20		3A-NW	Area	0.5	N	-	N	-	N	
24/09/2021	14:20		3A-NE	Area	1	Y	Dust generated with wind	Y	Faint HC odour	N	
24/09/2021	14:20		3A-S	Area	0.4	N	-	N	-	N	
24/09/2021	11:00		AS-01	Boundary	0.3	N	-	N	-	N	
24/09/2021	11:00		AS-04	Boundary	0.2	N	-	N	-	N	
24/09/2021	11:00		AS-02	Boundary	0	N	-	N	-	N	
24/09/2021	14:00		AS-01	Boundary	0.4	N	-	N	-	N	
24/09/2021	14:00		AS-04	Boundary	0.3	N	-	N	-	N	
24/09/2021	14:00		AS-02	Boundary	0.3	N	-	N	-	N	
27/09/2021	7:30		14B-NW	Area	0	N	-	N	-	N	
27/09/2021	7:30		14B-SW	Area	0	N	-	N	-	N	
27/09/2021	7:30		14B-W	Area	0	N	-	N	-	N	
27/09/2021	7:30		SSA-CW	Area	0	N	-	N	-	N	
27/09/2021	7:30		SSA-SW	Area	0.1	N	-	N	-	N	
27/09/2021	7:30		SSA-CE	Area	0.1	N	-	N	-	N	
27/09/2021	7:30		SSA-SE	Area	0.1	N	-	Y	Minor potential HC odour	N	
27/09/2021	11:46	-	3A-NW	Area	0.6	N	-	Y	-	N	
27/09/2021	11:46	-	3A-NE	Area	0	N	-	Y	-	N	
27/09/2021	11:46	-	SSA-SW	Area	2	N	-	Y	-	N	
27/09/2021	11:46	-	SSA-CW	Area	0	N	-	N	-	N	
27/09/2021	11:46	-	SSA-NW	Area	0	N	-	N	-	N	
27/09/2021	11:46	-	SSA-NE	Area	0	N	-	N	-	N	
27/09/2021	11:46	-	SSA-CE	Area	0	N	-	N	-	N	
27/09/2021	11:46	-	SSA-SE	Area	0	N	-	N	-	N	
27/09/2021	14:25		3A-NW	Area	0.1	N	-	Y	-	N	
27/09/2021	14:25		3A-NE	Area	0.3	N	-	N	-	N	
27/09/2021	14:25		3A-S	Area	0	N	-	N	-	N	
27/09/2021	14:25		SSA-SW	Area	3.9	N	-	Y	-	N	
27/09/2021	14:25		SSA-CW	Area	0.5	N	-	Y	-	N	
27/09/2021	14:25		SSA-NW	Area	0	N	-	N	-	N	
27/09/2021	14:25		SSA-NE	Area	0	N	-	N	-	N	
27/09/2021	14:25		SSA-CE	Area	0	N	-	N	-	N	

TABLE 2 - AMBIENT AIR MONITORING DATA SUMMARY											
Date	Time	Wind Direction/ Speed (km/h)	Monitoring Location	Monitoring Location Type - Boundary/Area Monitoring	PID Measurement - Total VOCs (ppm)	Dust Present (Y/N)	Dust Comment	Odour Present (Y/N)	Odour Comment	Action Required (Y/N)	Action Comment
27/09/2021	14:25		SSA-SE	Area	0	N	-	N	-	N	
27/09/2021	16:10		3A-NW	Area	0.3	N	-	N	-	N	
27/09/2021	16:10		3A-NE	Area	0	N	-	N	-	N	
27/09/2021	16:10		3A-S	Area	0	N	-	N	-	N	
27/09/2021	16:10		SSA-SW	Area	3	N	-	N	-	N	
27/09/2021	16:10		SSA-CW	Area	0.9	N	-	N	-	N	
27/09/2021	16:10		SSA-NW	Area	0	N	-	N	-	N	
27/09/2021	16:10		SSA-NE	Area	0	N	-	N	-	N	
27/09/2021	16:10		SSA-CE	Area	0	N	-	N	-	N	
27/09/2021	16:10		SSA-SE	Area	0	N	-	N	-	N	
27/09/2021	16:00		AS-01	Boundary	0	N	-	N	-	N	
27/09/2021	16:00		AS-02	Boundary	0	N	-	N	-	N	
27/09/2021	16:00		AS-03	Boundary	0.9	N	-	Y	-	N	
27/09/2021	16:00		AS-04	Boundary	0	N	-	N	-	N	
28/09/2021	8:00		3A-NW	Area	0.1	N	-	N	-	N	
28/09/2021	8:00		3A-NE	Area	0	N	-	N	-	N	
28/09/2021	8:00		3A-S	Area	0	N	-	Y	minimal	N	
28/09/2021	8:00		SSA-SW	Area	0	N	-	N	-	N	
28/09/2021	8:00		SSA-CW	Area	0.1	Y	minimal; dumping of fresh soil for compacting	N	-	N	
28/09/2021	8:00		SSA-NW	Area	0	N	-	N	-	N	
28/09/2021	8:00		SSA-NE	Area	0	N	-	N	-	N	
28/09/2021	8:00		SSA-CE	Area	0	N	-	N	-	N	
28/09/2021	8:00		SSA-SE	Area	0	N	-	N	-	N	
28/09/2021	15:00		3A-NW	Area	0.1	N	-	N	-	N	
28/09/2021	15:00		3A-NE	Area	0	N	sighted dust suppression	N	-	N	
28/09/2021	15:00		3A-S	Area	0.1	N	sighted dust suppression	N	-	N	
28/09/2021	15:00		SSA-SW	Area	1.8	N	-	Y	minimal	N	
28/09/2021	15:00		SSA-CW	Area	0.3	N	-	N	-	N	
28/09/2021	15:00		SSA-NW	Area	0	N	no stockpiling; compacting of segregation area	N	-	N	
28/09/2021	15:00		SSA-NE	Area	0	N	-	N	-	N	
28/09/2021	15:00		SSA-CE	Area	0	N	-	N	-	N	
28/09/2021	15:00		SSA-SE	Area	0	N	-	N	-	N	
28/09/2021	16:30		3A-NW	Area	n/a	N	-	N	-	N	no excavation
28/09/2021	16:30		3A-NE	Area	n/a	N	-	N	-	N	no excavation
28/09/2021	16:30		3A-S	Area	n/a	N	-	N	-	N	no excavation
28/09/2021	16:30		SSA-SW	Area	0.2	N	-	N	-	N	
28/09/2021	16:30		SSA-CW	Area	0.2	N	-	N	-	N	
28/09/2021	16:30		SSA-NW	Area	0	N	-	N	-	N	
28/09/2021	16:30		SSA-NE	Area	0	N	-	N	-	N	
28/09/2021	16:30		SSA-CE	Area	0	N	-	N	-	N	
28/09/2021	16:30		SSA-SE	Area	0	N	-	N	-	N	
28/09/2021	16:40		AS-01	Boundary	0	N	-	N	-	N	
28/09/2021	16:40		AS-02	Boundary	0	N	-	N	-	N	
28/09/2021	16:40		AS-03	Boundary	0	N	-	N	-	N	
28/09/2021	16:40		AS-04	Boundary	0	N	-	N	-	N	
29/09/2021	9:30		3A-NW	Area	0	N	-	N	-	N	
29/09/2021	9:30		3A-NE	Area	0.1	N	-	N	-	N	
29/09/2021	9:30		3A-S	Area	0.1	N	-	Y	very weak	N	
29/09/2021	9:30		SSA-SW	Area	0	N	-	N	-	N	
29/09/2021	9:30		SSA-CW	Area	0	N	-	N	-	N	
29/09/2021	9:30		SSA-NW	Area	0	N	-	N	-	N	
29/09/2021	9:30		SSA-NE	Area	0	N	-	N	-	N	
29/09/2021	9:30		SSA-CE	Area	0	N	-	N	-	N	
29/09/2021	9:30		SSA-SE	Area	0	N	-	N	-	N	
29/09/2021	10:20		3A-NW	Area	5.3	N	-	Y	heavy HC smell	Y	notified EPS; reduced material of concern
29/09/2021	10:20		3A-NE	Area	0.6	N	-	N	-	N	
29/09/2021	10:20		3A-S	Area	0	N	-	Y	minimal	N	
29/09/2021	10:20		SSA-SW	Area	0.1	N	-	N	-	N	dust suppression in progress
29/09/2021	10:20		SSA-CW	Area	0.1	N	-	N	-	N	
29/09/2021	10:20		SSA-NW	Area	0	N	-	N	-	N	
29/09/2021	10:20		SSA-NE	Area	0	N	-	N	-	N	
29/09/2021	10:20		SSA-CE	Area	0	N	-	N	-	N	
29/09/2021	10:20		SSA-SE	Area	1	N	-	N	-	N	
30/09/2021	14:00		3A-NW	Area	0.4	N	-	Y	-	N	
30/09/2021	14:00		3A-NE	Area	0.9	N	-	Y	HC odour evident during dumping	N	
30/09/2021	14:00		3A-S	Area	0.2	N	-	N	-	N	
30/09/2021	14:00		SSA-SW	Area	0.2	N	-	N	no piling acyivity opposite the sampling pt.	N	
30/09/2021	14:00		SSA-CW	Area	0.2	N	-	N	-	N	
30/09/2021	14:00		SSA-NW	Area	0	N	-	N	-	N	
30/09/2021	14:00		SSA-NE	Area	0	N	-	N	-	N	
30/09/2021	14:00		SSA-CE	Area	0	N	-	N	-	N	
30/09/2021	14:00		SSA-SE	Area	0	N	-	N	-	N	
1/10/2021	9:00	NW	3A-NW	Area	0.1	N		N		N	
1/10/2021	9:00	NW	3A-NE	Area	0	N		N		N	
1/10/2021	9:00	NW	3A-S	Area	1.4	N	Watered temp stockpille	Y	Neutral; very weak	N	
1/10/2021	9:00	NW	SSA-SW	Area	0	N		N		N	
1/10/2021	9:00	NW	SSA-CW	Area	0	N		N		N	
1/10/2021	9:00	NW	SSA-NW	Area	0	N		N		N	
1/10/2021	9:00	NW	SSA-NE	Area	0	N		N		N	
1/10/2021	9:00	NW	SSA-CE	Area	0	N		N		N	
1/10/2021	9:00	NW	SSA-SE	Area	0	N		N		N	
1/10/2021	15:40	E	3A-NW	Area	0.1	N		N		N	
1/10/2021	15:40	E	3A-NE	Area	0	N		N		N	
1/10/2021	15:40	E	3A-S	Area	0.2	N		Y	very weak	N	
1/10/2021	15:40	E	SSA-SW	Area	0	N		N		N	
1/10/2021	15:40	E	SSA-CW	Area	0	N		N		N	
1/10/2021	15:40	E	SSA-NW	Area	0	N		N		N	
1/10/2021	15:40	E	SSA-NE	Area	0	N		N		N	
1/10/2021	15:40	E	SSA-CE	Area	0	N		N		N	
1/10/2021	15:40	E	SSA-SE	Area	0	N		N		N	
1/10/2021	11:35	NE	AS-01	Boundary	0	N		N		N	
1/10/2021	11:35	NE	AS-02	Boundary	0	N		N		N	
1/10/2021	11:35	NE	AS-03	Boundary	0	N		N		N	
1/10/2021	11:35	NE	AS-04	Boundary	0	N		N		N	
1/10/2021	15:40	E	AS-01	Boundary	0	N		N		N	
1/10/2021	15:40	E	AS-02	Boundary	0	N		N		N	
1/10/2021	15:40	E	AS-03	Boundary	0	N		N		N	
1/10/2021	15:40	E	AS-04	Boundary	0	N		N		N	
5/10/2021	8:00	calm	3A-NW	Area	5.5	N	-	Y	distinct, neutral, diesel	Y	informed EPS
5/10/2021	8:00	calm	3A-NE	Area	0	N	-	N	-	N	
5/10/2021	8:00	calm	3A-S	Area	0.4	N	sighted dust suppression	Y	-	N	
5/10/2021	8:00	calm	SSA-SW	Area	0	N	-	N	-	N	
5/10/2021	8:00	calm	SSA-CW	Area	0	N	-	N	-	N	
5/10/2021	8:00	calm	SSA-NW	Area	0	N	-	N	-	N	
5/10/2021	8:00	calm	SSA-NE	Area	0	N	-	N	-	N	
5/10/2021	8:00	calm	SSA-CE	Area	0	N	-	N	-	N	
5/10/2021	8:00	calm	SSA-SE	Area	0	N	-	N	-	N	
5/10/2021	9:00	SW	AS-01	Boundary	0	N	-	N	-	N	
5/10/2021	9:00	SW	AS-02	Boundary	0	N	-	N	-	N	
5/10/2021	9:00	SW	AS-03	Boundary	0	N	-	N	-	N	
5/10/2021	9:00	SW	AS-04	Boundary	0	N	-	N	-	N	
6/10/2021	15:00	NW	3A-NW	Area	0	N	-	N	-	N	
6/10/2021	15:00	NW	3A-NE	Area	0.7	N	-	N	-	N	
6/10/2021	15:00	NW	3A-S	Area	0	N	-	N	-	N	
6/10/2021	15:00	NW	SSA-SW	Area	0	N	-	N	-	N	
6/10/2021	15:00	NW	SSA-CW	Area	0	N	-	N	-	N	
6/10/2021	15:00	NW	SSA-NW	Area	0	N	-	N	-	N	
6/10/2021	15:00	NW	SSA-NE	Area	0	N	-	N	-	N	
6/10/2021	15:00	NW	SSA-CE	Area	0	N	-	N	-	N	
6/10/2021	15:00	NW	SSA-SE	Area	0	N	-	N	-	N	
7/10/2021	8:30	N	3A-NW	Area	0	N	-	N	-		
7/10/2021	8:30	N	3A-NE	Area	0	N	-	N	-		
7/10/2021	8:30	N	3A-S	Area	0	N	-	N	-		
7/10/2021	8:30	N	SSA-SW	Area	0	N	sighted dust suppression	N	-		
7/10/2021	8:30	N	SSA-CW	Area	11	N	-	Y	-	Y	informed EPS, installed misting system
7/10/2021	8:30	N	SSA-NW	Area	0	N	-	N	-		

TABLE 2 - AMBIENT AIR MONITORING DATA SUMMARY											
Date	Time	Wind Direction/ Speed (km/h)	Monitoring Location	Monitoring Location Type - Boundary/Area Monitoring	PID Measurement - Total VOCs (ppm)	Dust Present (Y/N)	Dust Comment	Odour Present (Y/N)	Odour Comment	Action Required (Y/N)	Action Comment
7/10/2021	8:30	N	SSA-NE	Area	0	N	-	N	-		
7/10/2021	8:30	N	SSA-CE	Area	0	N	-	N	-		
7/10/2021	8:30	N	SSA-SE	Area	0	N	-	N	-		
19/10/2021	11:00	SSE	3A-NW	Area	0	N	-	N			
19/10/2021	11:00	SSE	3A-NE	Area	0	N	-	N			
19/10/2021	11:00	SSE	3A-S	Area	0.1	N	-	N			
19/10/2021	11:00	SSE	SSA-SW	Area	0.8	N	-	Y			
19/10/2021	11:00	SSE	SSA-CW	Area	5.2	N	-	Y			informed EPS; activated anotec odour misting system
19/10/2021	11:00	SSE	SSA-NW	Area	0.8	N	-	N			
19/10/2021	11:00	SSE	SSA-NE	Area	0	N	-	N			
19/10/2021	11:00	SSE	SSA-CE	Area	0	N	-	N			
19/10/2021	11:00	SSE	SSA-SE	Area	0	N	-	N			
19/10/2021	16:00	SE	AS-01	Boundary	0	N	-	N			
19/10/2021	16:00	SE	AS-02	Boundary	0	N	-	N			
19/10/2021	16:00	SE	AS-03	Boundary	0	N	-	N			
19/10/2021	16:00	SE	AS-04	Boundary	0	N	-	N			
8/10/2021	11:10		3A-NW	Area	2.2	N	-	Y	Diesel	N	
8/10/2021	11:10		3A-NE	Area	0	N	-	N	-	N	
8/10/2021	11:10		3A-S	Area	0	N	-	N	-	N	
8/10/2021	11:10		SSA-SW	Area	0	N	-	N	-	N	
8/10/2021	11:10		SSA-CW	Area	0	N	-	N	-	N	
8/10/2021	11:10		SSA-NW	Area	0	N	-	N	-	N	
8/10/2021	11:10		SSA-NE	Area	0	N	-	N	-	N	
8/10/2021	11:10		SSA-CE	Area	0	N	-	N	-	N	
8/10/2021	11:10		SSA-SE	Area	0	N	-	N	-	N	
20/10/2021	8:20	WSW	3A-NW	Area		N	-		-	N	
20/10/2021	8:20	WSW	3A-NE	Area		N	-		-	N	
20/10/2021	8:20	WSW	3A-S	Area	1	N	-	Y	Weak, neutral	N	
20/10/2021	8:20	WSW	SSA-SW	Area	0	N	-		-	N	
20/10/2021	8:20	WSW	SSA-CW	Area	0	N	-		-	N	
20/10/2021	8:20	WSW	SSA-NW	Area	0	N	-		-	N	
20/10/2021	8:20	WSW	SSA-NE	Area	0	N	-		-	N	
20/10/2021	8:20	WSW	SSA-CE	Area	0.1	N	-	Y	Very weak, pleasant	N	
20/10/2021	8:20	WSW	SSA-SE	Area	0	N	-		-	N	
20/10/2021	12:00	SSE	3D-NW	Area	0.9	Y	Dust suppression	Y	-	N	
20/10/2021	12:00	SSE	3D-SW	Area	0.1	Y	Dust suppression	N	-	N	
20/10/2021	12:00	SSE	3D-E	Area	0	Y	Dust suppression	N	-	N	
20/10/2021	12:30		AS-01	Boundary	0	N	-		-	N	
20/10/2021	12:30		AS-02	Boundary	0	N	-		-		
20/10/2021	12:30		AS-03	Boundary	0	Y	Minimal	N	0-0.4ppm recorded at 50m NW of 3D; odour: weak, pleasant	N	
20/10/2021	12:30		AS-04	Boundary	0	N	-	N	-	N	
21/10/2021	7:30	WSW	3D-NW	Area	0	N	-	N	-	N	
21/10/2021	7:30	WSW	3D-SW	Area	0	N	-	N	-	N	
21/10/2021	7:30	WSW	3D-E	Area	0	N	-	N	-	N	
21/10/2021	7:30	WSW	SSA-CE	Area	0	N	-	N	-	N	
21/10/2021	11:00	ENE	3D-NW	Area	0	N	-	N	-	N	
21/10/2021	11:00	ENE	3D-SW	Area	0.2	N	-	N	-	N	
21/10/2021	11:00	ENE	3D-E	Area	0	N	-	N	-	N	
21/10/2021	11:00	ENE	SSA-CE	Area	0	N	-	N	-	N	
21/10/2021	3:00		AS-01	Boundary	0.2	N	-	N	-	N	
21/10/2021	3:00		AS-02	Boundary	0	N	-	N	-	N	
21/10/2021	3:00		AS-03	Boundary	0.1	N	-	N	-	N	
21/10/2021	3:00		AS-04	Boundary	0.1	N	-	N	-	N	
22/10/2021	7:30	NNW	3D-NW	Area	0	N	-	Y	Faint chemical odour	N	
22/10/2021	7:30	NNW	3D-SW	Area	0.1	N	-	N		N	
22/10/2021	7:30	NNW	3D-E	Area	0.4	N	-	Y	Faint chemical odour	N	
22/10/2021	7:30	NNW	14B-W	Area	0.1	N	-	N		N	
22/10/2021	11:00	NNW	3D-NW	Area	0	N	-	N	Faint chemical odour	N	
22/10/2021	11:00	NNW	3D-SW	Area	0	N	-	N		N	
22/10/2021	11:00	NNW	3D-E	Area	0	N	-	N		N	
22/10/2021	11:00	NNW	14B-SW	Area	0.1	Y	minor dust generation from machinery	N		N	
22/10/2021	11:00	NNW	14B-W	Area	0.1	N	-	N		N	
25/10/2021	7:40	WNW	14B-NW	Area	0	N	-	N		N	
25/10/2021	7:40	WNW	14B-SW	Area	0	N	-	N		N	
25/10/2021	7:40	WNW	14B-W	Area	0	N	-	N		N	
25/10/2021	11:15	WNW	SSA-CW	Area	0	N	-	N		N	
25/10/2021	11:15	WNW	SSA-SW	Area	0	N	-	N		N	
25/10/2021	11:15	WNW	SSA-CE	Area	0	N	-	N		N	
25/10/2021	11:15	WNW	SSA-SE	Area	0	N	-	N		N	
25/10/2021	15:00	SE	SSA-NW	Area	0	N	-	N		N	
25/10/2021	15:00	SE	SSE-NE	Area	0	N	-	N		N	
25/10/2021	15:00	SE	SSE-SE	Area	0	N	-	N		N	
25/10/2021	15:00	SE	SSE-SW	Area	0	N	-	N		N	
25/10/2021			AS-01	Boundary	0.2	N	-	N		N	
25/10/2021			AS-02	Boundary	0.4	N	-	N		N	
25/10/2021			AS-03	Boundary	0.1	N	-	N		N	
25/10/2021			AS-04	Boundary	0	N	-	N		N	
26/10/2021	7:40	calm	SSE-SW	Area	0	N	-	N		N	
26/10/2021	7:40	calm	SSE-SE	Area	0	N	-	N		N	
26/10/2021	7:40	calm	SSE-NW	Area	0	N	-	N		N	
26/10/2021	7:40	calm	SSE-NE	Area	0	N	-	N		N	
26/10/2021	7:40	calm	14A-NE	Area	0	N	-	N		N	
26/10/2021	10:30	calm	SSA-SW	Area	0	N	-	N		N	
26/10/2021	10:30	calm	SSA-SE	Area	0	N	-	N		N	
26/10/2021	10:30	calm	SSA-CW	Area	0	N	-	N		N	
26/10/2021	10:30	calm	SSA-CE	Area	0	N	-	N		N	
26/10/2021	14:45	NW	SSA-SW	Area	0	N	-	N		N	
26/10/2021	14:45	NW	SSA-SE	Area	0	N	-	N		N	
26/10/2021	14:45	NW	SSA-CW	Area	0	N	-	N		N	
26/10/2021	14:45	NW	SSA-CE	Area	0	N	-	N		N	
26/10/2021	14:45	NW	SSA-NW	Area	0	N	-	N		N	
26/10/2021	14:45	NW	SSA-NE	Area	0	N	-	N		N	
26/10/2021	14:45	NW	AS-01	Boundary	0	N	-	N		N	
26/10/2021	14:45	NW	AS-02	Boundary	0	N	-	N		N	
26/10/2021	14:45	NW	AS-03	Boundary	0	N	-	N		N	
26/10/2021	14:45	NW	AS-04	Boundary	0	N	-	N		N	
27/10/2021	8:30	W	SSA-SW	Area	0	N	-	N	-	N	
27/10/2021	8:30	W	SSA-CW	Area	0	N	-	N	-	N	
27/10/2021	8:30	W	SSA-NW	Area	0	N	-	N	-	N	
27/10/2021	8:30	W	SSA-NE	Area	0	N	-	N	-	N	
27/10/2021	8:30	W	SSA-CE	Area	0.3	N	-	Y	Neutral, gasoline	N	
27/10/2021	8:30	W	SSA-SE	Area	0.1	N	-	Y	Neutral, gasoline	N	
27/10/2021	10:30	N	SSA-SW	Area	0	N	-	N	-	N	
27/10/2021	10:30	N	SSA-CW	Area	0.3	N	-	Y	very weak, neutral, gasoline	N	
27/10/2021	10:30	N	SSA-NW	Area	0	N	-	N	-	N	
27/10/2021	10:30	N	SSA-NE	Area	0	N	-	N	-	N	
27/10/2021	10:30	N	SSA-CE	Area	0	N	-	N	-	N	
27/10/2021	10:30	N	SSA-SE	Area	0	N	-	N	-	N	
27/10/2021	14:30	E	SSA-SW	Area	0	N	-	N	-	N	
27/10/2021	14:30	E	SSA-CW	Area	0	N	-	N	-	N	
27/10/2021	14:30	E	SSA-NW	Area	0	N	-	N	-	N	
27/10/2021	14:30	E	SSA-NE	Area	0	N	-	N	-	N	
27/10/2021	14:30	E	SSA-CE	Area	0	N	-	N	-	N	
27/10/2021	14:30	E	SSA-SE	Area	0	N	-	N	-	N	
27/10/2021	16:30	E	SSA-SW	Area	0	N	-	N	-	N	
27/10/2021	16:30	E	SSA-CW	Area	0.1	N	-	N	very weak, neutral, gasoline	N	
27/10/2021	16:30	E	SSA-NW	Area	0	N	-	N	-	N	
27/10/2021	16:30	E	SSA-NE	Area	0	N	-	N	-	N	
27/10/2021	16:30	E	SSA-CE	Area	0	N	-	N	-	N	
27/10/2021	16:30	E	SSA-SE	Area	0	N	-	N	-	N	
27/10/2021	9:00	WNW	AS-01	Boundary	0	N	-	N	-	N	
27/10/2021	9:00	WNW	AS-02	Boundary	0	N	-	N	-	N	
27/10/2021	9:00	WNW	AS-03	Boundary	0	N	-	N	-	N	
27/10/2021	9:00	WNW	AS-04	Boundary	0	N	-	N	-	N	
27/10/2021	9:00	WNW	AS-05	Boundary	0.3	N	-	Y	very weak, neutral, gasoline	N	
27/10/2021	16:40	E	AS-01	Boundary	0	N	-	N	-	N	
27/10/2021	16:40	E	AS-02	Boundary	0	N	-	N	-	N	
27/10/2021	16:40	E	AS-03	Boundary	0	N	-	N	-	N	
27/10/2021	16:40	E	AS-04	Boundary	0	N	-	N	-	N	
27/10/2021	16:40	E	AS-05	Boundary	0.1	N	-	Y	very weak, neutral, gasoline	N	

TABLE 2 - AMBIENT AIR MONITORING DATA SUMMARY											
Date	Time	Wind Direction/ Speed (km/h)	Monitoring Location	Monitoring Location Type - Boundary/Area Monitoring	PID Measurement - Total VOCs (ppm)	Dust Present (Y/N)	Dust Comment	Odour Present (Y/N)	Odour Comment	Action Required (Y/N)	Action Comment
28/10/2021	11:00	NW	SSA-SW	Area	0	Y	Informed PE to send dust suppression mobile tank in the area.	N	-	Y	Dust supprressionhas been carried out
28/10/2021	11:00	NW	SSA-CW	Area	0	N	-	N	-	N	
28/10/2021	11:00	NW	SSA-NW	Area	0	N	-	N	-	N	
28/10/2021	11:00	NW	SSA-NE	Area	0	N	-	N	-	N	
28/10/2021	11:00	NW	SSA-CE	Area	0	N	-	N	-	N	
28/10/2021	11:00	NW	SSA-SE	Area	0	N	-	N	-	N	
28/10/2021	14:45	ENE	SSA-SW	Area	0	N	-	N	-	N	
28/10/2021	14:45	ENE	SSA-CW	Area	0	N	-	N	-	N	
28/10/2021	14:45	ENE	SSA-NW	Area	0	N	-	N	-	N	
28/10/2021	14:45	ENE	SSA-NE	Area	0	N	-	N	-	N	
28/10/2021	14:45	ENE	SSA-CE	Area	0	N	-	N	-	N	
28/10/2021	14:45	ENE	SSA-SE	Area	0	N	-	N	-	N	
29/10/2021	11:00	NNW	3E-SW	Area	0	N	-	N	-	N	
29/10/2021	11:00	NNW	3E-SE	Area	0	N	-	N	-	N	
29/10/2021	11:00	NNW	3E-N	Area	0	N	-	N	-	N	
29/10/2021	11:00	NNW	SSA-SW	Area	0	N	-	N	-	N	
29/10/2021	11:00	NNW	SSA-CW	Area	0	N	-	N	-	N	
29/10/2021	11:00	NNW	SSA-NW	Area	0	N	-	N	-	N	
29/10/2021	11:00	NNW	SSA-NE	Area	0	N	-	N	-	N	
29/10/2021	11:00	NNW	SSA-CE	Area	0	N	-	N	-	N	
29/10/2021	11:00	NNW	SSA-SE	Area	0	N	-	N	-	N	
29/10/2021	12:00	NW	3E-SW	Area	0	N	-	N	-	N	
29/10/2021	12:00	NW	3E-SE	Area	0	N	-	Y	very weak	N	
29/10/2021	12:00	NW	3E-N	Area	0	N	-	N	-	N	
29/10/2021	12:00	NW	SSA-SW	Area	0	N	-	N	-	N	
29/10/2021	12:00	NW	SSA-CW	Area	0	N	-	N	-	N	
29/10/2021	12:00	NW	SSA-NW	Area	0	N	-	N	-	N	
29/10/2021	12:00	NW	SSA-NE	Area	0	N	-	N	-	N	
29/10/2021	12:00	NW	SSA-CE	Area	2	N	-	Y	Slighthy unpleasant, weak, gasoline	N	
29/10/2021	12:00	NW	SSA-SE	Area	0	N	-	N	-	N	
29/10/2021	9:30	NW	AS-01	Boundary	0	N	-	Y	diesel-seems coming from the truck	N	
29/10/2021	9:30	NW	AS-02	Boundary	0	Y	call PE's attention	N	-	Y	Dust suppresion carried out
29/10/2021	9:30	NW	AS-03	Boundary	0	N	-	N	-	N	
29/10/2021	9:30	NW	AS-04	Boundary	0	Y	call PE's attention	N	-	Y	Dust suppresion carried out
29/10/2021	9:30	NW	AS-05	Boundary	0	N	-	N	-	N	
1/11/2021	9:30	NNW	3E-SW	Area	0	N	-	N	-	N	
1/11/2021	9:30	NNW	3E-SE	Area	0	N	-	N	-	N	
1/11/2021	9:30	NNW	3E-N	Area	0	N	-	N	-	N	
1/11/2021	9:30	NNW	SSA-SW	Area	0	N	-	N	-	N	
1/11/2021	9:30	NNW	SSA-CW	Area	0	N	-	N	-	N	
1/11/2021	9:30	NNW	SSA-NW	Area	0	N	-	N	-	N	
1/11/2021	9:30	NNW	SSA-NE	Area	0	N	-	N	-	N	
1/11/2021	9:30	NNW	SSA-CE	Area	0	N	-	N	-	N	
1/11/2021	9:30	NNW	SSA-SE	Area	0	N	-	N	-	N	
1/11/2021	11:30	NNW	3E-SW	Area	1.4	N	-	Y	Weak, slightly unpleasant, diesel	N	
1/11/2021	11:30	NNW	3E-SE	Area	1.3	N	-	Y	Weak, slightly unpleasant, diesel	N	
1/11/2021	11:30	NNW	3E-N	Area	0	N	-	N	-	N	
1/11/2021	11:30	NNW	SSA-SW	Area	0	N	-	N	-	N	
1/11/2021	11:30	NNW	SSA-CW	Area	0	N	-	N	-	N	
1/11/2021	11:30	NNW	SSA-NW	Area	0	N	-	N	-	N	
1/11/2021	11:30	NNW	SSA-NE	Area	0	N	-	N	-	N	
1/11/2021	11:30	NNW	SSA-CE	Area	0	N	-	N	-	N	
1/11/2021	11:30	NNW	SSA-SE	Area	0	N	-	N	-	N	
1/11/2021	14:00	ENE	3E-SW	Area	0.1	N	-	Y	very weak, neutral, diesel	N	
1/11/2021	14:00	ENE	3E-SE	Area	0	N	-		-	N	
1/11/2021	14:00	ENE	3E-N	Area	0	N	-		-	N	
1/11/2021	14:00	ENE	SSA-SW	Area	0	N	-		-	N	
1/11/2021	14:00	ENE	SSA-CW	Area	0.2	N	-	Y	very weak, neutral, diesel	N	
1/11/2021	14:00	ENE	SSA-NW	Area	0	N	-		-	N	
1/11/2021	14:00	ENE	SSA-NE	Area	0	N	-		-	N	
1/11/2021	14:00	ENE	SSA-CE	Area	0	N	-		-	N	
1/11/2021	14:00	ENE	SSA-SE	Area	0	N	-		-	N	
1/11/2021	16:00	E	3E-SW	Area	1.6	N	-	Y	very weak, neutral, gasoline	N	
1/11/2021	16:00	E	3E-SE	Area	0	N	-		-	N	
1/11/2021	16:00	E	3E-N	Area	0	N	-		-	N	
1/11/2021	16:00	E	SSA-SW	Area	0	N	-		-	N	
1/11/2021	16:00	E	SSA-CW	Area	0	N	-		-	N	
1/11/2021	16:00	E	SSA-NW	Area	0	N	-		-	N	
1/11/2021	16:00	E	SSA-NE	Area	0	N	-		-	N	
1/11/2021	16:00	E	SSA-CE	Area	0	N	-		-	N	
1/11/2021	16:00	E	SSA-SE	Area	0	N	-		-	N	
1/11/2021	13:00	ENE	AS-01	Boundary	0	N	-		-	N	
1/11/2021	13:00	ENE	AS-02	Boundary	0	N	-		-	N	
1/11/2021	13:00	ENE	AS-03	Boundary	0	N	-		-	N	
1/11/2021	13:00	ENE	AS-04	Boundary	0	N	-		-	N	
2/11/2021	9:30	ENE	3E-SW	Area	0.4	N	-	Y	Very weak; Pleasant	N	
2/11/2021	9:30	ENE	3E-SE	Area	0.5	N	-	Y	Very weak; Pleasant	N	
2/11/2021	9:30	ENE	3E-N	Area	0	N	-	N	-	N	
2/11/2021	9:30	ENE	SSA-SW	Area	0	N	-	N	-	N	
2/11/2021	9:30	ENE	SSA-CW	Area	0.3	N	-	Y	ND; Pleasant	N	
2/11/2021	9:30	ENE	SSA-NW	Area	0	N	-		-	N	
2/11/2021	9:30	ENE	SSA-NE	Area	0	N	-		-	N	
2/11/2021	9:30	ENE	SSA-CE	Area	0	N	-		-	N	
2/11/2021	9:30	ENE	SSA-SE	Area	0	N	-		-	N	
2/11/2021	11:40	E	3E-SW	Area	0	N	-		-	N	
2/11/2021	11:40	E	3E-SE	Area	0.3	N	-	Y	Very weak	N	
2/11/2021	11:40	E	3E-N	Area	0	N	-		-	N	
2/11/2021	11:40	E	SSA-SW	Area	0	N	-		-	N	
2/11/2021	11:40	E	SSA-CW	Area	0.7	N	-	Y	ND; Pleasant	N	
2/11/2021	11:40	E	SSA-NW	Area	0	N	-		-	N	
2/11/2021	11:40	E	SSA-NE	Area	0	N	-		-	N	
2/11/2021	11:40	E	SSA-CE	Area	0	N	-		-	N	
2/11/2021	11:40	E	SSA-SE	Area	0	N	-		-	N	
2/11/2021	14:10	E	3E-SW	Area	-	N	-		-	N	
2/11/2021	14:10	E	3E-SE	Area	-	N	-		-	N	
2/11/2021	14:10	E	3E-N	Area	-	N	-		-	N	
2/11/2021	14:10	E	SSA-SW	Area	0	N	-		-	N	
2/11/2021	14:10	E	SSA-CW	Area	0.4	N	-	Y	Very weak	N	
2/11/2021	14:10	E	SSA-NW	Area	0	N	-	N	-	N	
2/11/2021	14:10	E	SSA-NE	Area	0	N	-	N	-	N	
2/11/2021	14:10	E	SSA-CE	Area	0	N	-	N	-	N	
2/11/2021	14:10	E	SSA-SE	Area	0	N	-	N	-	N	
2/11/2021	16:00	E	AS-01	Boundary	0	N	-	N	-	N	
2/11/2021	16:00	E	AS-02	Boundary	0	N	-	N	-	N	
2/11/2021	16:00	E	AS-03	Boundary	0	N	-	N	-	N	
2/11/2021	16:00	E	AS-04	Boundary	0	N	-	N	-	N	
3/11/2021	9:45	N	3E-SW	Area	0	N	-	N	-	N	
3/11/2021	9:45	N	3E-SE	Area	1	N	-	Y	Weak, gasoline	N	
3/11/2021	9:45	N	3E-N	Area	0	N	-	N	-	N	
3/11/2021	9:45	N	SSA-SW	Area	0	N	-	N	-	N	
3/11/2021	9:45	N	SSA-CW	Area	0	N	-	N	-	N	
3/11/2021	9:45	N	SSA-NW	Area	0	N	-	N	-	N	
3/11/2021	9:45	N	SSA-NE	Area	0	N	-	N	-	N	
3/11/2021	9:45	N	SSA-CE	Area	0	N	-	N	-	N	
3/11/2021	9:45	N	SSA-SE	Area	0	N	-	N	-	N	
3/11/2021	11:35	ENE	3E-SW	Area	0.3	N	-	N	Very weak	N	
3/11/2021	11:35	ENE	3E-SE	Area	0	N	-	N	-	N	
3/11/2021	11:35	ENE	3E-N	Area	0	N	-	N	-	N	
3/11/2021	11:35	ENE	SSA-SW	Area	0	N	-	N	-	N	
3/11/2021	11:35	ENE	SSA-CW	Area	0.1	N	-	Y	Very weak, neutral	N	
3/11/2021	11:35	ENE	SSA-NW	Area	0	N	-	N	-	N	
3/11/2021	11:35	ENE	SSA-NE	Area	0	N	-	N	-	N	
3/11/2021	11:35	ENE	SSA-CE	Area	0	N	-	N	-	N	
3/11/2021	11:35	ENE	SSA-SE	Area	0	N	-	N	-	N	
3/11/2021	14:30	E	3E-SW	Area	0	N	-	N	-	N	
3/11/2021	14:30	E	3E-SE	Area	0	N	-	N	-	N	
3/11/2021	14:30	E	3E-N	Area	0	N	-	N	-	N	
3/11/2021	14:30	E	SSA-SW	Area	0	N	-	N	-	N	no screening
3/11/2021	14:30	E	SSA-CW	Area	0	N	-	N	-	N	no screening
3/11/2021	14:30	E	SSA-NW	Area	0	N	-	N	-	N	no screening
3/11/2021	14:30	E	SSA-NE	Area	0	N	-	N	-	N	no screening
3/11/2021	14:30	E	SSA-CE	Area	0	N	-	N	-	N	no screening
3/11/2021	14:30	E	SSA-SE	Area	0	N	-	N	-	N	no screening

TABLE 2 - AMBIENT AIR MONITORING DATA SUMMARY											
Date	Time	Wind Direction/ Speed (km/h)	Monitoring Location	Monitoring Location Type - Boundary/Area Monitoring	PID Measurement - Total VOCs (ppm)	Dust Present (Y/N)	Dust Comment	Odour Present (Y/N)	Odour Comment	Action Required (Y/N)	Action Comment
3/11/2021	16:20	ENE	3E-SW	Area	-	N	-	N	-	N	Excavation completed at 3:30pm
3/11/2021	16:20	ENE	3E-SE	Area	-	N	-	N	-	N	Excavation completed at 3:30pm
3/11/2021	16:20	ENE	3E-N	Area	-	N	-	N	-	N	Excavation completed at 3:30pm
3/11/2021	16:20	ENE	SSA-SW	Area	0	N	-	N	-	N	
3/11/2021	16:20	ENE	SSA-CW	Area	0.3	N	-	N	-	N	
3/11/2021	16:20	ENE	SSA-NW	Area	0	N	-	N	-	N	
3/11/2021	16:20	ENE	SSA-NE	Area	0	N	-	N	-	N	
3/11/2021	16:20	ENE	SSA-CE	Area	0	N	-	N	-	N	
3/11/2021	16:20	ENE	SSA-SE	Area	0	N	-	N	-	N	
3/11/2021	16:15	NE	AS-01	Boundary	0	N	-	N	-	N	
3/11/2021	16:15	NE	AS-02	Boundary	0	N	-	N	-	N	
3/11/2021	16:15	NE	AS-03	Boundary	0	N	-	N	-	N	
3/11/2021	16:15	NE	AS-04	Boundary	0	N	-	N	-	N	
3/11/2021	16:15	NE	AS-05	Boundary	0	N	-	N	-	N	
16/11/2021	12:50	S	SSA-SW	Area	0	N	-	N	-	N	
16/11/2021	12:50	S	SSA-CW	Area	0	N	-	N	-	N	
16/11/2021	12:50	S	SSA-NW	Area	0	N	-	N	-	N	
16/11/2021	12:50	S	SSA-NE	Area	0	N	-	N	-	N	
16/11/2021	12:50	S	SSA-CE	Area	0	N	-	N	-	N	
16/11/2021	12:50	S	SSA-SE	Area	0	N	-	N	-	N	
16/11/2021	13:00	S	AS-01	Boundary	0	N	-	N	-	N	
16/11/2021	13:00	S	AS-02	Boundary	0	N	-	N	-	N	
16/11/2021	13:00	S	AS-03	Boundary	0	N	-	N	-	N	
16/11/2021	13:00	S	AS-04	Boundary	0	N	-	N	-	N	
17/11/2021	11:00	E	SSA-SW	Area	0	N	-	N	-	N	
17/11/2021	11:00	E	SSA-CW	Area	0	N	-	N	-	N	
17/11/2021	11:00	E	SSA-NW	Area	0	N	-	N	-	N	
17/11/2021	11:00	E	SSA-NE	Area	0	N	-	N	-	N	
17/11/2021	11:00	E	SSA-CE	Area	0	N	-	N	-	N	
17/11/2021	11:00	E	SSA-SE	Area	0	N	-	N	-	N	
17/11/2021	14:00	E	SSA-SW	Area	0	N	-	N	-	N	
17/11/2021	14:00	E	SSA-CW	Area	0	N	-	N	-	N	
17/11/2021	14:00	E	SSA-NW	Area	0	N	-	N	-	N	
17/11/2021	14:00	E	SSA-NE	Area	0	N	-	N	-	N	
17/11/2021	14:00	E	SSA-CE	Area	0	N	-	N	-	N	
17/11/2021	14:00	E	SSA-SE	Area	0	N	-	N	-	N	
17/11/2021	16:15	ESE	SSA-SW	Area	0	N	-	N	-	N	
17/11/2021	16:15	ESE	SSA-CW	Area	0.1	N	-	Y	Very weak; neutral	N	
17/11/2021	16:15	ESE	SSA-NW	Area	0	N	-	N	-	N	
17/11/2021	16:15	ESE	SSA-NE	Area	0	N	-	N	-	N	
17/11/2021	16:15	ESE	SSA-CE	Area	0	N	-	N	-	N	
17/11/2021	16:15	ESE	SSA-SE	Area	0	N	-	N	-	N	
17/11/2021	11:20	E	AS-01	Boundary	0	N	-	N	-	N	
17/11/2021	11:20	E	AS-02	Boundary	0	N	-	N	-	N	
17/11/2021	11:20	E	AS-03	Boundary	0	N	-	N	-	N	
17/11/2021	11:20	E	AS-04	Boundary	0	N	-	N	-	N	
19/11/2021	14:45	N	SSA-SW	Area	0	N	-	N	-	N	
19/11/2021	14:45	N	SSA-CW	Area	0	N	-	N	-	N	
19/11/2021	14:45	N	SSA-NW	Area	0	N	-	N	-	N	
19/11/2021	14:45	N	SSA-NE	Area	0	N	-	N	-	N	
19/11/2021	14:45	N	SSA-CE	Area	0	N	-	N	-	N	
19/11/2021	14:45	N	SSA-SE	Area	0	N	-	N	-	N	
19/11/2021	16:20	N	SSA-SW	Area	0	N	-	N	-	N	
19/11/2021	16:20	N	SSA-CW	Area	0	N	-	N	-	N	
19/11/2021	16:20	N	SSA-NW	Area	0	N	-	N	-	N	
19/11/2021	16:20	N	SSA-NE	Area	0	N	-	N	-	N	
19/11/2021	16:20	N	SSA-CE	Area	0	N	-	N	-	N	
19/11/2021	16:20	N	SSA-SE	Area	0	N	-	N	-	N	
19/11/2021	15:20	N	AS-01	Boundary	0	N	-	N	-	N	
19/11/2021	15:20	N	AS-02	Boundary	0	N	-	N	-	N	
19/11/2021	15:20	N	AS-03	Boundary	0	N	-	N	-	N	
19/11/2021	15:20	N	AS-04	Boundary	0	N	-	N	-	N	
6/12/2021	10:00	East / 15	SSA-SW	Area	1.5	N	-	Y	weak, slight unpleasant, diesel	N	N
6/12/2021	10:00	East / 15	SSA-CW	Area	0.3	N	-	Y	weak, slight unpleasant, diesel	N	N
6/12/2021	10:00	East / 15	SSA-NW	Area	0	N	-	N	-	-	-
6/12/2021	10:00	East / 15	SSA-NE	Area	0	N	-	N	-	-	-
6/12/2021	10:00	East / 15	SSA-CE	Area	0	N	-	N	-	-	-
6/12/2021	10:00	East / 15	SSA-SE	Area	0	N	-	N	-	-	-
6/12/2021	12:50	NE / 19	SSA-SW	Area	0	N	-	N	-	-	-
6/12/2021	12:50	NE / 19	SSA-CW	Area	0	N	-	N	-	-	-
6/12/2021	12:50	NE / 19	SSA-NW	Area	0	N	-	N	-	-	-
6/12/2021	12:50	NE / 19	SSA-NE	Area	0	N	-	N	-	-	-
6/12/2021	12:50	NE / 19	SSA-CE	Area	0	N	-	N	-	-	-
6/12/2021	12:50	NE / 19	SSA-SE	Area	0	N	-	N	-	-	-
6/12/2021	14:00	NE / 13	SSA-SW	Area	1.7	N	-	N	weak, slight unpleasant, rotten egg		
6/12/2021	14:00	NE / 13	SSA-CW	Area	1.3	N	-	N	weak, slight unpleasant, rotten egg		
6/12/2021	14:00	NE / 13	SSA-NW	Area	0	N	-	N	-		
6/12/2021	14:00	NE / 13	SSA-NE	Area	0	N	-	N	-		
6/12/2021	14:00	NE / 13	SSA-CE	Area	0	N	-	N	-		
6/12/2021	14:00	NE / 13	SSA-SE	Area	0	N	-	N	weak, slight unpleasant, rotten egg		
6/12/2021	16:30	NE / 13	SSA-SW	Area	0	N	-	N	-		
6/12/2021	16:30	NE / 13	SSA-CW	Area	0.1	N	-	N	very weak, neutral, burnt rubber		
6/12/2021	16:30	NE / 13	SSA-NW	Area	0	N	-	N	-		
6/12/2021	16:30	NE / 13	SSA-NE	Area	0	N	-	N	-		
6/12/2021	16:30	NE / 13	SSA-CE	Area	0	N	-	N	very weak, neutral, H2S/rotten egg		
6/12/2021	16:30	NE / 13	SSA-SE	Area	0	N	-	N	very weak, neutral, H2S/rotten egg		
6/12/2021	16:30	NE / 13	AS-01	Boundary	0	N	-	N	-		
6/12/2021	16:30	NE / 13	AS-02	Boundary	0	N	-	N	-		
6/12/2021	16:30	NE / 13	AS-03	Boundary	0	N	-	N	-		
6/12/2021	16:30	NE / 13	AS-04	Boundary	0	N	-	N	very weak, neutral, H2S/rotten egg		
7/12/2021	7:54	calm	SSA-SW	Area	0	N	-	N	-		
7/12/2021	7:54	calm	SSA-CW	Area	0	N	-	N	-		
7/12/2021	7:54	calm	SSA-NW	Area	0	N	-	N	-		
7/12/2021	7:54	calm	SSA-NE	Area	0	N	-	N	-		
7/12/2021	7:54	calm	SSA-CE	Area	0	N	-	N	-		
7/12/2021	7:54	calm	SSA-SE	Area	0	N	-	N	-		
7/12/2021	9:30	NW / 4	SSA-SW	Area	0	N	-	N	-		
7/12/2021	9:30	NW / 4	SSA-CW	Area	0	N	-	N	-		
7/12/2021	9:30	NW / 4	SSA-NW	Area	0	N	-	N	-		
7/12/2021	9:30	NW / 4	SSA-NE	Area	0	N	-	N	-		
7/12/2021	9:30	NW / 4	SSA-CE	Area	0	N	-	N	-		
7/12/2021	9:30	NW / 4	SSA-SE	Area	0	N	-	N	-		
7/12/2021	13:55	ESE / 7	SSA-SW	Area	0	N	-	N	-		
7/12/2021	13:55	ESE / 7	SSA-CW	Area	0	N	-	N	-		
7/12/2021	13:55	ESE / 7	SSA-NW	Area	0	N	-	N	-		
7/12/2021	13:55	ESE / 7	SSA-NE	Area	0	N	-	N	-		
7/12/2021	13:55	ESE / 7	SSA-CE	Area	0	N	-	N	-		
7/12/2021	13:55	ESE / 7	SSA-SE	Area	0	N	-	N	-		
7/12/2021	15:55	NNE / 6	SSA-SW	Area	0	N	-	N	-		
7/12/2021	15:55	NNE / 6	SSA-CW	Area	0	N	-	N	-		
7/12/2021	15:55	NNE / 6	SSA-NW	Area	0	N	-	N	-		
7/12/2021	15:55	NNE / 6	SSA-NE	Area	0	N	-	N	-		
7/12/2021	15:55	NNE / 6	SSA-CE	Area	0	N	-	N	-		
7/12/2021	15:55	NNE / 6	SSA-SE	Area	0	N	-	N	-		
7/12/2021	15:20	NNE / 6	AS-01	Boundary	0	N	-	N	-		
7/12/2021	15:20	NNE / 6	AS-02	Boundary	0	N	-	N	-		
7/12/2021	15:20	NNE / 6	AS-03	Boundary	0	N	-	N	-		
7/12/2021	15:20	NNE / 6	AS-04	Boundary	0	N	-	N	-		
8/12/2021	7:40	S / 9	SSA-SW	Area	0	N	-	N	-		
8/12/2021	7:40	S / 9	SSA-CW	Area	0	N	-	N	very weak, neutral, diesel	N	
8/12/2021	7:40	S / 9	SSA-NW	Area	0	N	-	N	-	N	
8/12/2021	7:40	S / 9	SSA-NE	Area	0	N	-	N	-	N	
8/12/2021	7:40	S / 9	SSA-CE	Area	0	N	-	N	-	N	
8/12/2021	7:40	S / 9	SSA-SE	Area	0	N	-	N	-	N	
8/12/2021	9:05	S / 13	SSA-SW	Area	0	N	-	N	-	N	
8/12/2021	9:05	S / 13	SSA-CW	Area	0	N	-	N	-	N	
8/12/2021	9:05	S / 13	SSA-NW	Area	0	N	-	N	-	N	
8/12/2021	9:05	S / 13	SSA-NE	Area	0	N	-	N	-	N	
8/12/2021	9:05	S / 13	SSA-CE	Area	0	N	-	N	-	N	
8/12/2021	9:05	S / 13	SSA-SE	Area	0	N	-	N	-	N	
8/12/2021	11:30	SE / 11	SSA-SW	Area	0.7	N	-	N	-	N	
8/12/2021	11:30	SE / 11	SSA-CW	Area	0.1	N	-	N	-	N	
8/12/2021	11:30	SE / 11	SSA-NW	Area	0	N	-	N	-	N	
8/12/2021	11:30	SE / 11	SSA-NE	Area	0	N	-	N	-	N	
8/12/2021	11:30	SE / 11	SSA-CE	Area	0	N	-	N	-	N	

TABLE 2 - AMBIENT AIR MONITORING DATA SUMMARY											
Date	Time	Wind Direction/ Speed (km/h)	Monitoring Location	Monitoring Location Type - Boundary/Area Monitoring	PID Measurement - Total VOCs (ppm)	Dust Present (Y/N)	Dust Comment	Odour Present (Y/N)	Odour Comment	Action Required (Y/N)	Action Comment
8/12/2021	11:30	SE / 11	SSA-SE	Area	0	N	-	N	-	N	
8/12/2021	14:00	SSE / 15	SSA-SW	Area	0	N	-	N	very weak, neutral, diesel	N	
8/12/2021	14:00	SSE / 15	SSA-CW	Area	0	N	-	N	-	N	
8/12/2021	14:00	SSE / 15	SSA-NW	Area	0	N	-	N	-	N	
8/12/2021	14:00	SSE / 15	SSA-NE	Area	0	N	-	N	-	N	
8/12/2021	14:00	SSE / 15	SSA-CE	Area	0	N	-	N	-	N	
8/12/2021	14:00	SSE / 15	SSA-SE	Area	0	N	-	N	-	N	
8/12/2021	13:20	S / 15	SSA-SW	Area	0	N	-	N	-	N	
8/12/2021	13:20	S / 15	SSA-CW	Area	0.2	N	-	N	very weak, neutral, diesel	N	
8/12/2021	13:20	S / 15	SSA-NW	Area	0	N	-	N	-	N	
8/12/2021	13:20	S / 15	SSA-NE	Area	0	N	-	N	-	N	
8/12/2021	13:20	S / 15	SSA-CE	Area	0	N	-	N	-	N	
8/12/2021	13:20	S / 15	SSA-SE	Area	0	N	-	N	-	N	
8/12/2021	15:40	S / 13	AS-01	Boundary	0	N	-	N	-	N	
8/12/2021	15:40	S / 13	AS-02	Boundary	0	N	-	N	-	N	
8/12/2021	15:40	S / 13	AS-03	Boundary	0	N	-	N	-	N	
8/12/2021	15:40	S / 13	AS-04	Boundary	0	N	-	N	-	N	
14/12/2021	8:00	Calm / 0	SSA-SW	Area	0	N	-	N	-	N	
14/12/2021	8:00	Calm / 0	SSA-CW	Area	0	N	-	N	-	N	
14/12/2021	8:00	Calm / 0	SSA-NW	Area	0	N	-	N	-	N	
14/12/2021	8:00	Calm / 0	SSA-NE	Area	0	N	-	N	-	N	
14/12/2021	8:00	Calm / 0	SSA-CE	Area	0	N	-	N	-	N	
14/12/2021	8:00	Calm / 0	SSA-SE	Area	0	N	-	N	-	N	
14/12/2021	10:20	ESE / 7	SSA-SW	Area	0	N	-	N	-	N	
14/12/2021	10:20	ESE / 7	SSA-CW	Area	0	N	-	N	-	N	
14/12/2021	10:20	ESE / 7	SSA-NW	Area	0	N	-	N	-	N	
14/12/2021	10:20	ESE / 7	SSA-NE	Area	0	N	-	N	-	N	
14/12/2021	10:20	ESE / 7	SSA-CE	Area	0	N	-	N	-	N	
14/12/2021	10:20	ESE / 7	SSA-SE	Area	0	N	-	N	-	N	
14/12/2021	12:45	E / 11	SSA-SW	Area	0	N	-	N	-	N	
14/12/2021	12:45	E / 11	SSA-CW	Area	0	N	-	N	-	N	
14/12/2021	12:45	E / 11	SSA-NW	Area	0.2	N	-	Y	very weak, neutral, diesel	N	
14/12/2021	12:45	E / 11	SSA-NE	Area	0	N	-	N	-	N	
14/12/2021	12:45	E / 11	SSA-CE	Area	0	N	-	N	-	N	
14/12/2021	12:45	E / 11	SSA-SE	Area	0	N	-	N	-	N	
14/12/2021	14:30	E / 15	SSA-SW	Area	0	N	-	N	-	N	
14/12/2021	14:30	E / 15	SSA-CW	Area	0	N	-	N	-	N	
14/12/2021	14:30	E / 15	SSA-NW	Area	0	N	-	N	-	N	
14/12/2021	14:30	E / 15	SSA-NE	Area	0	N	-	N	-	N	
14/12/2021	14:30	E / 15	SSA-CE	Area	0	N	-	N	-	N	
14/12/2021	14:30	E / 15	SSA-SE	Area	0	N	-	N	-	N	
14/12/2021	16:15	E / 17	SSA-SW	Area	0	N	-	N	-	N	
14/12/2021	16:15	E / 17	SSA-CW	Area	0	N	-	N	-	N	
14/12/2021	16:15	E / 17	SSA-NW	Area	0	N	-	N	-	N	
14/12/2021	16:15	E / 17	SSA-NE	Area	0	N	-	N	-	N	
14/12/2021	16:15	E / 17	SSA-CE	Area	0	N	-	N	-	N	
14/12/2021	16:15	E / 17	SSA-SE	Area	0	N	-	N	-	N	
15/12/2021	8:00	WNW / 4	SSA-SW	Area	0	N	-	N	-	N	
15/12/2021	8:00	WNW / 4	SSA-CW	Area	0	N	-	N	-	N	
15/12/2021	8:00	WNW / 4	SSA-NW	Area	0	N	-	N	-	N	
15/12/2021	8:00	WNW / 4	SSA-NE	Area	0	N	-	N	-	N	
15/12/2021	8:00	WNW / 4	SSA-CE	Area	0	N	-	N	-	N	
15/12/2021	8:00	WNW / 4	SSA-SE	Area	0	N	-	N	-	N	
15/12/2021	10:20	ENE / 7	SSA-SW	Area	0	N	-	N	-	N	
15/12/2021	10:20	ENE / 7	SSA-CW	Area	0	N	-	N	-	N	
15/12/2021	10:20	ENE / 7	SSA-NW	Area	0	N	-	N	-	N	
15/12/2021	10:20	ENE / 7	SSA-NE	Area	0	N	-	N	-	N	
15/12/2021	10:20	ENE / 7	SSA-CE	Area	0	N	-	N	-	N	
15/12/2021	10:20	ENE / 7	SSA-SE	Area	0.5	N	-	N	very weak, neutral, diesel	N	
15/12/2021	13:50	ESE	SSA-SW	Area	0	N	-	N	-	N	
15/12/2021	13:50	ESE	SSA-CW	Area	0	N	-	N	-	N	
15/12/2021	13:50	ESE	SSA-NW	Area	0	N	-	N	-	N	
15/12/2021	13:50	ESE	SSA-NE	Area	0	N	-	N	-	N	
15/12/2021	13:50	ESE	SSA-CE	Area	0	N	-	N	-	N	
15/12/2021	13:50	ESE	SSA-SE	Area	0	N	-	N	-	N	
15/12/2021	16:20	E / 17	SSA-SW	Area	0	N	-	N	-	N	
15/12/2021	16:20	E / 17	SSA-CW	Area	0	N	-	N	-	N	
15/12/2021	16:20	E / 17	SSA-NW	Area	0	N	-	N	-	N	
15/12/2021	16:20	E / 17	SSA-NE	Area	0	N	-	N	-	N	
15/12/2021	16:20	E / 17	SSA-CE	Area	0	N	-	N	-	N	
15/12/2021	16:20	E / 17	SSA-SE	Area	0	N	-	N	-	N	
15/12/2021	16:30	E / 17	AS-01	Boundary	0	N	-	N	-	N	
15/12/2021	16:30	E / 17	AS-02	Boundary	0	N	-	N	-	N	
15/12/2021	16:30	E / 17	AS-03	Boundary	0	N	-	N	-	N	
15/12/2021	16:30	E / 17	AS-04	Boundary	0	N	-	N	-	N	
16/12/2021	8:30	S / 9	SSA-SW	Area	0	N	-	N	-	N	
16/12/2021	8:30	S / 9	SSA-CW	Area	0	N	-	N	-	N	
16/12/2021	8:30	S / 9	SSA-NW	Area	0	N	-	N	-	N	
16/12/2021	8:30	S / 9	SSA-NE	Area	0	N	-	N	-	N	
16/12/2021	8:30	S / 9	SSA-CE	Area	0	N	-	N	-	N	
16/12/2021	8:30	S / 9	SSA-SE	Area	0	N	-	N	-	N	
16/12/2021	13:00	ESE / 30	SSA-SW	Area	0	N	-	N	-	N	
16/12/2021	13:00	ESE / 30	SSA-CW	Area	0	N	-	N	-	N	
16/12/2021	13:00	ESE / 30	SSA-NW	Area	0	N	-	N	-	N	
16/12/2021	13:00	ESE / 30	SSA-NE	Area	0	N	-	N	-	N	
16/12/2021	13:00	ESE / 30	SSA-CE	Area	0	N	-	N	-	N	
16/12/2021	13:00	ESE / 30	SSA-SE	Area	0	N	-	N	-	N	
16/12/2021	15:40	SE / 26	SSA-SW	Area	0	N	-	N	-	N	
16/12/2021	15:40	SE / 26	SSA-CW	Area	0	N	-	N	-	N	
16/12/2021	15:40	SE / 26	SSA-NW	Area	0	N	-	N	-	N	
16/12/2021	15:40	SE / 26	SSA-NE	Area	0	N	-	N	-	N	
16/12/2021	15:40	SE / 26	SSA-CE	Area	0	N	-	N	-	N	
16/12/2021	15:40	SE / 26	SSA-SE	Area	0	N	-	N	-	N	
16/12/2021	16:00	SE / 20	AS-01	Boundary	0	N	-	N	-	N	
16/12/2021	16:00	SE / 20	AS-02	Boundary	0	N	-	N	-	N	
16/12/2021	16:00	SE / 20	AS-03	Boundary	0	N	-	N	-	N	
16/12/2021	16:00	SE / 20	AS-04	Boundary	0	N	-	N	-	N	
20/12/2021	10:00	SE / 12	3D-NW	Area	0	N	-	N	-	N	
20/12/2021	10:00	SE / 12	3D-SW	Area	0	N	-	N	-	N	
20/12/2021	10:00	SE / 12	SSA-NW	Area	0.1	N	-	N	-	N	
20/12/2021	10:00	SE / 12	SSA-CW	Area	0.1	N	-	N	-	N	
20/12/2021	13:00	SE / 12	3D-NW	Area	0	N	-	N	-	N	
20/12/2021	13:00	SE / 12	3D-SW	Area	0	N	-	N	-	N	
20/12/2021	13:00	SE / 12	SSA-NW	Area	0.1	N	-	N	-	N	
20/12/2021	13:00	SE / 12	SSA-CW	Area	0	N	-	N	-	N	
21/12/2021	8:00	SE / 12	SSA-NW	Area	0.1	Y	minor generation from plant movement	N	-	N	
21/12/2021	8:00	SE / 12	SSA-NE	Area	0.1	Y	minor generation from plant movement	N	-	N	
21/12/2021	8:00	SE / 12	SSA-CE	Area	0	N		N	-	N	
21/12/2021	8:00	SE / 12	SSA-SE	Area	0	N		N	-	N	
21/12/2021	8:00	SE / 12	SSA-SW	Area	0	N		N	-	N	
21/12/2021	8:00	SE / 12	SSA-CW	Area	0	N		N	-	N	
21/12/2021	8:00	SE / 12	Tankfarm A1	Area	0	N		N	-	N	
21/12/2021	13:00	SE / 12	SSA-NW	Area	0.1	Y	minor generation from plant movement	N	-	N	
21/12/2021	13:00	SE / 12	SSA-NE	Area	0.1	Y	minor generation from plant movement	N	-	N	
21/12/2021	13:00	SE / 12	SSA-CE	Area	0.1	N		N	-	N	
21/12/2021	13:00	SE / 12	SSA-SE	Area	0.1	N		N	-	N	
21/12/2021	13:00	SE / 12	SSA-SW	Area	0	N		N	-	N	
21/12/2021	13:00	SE / 12	SSA-CW	Area	0	N		N	-	N	
21/12/2021	13:00	SE / 12	Tankfarm A1	Area	0	N		N	-	N	
21/12/2021	16:00	SE / 12	SSA-NW	Area	0.1	N		N	-	N	
21/12/2021	16:00	SE / 12	SSA-NE	Area	0.1	N		N	-	N	
21/12/2021	16:00	SE / 12	SSA-CE	Area	0.1	N		N	-	N	
21/12/2021	16:00	SE / 12	SSA-SE	Area	0.1	N		N	-	N	
21/12/2021	16:00	SE / 12	SSA-SW	Area	0.1	N		N	-	N	
21/12/2021	16:00	SE / 12	SSA-CW	Area	0.1	N		N	-	N	
21/12/2021	16:00	SE / 12	Tankfarm A1	Area	0	N		N	-	N	
21/12/2021	16:00	SE / 12	AS01	Boundary	0.1	N		N	-	N	
21/12/2021	16:00	SE / 12	AS02	Boundary	0.1	N		N	-	N	
21/12/2021	16:00	SE / 12	AS03	Boundary	0.1	N		N	-	N	
21/12/2021	16:00	SE / 12	AS04	Boundary	0.1	N		N	-	N	
22/12/2021	7:30	SE / 12	SSA-NW	Area	0	N		N	-	N	

TABLE 2 - AMBIENT AIR MONITORING DATA SUMMARY											
Date	Time	Wind Direction/ Speed (km/h)	Monitoring Location	Monitoring Location Type - Boundary/Area Monitoring	PID Measurement - Total VOCs (ppm)	Dust Present (Y/N)	Dust Comment	Odour Present (Y/N)	Odour Comment	Action Required (Y/N)	Action Comment
22/12/2021	7:30	SE / 12	SSA-NE	Area	0	N		N	-	N	
22/12/2021	7:30	SE / 12	SSA-CE	Area	0	N		N	-	N	
22/12/2021	7:30	SE / 12	SSA-SE	Area	0	N		N	-	N	
22/12/2021	7:30	SE / 12	SSA-SW	Area	0	N		N	-	N	
22/12/2021	7:30	SE / 12	SSA-CW	Area	0	N		N	-	N	
22/12/2021	11:00	SE / 12	3D-NW	Area	0	Y	minor generation from plant movement	N	-	N	
22/12/2021	11:00	SE / 12	SSA-NW	Area	0	Y	minor generation from plant movement	N	-	N	
22/12/2021	11:00	SE / 12	SSA-NE	Area	0	Y	minor generation from plant movement	N	-	N	
22/12/2021	11:00	SE / 12	SSA-CE	Area	0	Y	minor generation from plant movement	N	-	N	
22/12/2021	11:00	SE / 12	SSA-SE	Area	0	Y	minor generation from plant movement	N	-	N	
22/12/2021	11:00	SE / 12	SSA-SW	Area	0	Y	minor generation from plant movement	N	-	N	
22/12/2021	11:00	SE / 12	SSA-CW	Area	0	Y	minor generation from plant movement	N	-	N	
22/12/2021	11:00	SE / 12	Tankfarm A1	Area	0	Y	minor generation from plant movement	N	-	N	
22/12/2021	15:00	SE / 12	3D-NW	Area	0.1	Y	minor generation from plant movement	N	-	N	
22/12/2021	15:00	SE / 12	SSA-NW	Area	0	N		N	-	N	
22/12/2021	15:00	SE / 12	SSA-CW	Area	0	N		N	-	N	
22/12/2021	15:00	SE / 12	SSA-NE	Area	0	N		N	-	N	
22/12/2021	15:00	SE / 12	SSA-CE	Area	0	N		N	-	N	
22/12/2021	15:00	SE / 12	SSA-SE	Area	0	N		N	-	N	
22/12/2021	15:00	SE / 12	SSA-SW	Area	0	N		N	-	N	
22/12/2021	15:00	SE / 12	SSA-CW	Area	0.2	Y	minor generation from plant movement	N	-	N	
22/12/2021	15:00	SE / 12	Tankfarm A1	Area	0	N		N	-	N	
11/01/2022	8:00	NE / 12	3D-NW	Area	0	N		N	-	N	
11/01/2022	8:00	NE / 12	SSA-NW	Area	0	N		N	-	N	
11/01/2022	8:00	NE / 12	SSA-CW	Area	0	N		N	-	N	
11/01/2022	8:00	NE / 12	SSA-NE	Area	0	N		N	-	N	
11/01/2022	8:00	NE / 12	SSA-CE	Area	0	N		N	-	N	
11/01/2022	8:00	NE / 12	SSA-SE	Area	0	N		N	-	N	
11/01/2022	8:00	NE / 12	SSA-SW	Area	0	N		N	-	N	
11/01/2022	12:00	NE / 12	3D-NW	Area	0	N		N	-	N	
11/01/2022	12:00	NE / 12	SSA-NW	Area	0	N		N	-	N	
11/01/2022	12:00	NE / 12	SSA-CW	Area	0	N		N	-	N	
11/01/2022	12:00	NE / 12	SSA-NE	Area	0	N		N	-	N	
11/01/2022	12:00	NE / 12	SSA-CE	Area	0	N		N	-	N	
11/01/2022	12:00	NE / 12	SSA-SE	Area	0	N		N	-	N	
11/01/2022	12:00	NE / 12	SSA-SW	Area	0	N		N	-	N	
12/01/2022	8:00	12 / S	SSA-NW	Area	0	N		N	-	N	
12/01/2022	8:00	12 / S	SSA-CW	Area	0	N		N	-	N	
12/01/2022	8:00	12 / S	SSA-NE	Area	0	N		N	-	N	
12/01/2022	8:00	12 / S	SSA-CE	Area	0	N		N	-	N	
12/01/2022	8:00	12 / S	SSA-SE	Area	0	N		N	-	N	
12/01/2022	8:00	12 / S	SSA-SW	Area	0	N		N	-	N	
12/01/2022	12:20	12 / S	SSA-NW	Area	0	N		N	-	N	
12/01/2022	12:20	12 / S	SSA-CW	Area	0.1	N		N	-	N	
12/01/2022	12:20	12 / S	SSA-NE	Area	0	N		N	-	N	
12/01/2022	12:20	12 / S	SSA-CE	Area	0	N		N	-	N	
12/01/2022	12:20	12 / S	SSA-SE	Area	0	N		N	-	N	
12/01/2022	12:20	12 / S	SSA-SW	Area	0.1	N		N	-	N	
12/01/2022	14:00	12 / SW	SSA-NW	Area	0	N		N	-	N	
12/01/2022	14:00	12 / SW	SSA-CW	Area	0	N		N	-	N	
12/01/2022	14:00	12 / SW	SSA-NE	Area	0	N		N	-	N	
12/01/2022	14:00	12 / SW	SSA-CE	Area	0	N		N	-	N	
12/01/2022	14:00	12 / SW	SSA-SE	Area	0	N		N	-	N	
12/01/2022	14:00	12 / SW	SSA-SW	Area	0	N		N	-	N	
12/01/2022	14:00	12 / SW	AS01	Boundary	0	N		N	-	N	
12/01/2022	14:00	12 / SW	AS02	Boundary	0	N		N	-	N	
12/01/2022	14:00	12 / SW	AS03	Boundary	0	N		N	-	N	
12/01/2022	14:00	12 / SW	AS04	Boundary	0	N		N	-	N	
17/01/2022	8:30	SE	SSA-NW	Area	0	N		N	-	N	
17/01/2022	8:30	SE	SSA-CW	Area	0	N		N	-	N	
17/01/2022	8:30	SE	SSA-NE	Area	0	N		N	-	N	
17/01/2022	8:30	SE	SSA-CE	Area	0	N		N	-	N	
17/01/2022	8:30	SE	SSA-SE	Area	0	N		N	-	N	
17/01/2022	8:30	SE	SSA-SW	Area	0	N		N	-	N	
17/01/2022	12:00	SE	SSA-NW	Area	0	N		N	-	N	
17/01/2022	12:00	SE	SSA-CW	Area	0	N		N	-	N	
17/01/2022	12:00	SE	SSA-NE	Area	0	N		N	-	N	
17/01/2022	12:00	SE	SSA-CE	Area	0	N		N	-	N	
17/01/2022	12:00	SE	SSA-SE	Area	0.1	N		N	-	N	
17/01/2022	12:00	SE	SSA-SW	Area	0	N		N	-	N	
17/01/2022	15:00	SE	SSA-NW	Area	0.4	N		N	-	N	
17/01/2022	15:00	SE	SSA-CW	Area	0.3	N		N	-	N	
17/01/2022	15:00	SE	SSA-NE	Area	0.3	N		N	-	N	
17/01/2022	15:00	SE	SSA-CE	Area	0.2	N		N	-	N	
17/01/2022	15:00	SE	SSA-SE	Area	0.2	N		N	-	N	
17/01/2022	15:00	SE	SSA-SW	Area	0.2	N		N	-	N	
17/01/2022	15:00	SE	AS01	Boundary	0.2	N		N	-	N	
17/01/2022	15:00	SE	AS02	Boundary	0.2	N		N	-	N	
17/01/2022	15:00	SE	AS03	Boundary	0	N		N	-	N	
17/01/2022	15:00	SE	AS04	Boundary	0	N		N	-	N	
18/01/2022	8:00	SSE / 13	SSA-NW	Area	0	N		N	-	N	
18/01/2022	8:00	SSE / 13	SSA-CW	Area	0	N		N	-	N	
18/01/2022	8:00	SSE / 13	SSA-NE	Area	0	N		N	-	N	
18/01/2022	8:00	SSE / 13	SSA-CE	Area	0	N		N	-	N	
18/01/2022	8:00	SSE / 13	SSA-SE	Area	0	N		N	-	N	
18/01/2022	8:00	SSE / 13	SSA-SW	Area	0	N		N	-	N	
18/01/2022	12:00	SSE / 13	SSA-NW	Area	0	N		N	-	N	
18/01/2022	12:00	SSE / 13	SSA-CW	Area	0	N		N	-	N	
18/01/2022	12:00	SSE / 13	SSA-NE	Area	0	N		N	-	N	
18/01/2022	12:00	SSE / 13	SSA-CE	Area	0	N		N	-	N	
18/01/2022	12:00	SSE / 13	SSA-SE	Area	0	N		N	-	N	
18/01/2022	12:00	SSE / 13	SSA-SW	Area	0	N		N	-	N	
18/01/2022	15:00	SSE / 13	SSA-NW	Area	0	N		N	-	N	
18/01/2022	15:00	SSE / 13	SSA-CW	Area	0	N		N	-	N	
18/01/2022	15:00	SSE / 13	SSA-NE	Area	0	N		N	-	N	
18/01/2022	15:00	SSE / 13	SSA-CE	Area	0	N		N	-	N	
18/01/2022	15:00	SSE / 13	SSA-SE	Area	0	N		N	-	N	
18/01/2022	15:00	SSE / 13	SSA-SW	Area	0	N		N	-	N	
18/01/2022	15:00	SSE / 13	AS01	Boundary	0	N		N	-	N	
18/01/2022	15:00	SSE / 13	AS02	Boundary	0	N		N	-	N	
18/01/2022	15:00	SSE / 13	AS03	Boundary	0	N		N	-	N	
18/01/2022	15:00	SSE / 13	AS04	Boundary	0	N		N	-	N	
20/01/2022	9:30	SE / 28	SSA-NW	Area	0	N		N	-	N	
20/01/2022	9:30	SE / 28	SSA-CW	Area	0	N		N	-	N	
20/01/2022	9:30	SE / 28	SSA-NE	Area	0	N		N	-	N	
20/01/2022	9:30	SE / 28	SSA-CE	Area	0	N		N	-	N	
20/01/2022	9:30	SE / 28	SSA-SE	Area	0	N		N	-	N	
20/01/2022	9:30	SE / 28	SSA-SW	Area	0	N		N	-	N	
20/01/2022	12:15	SE / 28	SSA-NW	Area	0	N		N	-	N	
20/01/2022	12:15	SE / 28	SSA-CW	Area	0	N		N	-	N	
20/01/2022	12:15	SE / 28	SSA-NE	Area	0	N		N	-	N	
20/01/2022	12:15	SE / 28	SSA-CE	Area	0	N		N	-	N	
20/01/2022	12:15	SE / 28	SSA-SE	Area	0	N		N	-	N	
20/01/2022	12:15	SE / 28	SSA-SW	Area	0	N		N	-	N	
20/01/2022	15:00	SE / 28	SSA-NW	Area	0	N		N	-	N	
20/01/2022	15:00	SE / 28	SSA-CW	Area	0.1	N		N	-	N	
20/01/2022	15:00	SE / 28	SSA-NE	Area	0	N		N	-	N	
20/01/2022	15:00	SE / 28	SSA-CE	Area	0	N		N	-	N	
20/01/2022	15:00	SE / 28	SSA-SE	Area	0	N		N	-	N	
20/01/2022	15:00	SE / 28	SSA-SW	Area	0	N		N	-	N	
20/01/2022	15:00	SE / 28	AS01	Boundary	0	N		N	-	N	
20/01/2022	15:00	SE / 28	AS02	Boundary	0	N		N	-	N	
20/01/2022	15:00	SE / 28	AS03	Boundary	0.1	N		N	-	N	
20/01/2022	15:00	SE / 28	AS04	Boundary	0	N		N	-	N	
21/01/2022	9:00	SE / 12	SSA-NW	Area	0	N		N	-	N	

TABLE 2 - AMBIENT AIR MONITORING DATA SUMMARY											
Date	Time	Wind Direction/ Speed (km/h)	Monitoring Location	Monitoring Location Type - Boundary/Area Monitoring	PID Measurement - Total VOCs (ppm)	Dust Present (Y/N)	Dust Comment	Odour Present (Y/N)	Odour Comment	Action Required (Y/N)	Action Comment
21/01/2022	9:00	SE / 12	SSA-CW	Area	0	N		N	-	N	
21/01/2022	9:00	SE / 12	SSA-NE	Area	0	N		N	-	N	
21/01/2022	9:00	SE / 12	SSA-CE	Area	0	N		N	-	N	
21/01/2022	9:00	SE / 12	SSA-SE	Area	0	N		N	-	N	
21/01/2022	9:00	SE / 12	SSA-SW	Area	0	N		N	-	N	
21/01/2022	12:00	SE / 28	SSA-NW	Area	0	N		N	-	N	
21/01/2022	12:00	SE / 28	SSA-CW	Area	0	N		N	-	N	
21/01/2022	12:00	SE / 28	SSA-NE	Area	0	N		N	-	N	
21/01/2022	12:00	SE / 28	SSA-CE	Area	0	N		N	-	N	
21/01/2022	12:00	SE / 28	SSA-SE	Area	0	N		N	-	N	
21/01/2022	12:00	SE / 28	SSA-SW	Area	0	N		N	-	N	
21/01/2022	15:00	SE / 24	SSA-NW	Area	0	N		N	-	N	
21/01/2022	15:00	SE / 24	SSA-CW	Area	0	N		N	-	N	
21/01/2022	15:00	SE / 24	SSA-NE	Area	0	N		N	-	N	
21/01/2022	15:00	SE / 24	SSA-CE	Area	0	N		N	-	N	
21/01/2022	15:00	SE / 24	SSA-SE	Area	0	N		N	-	N	
21/01/2022	15:00	SE / 24	SSA-SW	Area	0	N		N	-	N	
21/01/2022	15:00	SE / 24	AS01	Boundary	0	N		N	-	N	
21/01/2022	15:00	SE / 24	AS02	Boundary	0.1	N		N	-	N	
21/01/2022	15:00	SE / 24	AS03	Boundary	0	N		N	-	N	
21/01/2022	15:00	SE / 24	AS04	Boundary	0.1	N		N	-	N	

Appendix C-3 Tables from AA2 Remediation GME 1 report

4. RESULTS

4.1 Baseline Dataset

Baseline sampling of pH was undertaken on 8th July 2021, prior to commencement of excavation works. Baseline pH sampling was undertaken within selected wells within the excavation area monitoring network, outlined within *Table 1* below.

The most recent groundwater levels and LNAPL gauging data is summarised in *Table 1* below and provided in *Table B-2* within *Attachment B*. *Table B-2* outlines the date for each well used as the baseline data.

Historical groundwater levels and LNAPL gauging is provided as *Table B-3* and historical pH data is provided as *Table B-4* in *Attachment B*.

Table 4-1. Pre-remediation Baseline Summary

Well ID	pH	Groundwater Depth (m BTOC)	LNAPL Thickness
BH210	4.52	0.934	No LNAPL detected
MW98/4	4.84	0.64	No LNAPL detected
MW11/15	4.75*	1.515	No LNAPL detected
MW11/18	4.60*	0.965	No LNAPL detected
MW11/19	5.07*	0.462	No LNAPL detected
MW11/20	5.68	0.745	No LNAPL detected
MW12/03	6.52	0.88	No LNAPL detected
MW12/20	6.63*	1.682	No LNAPL detected
MW18/23	6.21*	1.264	No LNAPL detected
MW12/21	7.36*	1.495	No LNAPL detected

Notes:

m BTOC = metres below top of casing.

*Baseline pH data on 8th July 2021 not collected. Baseline data obtained from historical average pH.

4.2 Fieldwork and Results

Remediation works, consisting of excavation of hydrocarbon impacted soils, commenced within Stage 2 on 22nd September 2021. Hydrocarbon impacted soils excavated during month 1 of remediation consisted of the below areas of environmental concern, with excavation date ranges outlined.

- AEC-14a: 24th September to 8th October 2021;

Table 4-2. Month 1 Groundwater Level Summary

Well ID	Baseline Groundwater Level	Groundwater Level – 27th September 2021	Groundwater Level – 12th October 2021	Groundwater Level – 18th October 2021	Groundwater Level – 22nd October 2021	Comments
BH210	0.934 (5th July 2021)	0.9	0.88	0.823	0.847	Down-gradient of AEC-3a, AEC-3b, AEC3-d and AEC-3e excavations.
MW98/4	0.64 (6th July 2021)	0.58	0.68	0.663	0.681	Down-gradient of AEC-3a and AEC-3b excavations.
MW11/15	1.515 (15th August 2016)	Not gauged	0.75	0.856	0.902	Up-gradient of AEC-3a, supplementary well for MW11/18.
MW11/18	0.965 (19th November 2019)	Inaccessible	Inaccessible	Inaccessible	Inaccessible	Up-gradient of AEC-3a. Well noted to be inaccessible due to well being clogged with mud.
MW11/19	0.462 (19th November 2019)	0.8	0.62	0.896	0.666	Up-gradient of AEC-3a and AEC-3b excavations.
MW11/20	0.745 (7th July 2021)	0.55	0.38	0.644	0.482	Down-gradient of AEC-3a and AEC-3b excavations.
MW12/03	0.88 (5th July 2021)	0.69	0.0 – well full of water	0.6	0.632	Up-gradient of AEC-3d excavation.

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Well ID	Baseline Groundwater Level	Groundwater Level – 27th September 2021	Groundwater Level – 12th October 2021	Groundwater Level – 18th October 2021	Groundwater Level – 22nd October 2021	Comments
MW12/20	1.682 (7th July 2021)	Not gauged	1.57	Not gauged	Not gauged	Down-gradient of AEC-3a, AEC-3b, AEC3-d and AEC-3e excavations.
MW18/23	1.264 (6th July 2021)	Not gauged	1.29	Not gauged	Not gauged	Down-gradient of AEC-3a and AEC-3b excavations.
MW12/21	1.495 (6th July 2021)	Not gauged	1.64	Not gauged	Not gauged	Down-gradient of AEC-3a and AEC-3b excavations.

Table 4-3. Month 1 LNAPL Summary

Well ID	Baseline LNAPL Thickness	LNAPL Thickness – 27th September 2021	LNAPL Thickness – 12th October 2021	LNAPL Thickness – 18th October 2021	LNAPL Thickness – 22nd October 2021
BH210	No LNAPL	No LNAPL	No LNAPL	No LNAPL	No LNAPL
MW98/4	No LNAPL	No LNAPL	No LNAPL	No LNAPL	No LNAPL
MW11/15	No LNAPL	Supplementary well for MW11/18, not added to monitoring network until week 2.	No LNAPL	No LNAPL	No LNAPL
MW11/18	No LNAPL	Inaccessible[1]	Inaccessible[1]	Inaccessible[1]	Inaccessible[1]
MW11/19	No LNAPL	No LNAPL	No LNAPL	No LNAPL	No LNAPL
MW11/20	No LNAPL	No LNAPL	No LNAPL	No LNAPL	No LNAPL
MW12/03	No LNAPL	No LNAPL	No LNAPL	No LNAPL	No LNAPL
MW12/20	No LNAPL	Not required for weekly monitoring	No LNAPL	Not required for weekly monitoring	Not required for weekly monitoring
MW18/23	No LNAPL	Not required for weekly monitoring	No LNAPL	Not required for weekly monitoring	Not required for weekly monitoring
MW12/21	No LNAPL	Not required for weekly monitoring	No LNAPL	Not required for weekly monitoring	Not required for weekly monitoring

Notes:

m BTOC = metres below top of casing.

N/A = not applicable

1. MW11/18 noted to be inaccessible due to well being clogged with mud.

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LNAPL was not detected in the subject wells prior to remediation works and was not detected throughout the month 1 monitoring, indicating that remediation works do not appear to be mobilising LNAPL.

Table 4-4. Month 1 Groundwater pH Summary – 12th October 2021

Well ID	Baseline pH	pH – 12th October 2021	Comments
BH210	4.52	5.7	None
MW98/4	4.84	4.7	None
MW11/15	4.75 [2]	5.7	None
MW11/18	4.60 [1]	Not collected	Unable to sample from well – inaccessible due to being clogged with mud
MW11/19	5.07 [1]	5.8	None
MW11/20	5.6	5.6	None
MW12/03	6.52	5.4	None
MW12/20	6.63 [1]	6.7	None
MW18/23	6.21 [1]	N/A	Unable to sample as hydrasleeve could not be removed from well
MW12/21	7.36 [1]	7.3	None

Notes:

N/A = not applicable

1. Baseline pH data on 8th July not collected. Baseline data obtained from historical average pH.

Comparisons between baseline pH data to the month 1 remediation phase pH indicate minor differences; however, no observable acidification of groundwater conditions was noted. Data collected during remediation works to date does not indicate the remediation works have adversely impacted or caused environmental harm to the Duck River.

As such, contingency actions as per the GWMP are not required to be implemented.

Refer to *Attachment C* for laboratory analytical reports.

5. CONCLUSIONS

As per the gauging and sampling data collected throughout month 1 of the Stage 2 remediation phase, remediation works do not appear to be mobilising LNAPL or causing environmental harm to the down-gradient Duck River.

Alternative_Name	Well	Sampled_Date_Time	ChemName	Concentration	Output Unit	ChemCode	SampleComments
Road alignment	BH210	5/12/2013 0:00	pH	5.21	pH units	pH	
Road alignment	BH210	5/12/2013 0:00	pH (Field)	5.21	pH units	pH_Field	
Road alignment	BH210	20/07/2020 0:00	pH (Field)	5.19	pH units	pH_Field	
Road alignment	BH210	4/12/2020 8:32	pH	5.08	pH units	pH	Clear, colourless, odourless
Road alignment	BH210	8/07/2021 13:25	pH (Lab)	4.52	pH units	pH_Lab	
Lot 61	MW11/15	19/08/2016 0:00	pH	4.75	pH units	pH	Cloudy orange brown, no odour.
Lot 61	MW11/15	19/08/2016 0:00	pH (Field)	4.75	pH units	pH_Field	Cloudy orange brown, no odour.
Lot 61	MW11/18	28/05/2014 0:00	pH (Field)	4.69	pH units	pH_Field	Cloudy, no odour
Lot 61	MW11/18	11/12/2013 0:00	pH	4.5	pH units	pH	
Lot 61	MW11/18	11/12/2013 0:00	pH (Field)	4.5	pH units	pH_Field	
Lot 63	MW11/19	18/08/2016 0:00	pH	4.47	pH units	pH	Cloudy, orange, no odour.
Lot 63	MW11/19	18/08/2016 0:00	pH (Field)	4.47	pH units	pH_Field	Cloudy, orange, no odour.
Lot 63	MW11/19	22/11/2019 0:00	pH (Field)	5.67	pH units	pH_Field	
Lot 62	MW11/20	18/08/2016 0:00	pH	6.63	pH units	pH	Cloudy, orange, no odour.
Lot 62	MW11/20	18/08/2016 0:00	pH (Field)	6.63	pH units	pH_Field	Cloudy, orange, no odour.
Lot 62	MW11/20	3/12/2020 12:00	pH	6.62	pH units	pH	Clear, colourless, odourless, Road melted over cap
Lot 62	MW11/20	8/07/2021 13:29	pH (Lab)	5.6	pH units	pH_Lab	
Lot 62	MW11/20	8/07/2021 13:31	pH (Lab)	5.68	pH units	pH_Lab	
Lot 63	MW12/03	20/05/2014 0:00	pH (Field)	4.51	pH units	pH_Field	Cloudy, chemical odour
Lot 63	MW12/03	5/12/2013 0:00	pH	4.33	pH units	pH	
Lot 63	MW12/03	5/12/2013 0:00	pH (Field)	4.33	pH units	pH_Field	
Lot 63	MW12/03	5/12/2014 0:00	pH	4.8	pH units	pH	
Lot 63	MW12/03	5/12/2014 0:00	pH (Field)	4.8	pH units	pH_Field	
Lot 63	MW12/03	17/08/2016 0:00	pH	5.21	pH units	pH	Cloudy, orange iron precipitate, no odour.
Lot 63	MW12/03	17/08/2016 0:00	pH (Field)	5.21	pH units	pH_Field	Cloudy, orange iron precipitate, no odour.
Lot 63	MW12/03	14/12/2016 0:00	pH (Field)	5.79	pH units	pH_Field	Clear, no odour.
Lot 63	MW12/03	6/12/2017 0:00	pH (Field)	5.97	pH units	pH_Field	Clear, colourless, no odour
Lot 63	MW12/03	11/06/2019 0:00	pH (Field)	5.16	pH units	pH_Field	Cloudy, chemical odour
Lot 63	MW12/03	22/11/2019 0:00	pH (Field)	5.51	pH units	pH_Field	
Lot 63	MW12/03	4/12/2020 13:15	pH	5.84	pH units	pH	Clear, colourless, potential hydrocarbon Odour
Lot 63	MW12/03	8/07/2021 13:20	pH (Lab)	6.52	pH units	pH_Lab	
Lot 63	MW12/03	8/07/2021 13:14	pH (Lab)	6.23	pH units	pH_Lab	
Lot 64	MW12/20	27/05/2014 0:00	pH (Field)	6.77	pH units	pH_Field	Turbid, brown, no odour
Lot 64	MW12/20	10/12/2013 0:00	pH	6.86	pH units	pH	
Lot 64	MW12/20	10/12/2013 0:00	pH (Field)	6.86	pH units	pH_Field	
Lot 64	MW12/20	10/12/2014 0:00	pH	7.03	pH units	pH	
Lot 64	MW12/20	10/12/2014 0:00	pH (Field)	7.03	pH units	pH_Field	
Lot 64	MW12/20	15/12/2016 0:00	pH (Field)	6.61	pH units	pH_Field	Organic odour, cloudy.
Lot 64	MW12/20	29/05/2017 0:00	pH (Field)	6.39	pH units	pH_Field	Clear, colourless, slight HC odour. Organics and bugs.
Lot 64	MW12/20	7/06/2019 0:00	pH (Field)	6.14	pH units	pH_Field	Black staining on hydrasleeve and colar, stagnant odour, black suspended particles
Lot 62	MW12/21	27/05/2014 0:00	pH (Field)	7.07	pH units	pH_Field	Turbid, black, no odour
Lot 62	MW12/21	10/12/2013 0:00	pH	7.14	pH units	pH	
Lot 62	MW12/21	10/12/2013 0:00	pH (Field)	7.14	pH units	pH_Field	
Lot 62	MW12/21	10/12/2014 0:00	pH	7.57	pH units	pH	
Lot 62	MW12/21	10/12/2014 0:00	pH (Field)	7.57	pH units	pH_Field	
Lot 62	MW12/21	18/08/2016 0:00	pH	7.03	pH units	pH	Yellow, black suspended sediment, hydrogen sulphide odour.
Lot 62	MW12/21	18/08/2016 0:00	pH (Field)	7.03	pH units	pH_Field	Yellow, black suspended sediment, hydrogen sulphide odour.
Lot 62	MW12/21	29/05/2017 0:00	pH (Field)	7.02	pH units	pH_Field	Clear, colourless, no odour. Organics and bugs.
Lot 62	MW12/21	6/06/2019 0:00	pH (Field)	7.15	pH units	pH_Field	Cloudy, suspended black globules
Lot 62	MW12/21	20/11/2019 0:00	pH (Field)	7.5	pH units	pH_Field	
Lot 62	MW12/21	3/12/2020 11:39	pH	8.43	pH units	pH	Mild blue tinge
Lot 62	MW18/23	6/06/2019 0:00	pH (Field)	6.81	pH units	pH_Field	Turbid, yellow/brown, no odour
Lot 62	MW18/23	25/11/2019 0:00	pH (Field)	5.61	pH units	pH_Field	
Lot 62	MW98/4	27/05/2014 0:00	pH (Field)	4.69	pH units	pH_Field	Clear, no odour
Lot 62	MW98/4	14/12/2000 0:00	pH	3.92	pH units	pH	
Lot 62	MW98/4	25/06/2001 0:00	pH	4.15	pH units	pH	
Lot 62	MW98/4	22/12/2003 0:00	pH	4.21	pH units	pH	
Lot 62	MW98/4	15/03/2005 0:00	pH	6.24	pH units	pH	
Lot 62	MW98/4	13/09/2005 0:00	pH	4.08	pH units	pH	
Lot 62	MW98/4	23/03/2006 0:00	pH	4.3	pH units	pH	
Lot 62	MW98/4	27/09/2006 0:00	pH	4.42	pH units	pH	
Lot 62	MW98/4	25/02/2008 0:00	pH	4.63	pH units	pH	Clear, no odour, no sheen
Lot 62	MW98/4	13/11/2008 0:00	pH	4.38	pH units	pH	clear with organic particles suspended, coloured rust particles
Lot 62	MW98/4	21/04/2009 0:00	pH	4.51	pH units	pH	
Lot 62	MW98/4	17/11/2009 0:00	pH	4.46	pH units	pH	
Lot 62	MW98/4	10/12/2013 0:00	pH	4.49	pH units	pH	
Lot 62	MW98/4	10/12/2013 0:00	pH (Field)	4.49	pH units	pH_Field	
Lot 62	MW98/4	10/12/2014 0:00	pH	4.57	pH units	pH	
Lot 62	MW98/4	10/12/2014 0:00	pH (Field)	4.57	pH units	pH_Field	
Lot 62	MW98/4	17/08/2016 0:00	pH	4.85	pH units	pH	Clear, colourless, no odour.
Lot 62	MW98/4	17/08/2016 0:00	pH (Field)	4.85	pH units	pH_Field	Clear, colourless, no odour.
Lot 62	MW98/4	14/12/2016 0:00	pH (Field)	5.13	pH units	pH_Field	Clear, strong yellow tinge, no odour.
Lot 62	MW98/4	7/06/2019 0:00	pH (Field)	3.97	pH units	pH_Field	Cloudy, hydrasleeve stained orange
Lot 62	MW98/4	25/11/2019 0:00	pH (Field)	5.05	pH units	pH_Field	
Lot 62	MW98/4	3/12/2020 13:32	pH	5.26	pH units	pH	Clear, colourless, odourless
Lot 62	MW98/4	8/07/2021 13:36	pH (Lab)	4.77	pH units	pH_Lab	
Lot 62	MW98/4	8/07/2021 13:35	pH (Lab)	4.84	pH units	pH_Lab	

Appendix C-4 Tables from AA2 Remediation GME 2 report

Table 4-2. Month 2 Groundwater Level Summary

Well ID	Baseline Groundwater Level	Groundwater Level – 27th October 2021 (m BTOC)	Groundwater Level – 3rd November 2021 (m BTOC)	Groundwater Level – 15th November 2021 (m BTOC)	Groundwater Level – 18th November 2021 (m BTOC)	Comments
BH210	0.934 (5 July 2021)	0.872	0.921	0.771	0.866	Down-gradient of AEC-3a, AEC-3b, AEC3-d and AEC-3e excavations.
MW98/4	0.64 (6 July 2021)	0.738	0.774	0.666	0.683	Down-gradient of AEC-3a and AEC-3b excavations.
MW11/15	1.515 (15 August 2016)	0.946	1.000	0.903	1.016	Up-gradient of AEC-3a, supplementary well for MW11/18.
MW11/18	0.965 (19 November 2019)	Inaccessible [1]	Inaccessible [1]	Inaccessible [1]	Inaccessible [1]	Up-gradient of AEC-3a. Well noted to be inaccessible due to being clogged with mud.
MW11/19	0.462 (19 November 2019)	0.666	0.745	0.716	0.840	Up-gradient of AEC-3a and AEC-3b excavations.
MW11/20	0.745 (7 July 2021)	0.689	0.891	0.166 [2]	0.374	Down-gradient of AEC-3a and AEC-3b excavations.
MW12/03	0.88 (5 July 2021)	0.671	0.748	0.556	0.714	Up-gradient of AEC-3d excavation.

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Well ID	Baseline Groundwater Level	Groundwater Level – 27th October 2021 (m BTOC)	Groundwater Level – 3rd November 2021 (m BTOC)	Groundwater Level – 15th November 2021 (m BTOC)	Groundwater Level – 18th November 2021 (m BTOC)	Comments
MW12/20	1.682 (7th July 2021)	Not required for weekly monitoring	Not required for weekly monitoring	1.556	Not required for weekly monitoring	Down-gradient of AEC-3a, AEC-3b, AEC3-d and AEC-3e excavations.
MW18/23	1.264 (6th July 2021)	Not required for weekly monitoring	Not required for weekly monitoring	1.284	Not required for weekly monitoring	Down-gradient of AEC-3a and AEC-3b excavations.
MW12/21	1.495 (6th July 2021)	Not required for weekly monitoring	Not required for weekly monitoring	1.554	Not required for weekly monitoring	Down-gradient of AEC-3a and AEC-3b excavations.

Notes:

m BTOC = metres below top of casing.

1. MW11/18 noted to be inaccessible due to well being clogged with mud.
2. MW11/20 is presumed to be impacted with seepage from rainwater and water trucks, based on the field observation of an unsecure well cap due to the presence of tar-like substance below top of casing.

Table 4-3. Month 2 LNAPL Observations Summary

Well ID	Baseline LNAPL Thickness	LNAPL Thickness – 27 October 2021	LNAPL Thickness – 3 November 2021	LNAPL Thickness – 15 November 2021	LNAPL Thickness – 18 November 2021
BH210	No LNAPL	No LNAPL	No LNAPL	No LNAPL	No LNAPL
MW98/4	No LNAPL	No LNAPL	No LNAPL	No LNAPL	No LNAPL
MW11/15	No LNAPL	No LNAPL	No LNAPL	No LNAPL	No LNAPL
MW11/18	No LNAPL	Inaccessible[1]	Inaccessible[1]	Inaccessible[1]	Inaccessible[1]
MW11/19	No LNAPL	No LNAPL	No LNAPL	No LNAPL	No LNAPL
MW11/20	No LNAPL	No LNAPL	No LNAPL	No LNAPL	No LNAPL
MW12/03	No LNAPL	No LNAPL	No LNAPL	No LNAPL	No LNAPL
MW12/20	No LNAPL	Not required for weekly monitoring	Not required for weekly monitoring	No LNAPL	Not required for weekly monitoring
MW18/23	No LNAPL	Not required for weekly monitoring	Not required for weekly monitoring	No LNAPL	Not required for weekly monitoring
MW12/21	No LNAPL	Not required for weekly monitoring	Not required for weekly monitoring	No LNAPL	Not required for weekly monitoring

Notes:

1. MW11/18 noted to be inaccessible due to well being clogged with mud.

LNAPL was not detected in the subject wells prior to remediation works and was not detected throughout the month 2 monitoring, indicating that remediation works do not appear to be mobilising LNAPL.

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Table 4-4. Month 2 Groundwater pH Summary – 15 November 2021

Well ID	Baseline pH	pH – 15th November 2021	Comments
BH210	4.52	4.4	None
MW98/4	4.84	5.3	None
MW11/15	4.75 [2]	5.4[2]	None
MW11/18	4.60 [1]	Not collected	Unable to sample from well – inaccessible due to being clogged with mud
MW11/19	5.07 [1]	5.3	None
MW11/20	5.6	6.1	None
MW12/03	6.52	5.0	None
MW12/20	6.63 [1]	7.2	None
MW18/23	6.21 [1]	Not collected	Unable to sample as hydrasleeve could not be removed from well
MW12/21	7.36 [1]	7.3	None

Notes:

1. Baseline pH data on 8 July not collected. Baseline data obtained from historical average pH.
2. MW11/15 sample collected on 16 November 2021.

Comparisons between baseline pH data to the month 2 remediation phase pH indicate minor differences considered to be within the natural range of variability; however, no observable acidification of groundwater conditions was noted. Data collected during remediation works to date does not indicate the remediation works have adversely impacted or caused environmental harm to the Duck River.

As such, contingency actions as per the GWMP are not required to be implemented.

Refer to *Attachment C* for laboratory analytical reports.

5. CONCLUSIONS

As per the gauging and sampling data collected throughout month 2 of the Stage 2 remediation phase, remediation works do not appear to be mobilising LNAPL or have resulted in the oxidation of PASS, which may cause environmental harm to the down-gradient Duck River.

Groundwater flow appears to have slightly altered from a south easterly flow prior to remediation to a southerly flow during month 2 of remediation. The slight change in observed groundwater

Alternative_Name	Well	TOC	Date_Time	Monitoring_Round	Top_Depth	Water_Depth	Product_Depth	LNAPL_or_DNAPL	LNAPL_Thickness	Product_Corrected_Water_Level	LNAPL_Rel_Density
Road alignment	BH210	3.758	5/07/2021 0:00	-	0.934	0.934	None	None	None	2.824	0.76
Lot 61	MW11/15	5.01	15/08/2016 0:00	Q2 2016	1.515	1.515	None	None	None	3.495	0.76
Lot 61	MW11/18	5.02	19/11/2019 0:00	-	0.965	0.965	None	None	None	4.055	0.76
Lot 63	MW11/19	4.55	19/11/2019 0:00	-	0.462	0.462	None	None	None	4.088	0.76
Lot 62	MW11/20	4.18	7/07/2021 0:00	-	0.745	0.745	None	None	None	3.435	0.76
Lot 63	MW12/03	4.59	5/07/2021 0:00	-	0.88	0.88	None	None	None	3.71	0.76
Lot 64	MW12/20	2.94	7/07/2021 0:00	-	1.682	1.682	None	None	None	1.258	0.76
Lot 62	MW12/21	2.86	6/07/2021 0:00	-	1.495	1.495	None	None	None	1.365	0.76
Lot 62	MW18/23	-	6/07/2021 0:00	-	1.264	1.264	None	None	None	1.156	0.76
Lot 62	MW98/4	4.195	6/07/2021 0:00	-	0.64	0.64	None	None	None	3.555	0.76

Alternative_Name	Well	TOC	Date_Time	Monitoring_Round	Top_Depth	Water_Depth	Product_Depth	LNAPL_or_DNAPL	LNAPL_Thickness	Product_Corrected_Water_Level	LNAPL_Rel_Density
Road alignment	BH210	3.758	21/06/2010 0:00	Q2 2010	1.266	1.266	None	None	None	2.492	0.76
Road alignment	BH210	3.758	22/11/2010 0:00	Q4 2010	0.917	0.917	None	None	None	2.841	0.76
Road alignment	BH210	3.758	7/06/2011 0:00	Q2 2011	1.165	1.165	None	None	None	2.593	0.76
Road alignment	BH210	3.758	7/10/2011 0:00	Q4 2011	1.016	1.016	None	None	None	2.742	0.76
Road alignment	BH210	3.758	4/12/2012 0:00	Q4 2012	1.01	1.01	None	None	None	2.748	0.76
Road alignment	BH210	3.758	5/12/2013 0:00	Q4 2013	0.91	0.91	None	None	None	2.84	0.76
Road alignment	BH210	3.758	4/12/2014 0:00	Q4 2014	-	-	None	None	None	-	0.76
Road alignment	BH210	3.758	20/07/2020 0:00	-	1.049	1.049	None	None	None	2.709	0.76
Road alignment	BH210	3.758	28/07/2020 0:00	-	0.954	0.954	None	None	None	2.804	0.76
Road alignment	BH210	3.758	14/08/2020 0:00	-	1.9	1.9	None	None	None	1.858	0.76
Road alignment	BH210	3.758	2/12/2020 0:00	-	0.712	0.712	None	None	None	3.046	0.76
Road alignment	BH210	3.758	2/12/2020 0:00	-	0.712	0.712	None	None	None	3.046	0.76
Road alignment	BH210	3.758	5/07/2021 0:00	-	0.934	0.934	None	None	None	2.824	0.76
Lot 61	MW11/15	5.01	4/10/2011 0:00	Oct 2011	-	-	None	None	None	3.51	0.76
Lot 61	MW11/15	5.01	13/03/2013 0:00	Q1 2013	1.395	1.395	None	None	None	3.615	0.76
Lot 61	MW11/15	5.01	15/08/2016 0:00	Q2 2016	1.515	1.515	None	None	None	3.495	0.76
Lot 61	MW11/18	5.02	4/10/2011 0:00	Oct 2011	-	-	None	None	None	3.84	0.76
Lot 61	MW11/18	5.02	19/03/2012 0:00	Q1 2012	0.985	0.985	None	None	None	4.035	0.76
Lot 61	MW11/18	5.02	5/06/2012 0:00	Q2 2012	1.199	1.199	None	None	None	3.821	0.76
Lot 61	MW11/18	5.02	17/09/2012 0:00	Q3 2012	1.285	1.285	None	None	None	3.735	0.76
Lot 61	MW11/18	5.02	3/12/2012 0:00	Q4 2012	1.01	1.01	None	None	None	4.01	0.76
Lot 61	MW11/18	5.02	13/03/2013 0:00	Q1 2013	0.984	0.984	None	None	None	4.036	0.76
Lot 61	MW11/18	5.02	17/06/2013 0:00	Q2 2013	1.208	1.208	None	None	None	3.812	0.76
Lot 61	MW11/18	5.02	24/09/2013 0:00	Q3 2013	1.105	1.105	None	None	None	3.915	0.76
Lot 61	MW11/18	5.02	2/12/2013 0:00	Q4 2013	1.074	1.074	None	None	None	3.946	0.76
Lot 61	MW11/18	5.02	27/03/2014 0:00	Q1 2014	1.14	1.14	None	None	None	3.88	0.76
Lot 61	MW11/18	5.02	19/05/2014 0:00	Q2 2014	1.353	1.353	None	None	None	3.667	0.76
Lot 61	MW11/18	5.02	24/09/2014 0:00	Q3 2014	-	-	None	None	None	-	0.76
Lot 61	MW11/18	5.02	9/12/2014 0:00	Q4 2014	0.946	0.946	None	None	None	4.074	0.76
Lot 61	MW11/18	5.02	15/08/2016 0:00	Q2 2016	1.25	1.25	None	None	None	3.77	0.76
Lot 61	MW11/18	5.02	13/12/2016 0:00	-	0.983	0.983	None	None	None	4.037	0.76
Lot 61	MW11/18	5.02	3/12/2018 0:00	-	0.965	0.965	None	None	None	4.055	0.76
Lot 61	MW11/18	5.02	19/11/2019 0:00	-	0.965	0.965	None	None	None	4.055	0.76
Lot 63	MW11/19	4.55	4/10/2011 0:00	Oct 2011	-	-	None	None	None	3.726	0.76
Lot 63	MW11/19	4.55	5/12/2011 0:00	Q4 2011	0.802	0.802	None	None	None	3.748	0.76
Lot 63	MW11/19	4.55	15/08/2016 0:00	Q2 2016	1.045	1.045	None	None	None	3.505	0.76
Lot 63	MW11/19	4.55	19/11/2019 0:00	-	0.462	0.462	None	None	None	4.088	0.76
Lot 62	MW11/20	4.18	4/10/2011 0:00	Oct 2011	-	-	None	None	None	2.991	0.76
Lot 62	MW11/20	4.18	15/08/2016 0:00	Q2 2016	0.93	0.93	None	None	None	3.25	0.76
Lot 62	MW11/20	4.18	3/12/2018 0:00	-	0.925	0.925	None	None	None	3.255	0.76
Lot 62	MW11/20	4.18	1/12/2020 0:00	-	0.663	0.663	None	None	None	3.517	0.76
Lot 62	MW11/20	4.18	1/12/2020 0:00	-	0.663	0.663	None	None	None	3.517	0.76
Lot 62	MW11/20	4.18	7/07/2021 0:00	-	0.745	0.745	None	None	None	3.435	0.76
Lot 63	MW12/03	4.59	23/03/2012 0:00	Q1 2012	-	-	None	None	None	3.812	0.76
Lot 63	MW12/03	4.59	4/06/2012 0:00	Q2 2012	0.87	0.87	None	None	None	3.72	0.76
Lot 63	MW12/03	4.59	18/09/2012 0:00	Q3 2012	0.905	0.905	None	None	None	3.685	0.76
Lot 63	MW12/03	4.59	4/12/2012 0:00	Q4 2012	0.8	0.8	None	None	None	3.79	0.76
Lot 63	MW12/03	4.59	14/03/2013 0:00	Q1 2013	0.64	0.64	None	None	None	3.95	0.76
Lot 63	MW12/03	4.59	18/06/2013 0:00	Q2 2013	0.884	0.884	None	None	None	3.706	0.76
Lot 63	MW12/03	4.59	24/09/2013 0:00	Q3 2013	0.958	0.958	None	None	None	3.632	0.76
Lot 63	MW12/03	4.59	2/12/2013 0:00	Q4 2013	0.872	0.872	None	None	None	3.718	0.76
Lot 63	MW12/03	4.59	28/03/2014 0:00	Q1 2014	0.72	0.72	None	None	None	3.87	0.76
Lot 63	MW12/03	4.59	20/05/2014 0:00	Q2 2014	0.96	0.96	None	None	None	3.63	0.76
Lot 63	MW12/03	4.59	24/09/2014 0:00	Q3 2014	1.05	1.05	None	None	None	3.54	0.76
Lot 63	MW12/03	4.59	4/12/2014 0:00	Q4 2014	0.754	0.754	None	None	None	3.836	0.76
Lot 63	MW12/03	4.59	11/03/2015 0:00	Q1 2015	0.709	0.709	None	None	None	3.881	0.76
Lot 63	MW12/03	4.59	19/06/2015 0:00	Q2 2015	0.925	0.925	None	None	None	3.665	0.76
Lot 63	MW12/03	4.59	25/11/2015 0:00	Q4 2015	0.743	0.743	None	None	None	3.847	0.76
Lot 63	MW12/03	4.59	16/08/2016 0:00	Q2 2016	1.04	1.04	None	None	None	3.55	0.76
Lot 63	MW12/03	4.59	12/12/2016 0:00	-	0.865	0.865	None	None	None	3.725	0.76
Lot 63	MW12/03	4.59	4/12/2017 0:00	Q4 2017	0.884	0.884	None	None	None	3.706	0.76
Lot 63	MW12/03	4.59	21/06/2018 0:00	Q2 2018	1.155	1.155	None	None	None	3.435	0.76
Lot 63	MW12/03	4.59	5/12/2018 0:00	-	0.64	0.64	None	None	None	3.95	0.76
Lot 63	MW12/03	4.59	3/06/2019 0:00	-	0.97	0.97	None	None	None	3.62	0.76
Lot 63	MW12/03	4.59	19/11/2019 0:00	-	0.706	0.706	None	None	None	3.884	0.76
Lot 63	MW12/03	4.59	1/12/2020 0:00	-	0.588	0.588	None	None	None	4.002	0.76
Lot 63	MW12/03	4.59	1/12/2020 0:00	-	0.588	0.588	None	None	None	4.002	0.76
Lot 63	MW12/03	4.59	5/07/2021 0:00	-	0.88	0.88	None	None	None	3.71	0.76
Lot 64	MW12/20	2.94	21/03/2012 0:00	Q1 2012	-	-	None	None	None	1.284	0.76
Lot 64	MW12/20	2.94	5/06/2012 0:00	Q2 2012	1.68	1.68	None	None	None	1.26	0.76
Lot 64	MW12/20	2.94	4/12/2012 0:00	Q4 2012	1.987	1.987	None	None	None	0.953	0.76
Lot 64	MW12/20	2.94	17/06/2013 0:00	Q2 2013	1.745	1.745	None	None	None	1.195	0.76
Lot 64	MW12/20	2.94	10/12/2013 0:00	Q4 2013	1.805	1.805	None	None	None	1.135	0.76
Lot 64	MW12/20	2.94	19/05/2014 0:00	Q2 2014	1.93	1.93	None	None	None	1.01	0.76
Lot 64	MW12/20	2.94	9/12/2014 0:00	Q4 2014	1.64	1.64	None	None	None	1.3	0.76
Lot 64	MW12/20	2.94	19/06/2015 0:00	Q2 2015	1.476	1.476	None	None	None	1.464	0.76
Lot 64	MW12/20	2.94	26/11/2015 0:00	Q4 2015	1.86	1.86	None	None	None	1.08	0.76
Lot 64	MW12/20	2.94	15/08/2016 0:00	Q2 2016	1.745	1.745	None	None	None	1.195	0.76
Lot 64	MW12/20	2.94	13/12/2016 0:00	-	2.207	2.207	None	None	None	0.733	0.76
Lot 64	MW12/20	2.94	25/05/2017 0:00	Q2 2017	1.91	1.91	None	None	None	1.03	0.76
Lot 64	MW12/20	2.94	21/06/2018 0:00	Q2 2018	1.23	1.23	None	None	None	1.71	0.76
Lot 64	MW12/20	2.94	5/12/2018 0:00	-	1.771	1.771	None	None	None	1.169	0.76
Lot 64	MW12/20	2.94	7/06/2019 0:00	-	1.7	1.7	None	None	None	1.24	0.76
Lot 64	MW12/20	2.94	20/11/2019 0:00	-	2.496	2.496	None	None	None	0.444	0.76
Lot 64	MW12/20	2.94	20/07/2020 0:00	-	1.683	1.683	None	None	None	1.257	0.76
Lot 64	MW12/20	2.94	7/07/2021 0:00	-	1.682	1.682	None	None	None	1.258	0.76

Alternative_Name	Well	TOC	Date_Time	Monitoring_Round	Top_Depth	Water_Depth	Product_Depth	LNAPL_or_DNAPL	LNAPL_Thickness	Product_Corrected_Water_Level	LNAPL_Rel_Density
Lot 62	MW12/21	2.86	22/03/2012 0:00	Q1 2012	-	-	None	None	None	1.799	0.76
Lot 62	MW12/21	2.86	6/06/2012 0:00	Q2 2012	1.215	1.215	None	None	None	1.645	0.76
Lot 62	MW12/21	2.86	4/12/2012 0:00	Q4 2012	0.83	0.83	None	None	None	2.03	0.76
Lot 62	MW12/21	2.86	13/03/2013 0:00	Q1 2013	1.281	1.281	None	None	None	1.579	0.76
Lot 62	MW12/21	2.86	17/06/2013 0:00	Q2 2013	1.385	1.385	None	None	None	1.475	0.76
Lot 62	MW12/21	2.86	24/09/2013 0:00	Q3 2013	1.737	1.737	None	None	None	1.123	0.76
Lot 62	MW12/21	2.86	2/12/2013 0:00	Q4 2013	1.471	1.471	None	None	None	1.389	0.76
Lot 62	MW12/21	2.86	28/03/2014 0:00	Q1 2014	1.575	1.575	None	None	None	1.285	0.76
Lot 62	MW12/21	2.86	19/05/2014 0:00	Q2 2014	1.815	1.815	None	None	None	1.045	0.76
Lot 62	MW12/21	2.86	24/09/2014 0:00	Q3 2014	-	-	None	None	None	-	0.76
Lot 62	MW12/21	2.86	9/12/2014 0:00	Q4 2014	1.018	1.018	None	None	None	1.842	0.76
Lot 62	MW12/21	2.86	19/06/2015 0:00	Q2 2015	0.802	0.802	None	None	None	2.058	0.76
Lot 62	MW12/21	2.86	26/11/2015 0:00	Q4 2015	1.37	1.37	None	None	None	1.49	0.76
Lot 62	MW12/21	2.86	15/08/2016 0:00	Q2 2016	1.245	1.245	None	None	None	1.615	0.76
Lot 62	MW12/21	2.86	13/12/2016 0:00	-	2.08	2.08	None	None	None	0.78	0.76
Lot 62	MW12/21	2.86	25/05/2017 0:00	Q2 2017	1.725	1.725	None	None	None	1.135	0.76
Lot 62	MW12/21	2.86	6/12/2017 0:00	Q4 2017	1.931	1.931	None	None	None	0.929	0.76
Lot 62	MW12/21	2.86	21/06/2018 0:00	Q2 2018	1.745	1.745	None	None	None	1.115	0.76
Lot 62	MW12/21	2.86	4/12/2018 0:00	-	0.228	0.228	None	None	None	2.632	0.76
Lot 62	MW12/21	2.86	6/06/2019 0:00	-	1.78	1.78	None	None	None	1.08	0.76
Lot 62	MW12/21	2.86	20/11/2019 0:00	-	1.965	1.965	None	None	None	0.895	0.76
Lot 62	MW12/21	2.86	1/12/2020 0:00	-	1.709	1.709	None	None	None	1.151	0.76
Lot 62	MW12/21	2.86	1/12/2020 0:00	-	-	-	None	None	None	-	0.76
Lot 62	MW12/21	2.86	6/07/2021 0:00	-	1.495	1.495	None	None	None	1.365	0.76
Lot 62	MW18/23	-	3/12/2018 0:00	-	1.143	1.143	None	None	None	1.277	0.76
Lot 62	MW18/23	-	3/06/2019 0:00	-	1.67	1.67	None	None	None	0.75	0.76
Lot 62	MW18/23	-	20/11/2019 0:00	-	0.684	0.684	None	None	None	1.736	0.76
Lot 62	MW18/23	-	1/12/2020 0:00	-	1.498	1.498	None	None	None	0.922	0.76
Lot 62	MW18/23	-	6/07/2021 0:00	-	1.264	1.264	None	None	None	1.156	0.76
Lot 62	MW98/4	4.195	20/02/2008 0:00	Feb 2008	1.295	1.295	None	None	None	3.645	0.76
Lot 62	MW98/4	4.195	10/11/2008 0:00	Nov 2008	1.42	1.42	None	None	None	3.52	0.76
Lot 62	MW98/4	4.195	15/04/2009 0:00	Apr 2009	1.462	1.462	None	None	None	2.733	0.76
Lot 62	MW98/4	4.195	16/11/2009 0:00	Nov 2009	1.645	1.645	None	None	None	1.645	0.76
Lot 62	MW98/4	4.195	21/06/2010 0:00	Q2 2010	1.439	1.439	None	None	None	2.756	0.76
Lot 62	MW98/4	4.195	22/11/2010 0:00	Q4 2010	1.602	1.602	None	None	None	2.593	0.76
Lot 62	MW98/4	4.195	6/06/2011 0:00	Q2 2011	1.034	1.034	None	None	None	3.161	0.76
Lot 62	MW98/4	4.195	4/10/2011 0:00	Q4 2011	1.3	1.3	None	None	None	2.895	0.76
Lot 62	MW98/4	4.195	5/12/2011 0:00	Q4 2011	1.044	1.044	None	None	None	3.151	0.76
Lot 62	MW98/4	4.195	5/06/2012 0:00	Q2 2012	1.964	1.964	None	None	None	2.231	0.76
Lot 62	MW98/4	4.195	4/12/2012 0:00	Q4 2012	1.885	1.885	None	None	None	2.31	0.76
Lot 62	MW98/4	4.195	17/06/2013 0:00	Q2 2013	1.034	1.034	None	None	None	3.161	0.76
Lot 62	MW98/4	4.195	2/12/2013 0:00	Q4 2013	1.028	1.028	None	None	None	3.167	0.76
Lot 62	MW98/4	4.195	19/05/2014 0:00	Q2 2014	1.215	1.215	None	None	None	2.98	0.76
Lot 62	MW98/4	4.195	9/12/2014 0:00	Q4 2014	0.907	0.907	None	None	None	3.288	0.76
Lot 62	MW98/4	4.195	15/08/2016 0:00	Q2 2016	0.98	0.98	None	None	None	3.215	0.76
Lot 62	MW98/4	4.195	17/08/2016 0:00	Q2 2016	0.3	0.3	None	None	None	3.895	0.76
Lot 62	MW98/4	4.195	13/12/2016 0:00	-	0.842	0.842	None	None	None	3.353	0.76
Lot 62	MW98/4	4.195	22/05/2017 0:00	Q2 2017	1.104	1.104	None	None	None	3.091	0.76
Lot 62	MW98/4	4.195	3/12/2018 0:00	-	0.975	0.975	None	None	None	3.22	0.76
Lot 62	MW98/4	4.195	3/06/2019 0:00	-	0.855	0.855	None	None	None	3.34	0.76
Lot 62	MW98/4	4.195	20/11/2019 0:00	-	0.886	0.886	None	None	None	3.309	0.76
Lot 62	MW98/4	4.195	6/07/2021 0:00	-	0.64	0.64	None	None	None	3.555	0.76

Alternative_Name	Well	Sampled_Date_Time	ChemName	Concentration	Output Unit	ChemCode	SampleComments
Road alignment	BH210	5/12/2013 0:00	pH	5.21	pH units	pH	
Road alignment	BH210	5/12/2013 0:00	pH (Field)	5.21	pH units	pH_Field	
Road alignment	BH210	20/07/2020 0:00	pH (Field)	5.19	pH units	pH_Field	
Road alignment	BH210	4/12/2020 8:32	pH	5.08	pH units	pH	Clear, colourless, odourless
Road alignment	BH210	8/07/2021 13:25	pH (Lab)	4.52	pH units	pH_Lab	
Lot 61	MW11/15	19/08/2016 0:00	pH	4.75	pH units	pH	Cloudy orange brown, no odour.
Lot 61	MW11/15	19/08/2016 0:00	pH (Field)	4.75	pH units	pH_Field	Cloudy orange brown, no odour.
Lot 61	MW11/18	28/05/2014 0:00	pH (Field)	4.69	pH units	pH_Field	Cloudy, no odour
Lot 61	MW11/18	11/12/2013 0:00	pH	4.5	pH units	pH	
Lot 61	MW11/18	11/12/2013 0:00	pH (Field)	4.5	pH units	pH_Field	
Lot 63	MW11/19	18/08/2016 0:00	pH	4.47	pH units	pH	Cloudy, orange, no odour.
Lot 63	MW11/19	18/08/2016 0:00	pH (Field)	4.47	pH units	pH_Field	Cloudy, orange, no odour.
Lot 63	MW11/19	22/11/2019 0:00	pH (Field)	5.67	pH units	pH_Field	
Lot 62	MW11/20	18/08/2016 0:00	pH	6.63	pH units	pH	Cloudy, orange, no odour.
Lot 62	MW11/20	18/08/2016 0:00	pH (Field)	6.63	pH units	pH_Field	Cloudy, orange, no odour.
Lot 62	MW11/20	3/12/2020 12:00	pH	6.62	pH units	pH	Clear, colourless, odourless, Road melted over cap
Lot 62	MW11/20	8/07/2021 13:29	pH (Lab)	5.6	pH units	pH_Lab	
Lot 62	MW11/20	8/07/2021 13:31	pH (Lab)	5.68	pH units	pH_Lab	
Lot 63	MW12/03	20/05/2014 0:00	pH (Field)	4.51	pH units	pH_Field	Cloudy, chemical odour
Lot 63	MW12/03	5/12/2013 0:00	pH	4.33	pH units	pH	
Lot 63	MW12/03	5/12/2013 0:00	pH (Field)	4.33	pH units	pH_Field	
Lot 63	MW12/03	5/12/2014 0:00	pH	4.8	pH units	pH	
Lot 63	MW12/03	5/12/2014 0:00	pH (Field)	4.8	pH units	pH_Field	
Lot 63	MW12/03	17/08/2016 0:00	pH	5.21	pH units	pH	Cloudy, orange iron precipitate, no odour.
Lot 63	MW12/03	17/08/2016 0:00	pH (Field)	5.21	pH units	pH_Field	Cloudy, orange iron precipitate, no odour.
Lot 63	MW12/03	14/12/2016 0:00	pH (Field)	5.79	pH units	pH_Field	Clear, no odour.
Lot 63	MW12/03	6/12/2017 0:00	pH (Field)	5.97	pH units	pH_Field	Clear, colourless, no odour
Lot 63	MW12/03	11/06/2019 0:00	pH (Field)	5.16	pH units	pH_Field	Cloudy, chemical odour
Lot 63	MW12/03	22/11/2019 0:00	pH (Field)	5.51	pH units	pH_Field	
Lot 63	MW12/03	4/12/2020 13:15	pH	5.84	pH units	pH	Clear, colourless, potential hydrocarbon Odour
Lot 63	MW12/03	8/07/2021 13:20	pH (Lab)	6.52	pH units	pH_Lab	
Lot 63	MW12/03	8/07/2021 13:14	pH (Lab)	6.23	pH units	pH_Lab	
Lot 64	MW12/20	27/05/2014 0:00	pH (Field)	6.77	pH units	pH_Field	Turbid, brown, no odour
Lot 64	MW12/20	10/12/2013 0:00	pH	6.86	pH units	pH	
Lot 64	MW12/20	10/12/2013 0:00	pH (Field)	6.86	pH units	pH_Field	
Lot 64	MW12/20	10/12/2014 0:00	pH	7.03	pH units	pH	
Lot 64	MW12/20	10/12/2014 0:00	pH (Field)	7.03	pH units	pH_Field	
Lot 64	MW12/20	15/12/2016 0:00	pH (Field)	6.61	pH units	pH_Field	Organic odour, cloudy.
Lot 64	MW12/20	29/05/2017 0:00	pH (Field)	6.39	pH units	pH_Field	Clear, colourless, slight HC odour. Organics and bugs.
Lot 64	MW12/20	7/06/2019 0:00	pH (Field)	6.14	pH units	pH_Field	Black staining on hydrasleeve and colar, stagnant odour, black suspended particles
Lot 62	MW12/21	27/05/2014 0:00	pH (Field)	7.07	pH units	pH_Field	Turbid, black, no odour
Lot 62	MW12/21	10/12/2013 0:00	pH	7.14	pH units	pH	
Lot 62	MW12/21	10/12/2013 0:00	pH (Field)	7.14	pH units	pH_Field	
Lot 62	MW12/21	10/12/2014 0:00	pH	7.57	pH units	pH	
Lot 62	MW12/21	10/12/2014 0:00	pH (Field)	7.57	pH units	pH_Field	
Lot 62	MW12/21	18/08/2016 0:00	pH	7.03	pH units	pH	Yellow, black suspended sediment, hydrogen sulphide odour.
Lot 62	MW12/21	18/08/2016 0:00	pH (Field)	7.03	pH units	pH_Field	Yellow, black suspended sediment, hydrogen sulphide odour.
Lot 62	MW12/21	29/05/2017 0:00	pH (Field)	7.02	pH units	pH_Field	Clear, colourless, no odour. Organics and bugs.
Lot 62	MW12/21	6/06/2019 0:00	pH (Field)	7.15	pH units	pH_Field	Cloudy, suspended black globules
Lot 62	MW12/21	20/11/2019 0:00	pH (Field)	7.5	pH units	pH_Field	
Lot 62	MW12/21	3/12/2020 11:39	pH	8.43	pH units	pH	Mild blue tinge
Lot 62	MW18/23	6/06/2019 0:00	pH (Field)	6.81	pH units	pH_Field	Turbid, yellow/brown, no odour
Lot 62	MW18/23	25/11/2019 0:00	pH (Field)	5.61	pH units	pH_Field	
Lot 62	MW98/4	27/05/2014 0:00	pH (Field)	4.69	pH units	pH_Field	Clear, no odour
Lot 62	MW98/4	14/12/2000 0:00	pH	3.92	pH units	pH	
Lot 62	MW98/4	25/06/2001 0:00	pH	4.15	pH units	pH	
Lot 62	MW98/4	22/12/2003 0:00	pH	4.21	pH units	pH	
Lot 62	MW98/4	15/03/2005 0:00	pH	6.24	pH units	pH	
Lot 62	MW98/4	13/09/2005 0:00	pH	4.08	pH units	pH	
Lot 62	MW98/4	23/03/2006 0:00	pH	4.3	pH units	pH	
Lot 62	MW98/4	27/09/2006 0:00	pH	4.42	pH units	pH	
Lot 62	MW98/4	25/02/2008 0:00	pH	4.63	pH units	pH	Clear, no odour, no sheen
Lot 62	MW98/4	13/11/2008 0:00	pH	4.38	pH units	pH	clear with organic particles suspended, coloured rust particles
Lot 62	MW98/4	21/04/2009 0:00	pH	4.51	pH units	pH	
Lot 62	MW98/4	17/11/2009 0:00	pH	4.46	pH units	pH	
Lot 62	MW98/4	10/12/2013 0:00	pH	4.49	pH units	pH	
Lot 62	MW98/4	10/12/2013 0:00	pH (Field)	4.49	pH units	pH_Field	
Lot 62	MW98/4	10/12/2014 0:00	pH	4.57	pH units	pH	
Lot 62	MW98/4	10/12/2014 0:00	pH (Field)	4.57	pH units	pH_Field	
Lot 62	MW98/4	17/08/2016 0:00	pH	4.85	pH units	pH	Clear, colourless, no odour.
Lot 62	MW98/4	17/08/2016 0:00	pH (Field)	4.85	pH units	pH_Field	Clear, colourless, no odour.
Lot 62	MW98/4	14/12/2016 0:00	pH (Field)	5.13	pH units	pH_Field	Clear, strong yellow tinge, no odour.
Lot 62	MW98/4	7/06/2019 0:00	pH (Field)	3.97	pH units	pH_Field	Cloudy, hydrasleeve stained orange
Lot 62	MW98/4	25/11/2019 0:00	pH (Field)	5.05	pH units	pH_Field	
Lot 62	MW98/4	3/12/2020 13:32	pH	5.26	pH units	pH	Clear, colourless, odourless
Lot 62	MW98/4	8/07/2021 13:36	pH (Lab)	4.77	pH units	pH_Lab	
Lot 62	MW98/4	8/07/2021 13:35	pH (Lab)	4.84	pH units	pH_Lab	

Appendix C-5 Tables from AA2 LTEMP

ERM

| | | | | | | | | | BTEX | | | | | | | TRH NEPM (1999) | | | | | | | TRH NEPM (2013) | | | | | | | | | | | | TRH Silica Gel Cleanup | | | | | | | | | | | | TRH Aliphatic/Aromatic Split | | | | | | | | | | | | | | | | | | | | | | | |
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	BTEX							TRH NEPM (1999)						TRH NEPM (2013)						TRH Silica Gel Cleanup						TRH Aliphatic/Aromatic Split											
	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX	TRH C6-C9 Fraction	TRH >C10-C14 Fraction	TRH >C15-C28 Fraction	TRH >C15-C36 Fraction	TRH >C29-C36 Fraction	TRH >C10-C36 Fraction	TRH C6-C10 Fraction	TRH C6-C10 less BTEX	TRH >C10-C16 Fraction	TRH >C10-C16 Fraction less N	TRH >C16-C34 Fraction	TRH >C34-C40 Fraction	TRH >C10-C40 Fraction	TRH >C34-C40 Fraction	TRH >C10-C16 Fraction SG less Naphthalene	TRH >C10-C16 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C34-C40 Silica Gel Cleanup	TRH >C10-C16 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C34-C40 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C10-C16 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C34-C40 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C5-C7 (Benzene) Aromatic	TRH >C7-C8 Aliphatic	TRH >C8-C10 Aliphatic	TRH >C10-C12 Aliphatic	TRH >C12-C16 Aliphatic	TRH >C16-C21 Aliphatic	TRH >C21-C35 Aliphatic	TRH >C7-C7 Aromatic	TRH >C7-C8 Aromatic	TRH >C8-C10 Aromatic	TRH >C10-C12 Aromatic	TRH >C12-C16 Aromatic	TRH >C16-C21 Aromatic	TRH >C21-C35 Aromatic
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.2	0.3	0.2	10	20	50		50	50	10	10	50	50	100	50	100		50	20	50	50	50	50	100	50	100	0.1	10	10	10	10	10	10	0.1	0.1	1	10	10	10	10
NEPM (1999) Management Limits - Commercial/Industrial (coarse)								700		1000		3500								10000				1000																			
																												3500		10,000											

Alternative_Name	x coord	y coord	Field_ID	Location_Code	Sampled_Date_Time	Sample_Type	Sample_Depth_Range																																						
Lot 60	317807.516	6254921.165	TP21/72_0.9	TP21/72	16/03/2021	Normal	0.9	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	<20	590	1100	-	310	2000	<20	<20	1000	988	2100	3210	110	-	120	240	340	-	220	230	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 60	317953.5161	6254892.832	TP21/95_0.5	TP21/95	18/03/2021	Normal	0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 60	317953.5161	6254892.832	TP21/95_1.0	TP21/95	18/03/2021	Normal	1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	180	850	-	<50	1030	<20	<20	370	370	690	1060	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 60	317953.5161	6254892.832	DUP08_210318	TP21/95	18/03/2021	Field_D	1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 60	317953.5161	6254892.832	TRIP08_210318	TP21/95	19/03/2021	Interlab_D	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	-	-	-	-	-	<10	<10	-	-	-	-	-	<50	<50	<50	<50	<50	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317864.4502	6254859.795	3D_B2_B_2.0	3D_B2_B	21/10/2021	Normal	1.9-2.1	<0.1	<0.1	0.2	<0.1	<0.2	<0.3	-	<20	21	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	600	700	1300	1100	1100	1100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317864.6178	6254862.078	3D_B2_N_0.5	3D_B2_N	21/10/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	21	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317864.6178	6254862.078	3D_B2_N_1.5	3D_B2_N	21/10/2021	Normal	1.4-1.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	36	<50	-	<50	<50	39	39	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317861.4167	6254858.332	3D_B2_W_0.5	3D_B2_W	21/10/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	260	1000	520	-	<50	1520	450	450	1100	1098.9	300	1400	<100	-	820	900	1210	1100	390	200	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317861.4167	6254858.332	3D_B2_W_1.5	3D_B2_W	21/10/2021	Normal	1.4-1.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	33	33	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317871.9923	6254856.233	TRIP11_211021	3D_B3_B	21/10/2021	Interlab_D	2-2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	60	<100	-	<100	60	13	13	70	70	<100	70	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317871.9923	6254856.233	3D_B3_B_2.0	3D_B3_B	21/10/2021	Normal	1.9-2.1	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317871.9923	6254856.233	DUP11_211021	3D_B3_B	21/10/2021	Field_D	1.9-2.1	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	49	49	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317872.3728	6254861.063	3D_B3_N_0.5	3D_B3_N	21/10/2021	Normal	0.4-0.6	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	20	490	330	-	<50	820	65	65	620	617.6	200	820	<100	-	640	790	1050	1000	410	230	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317872.3728	6254861.063	3D_B3_N_1.5	3D_B3_N	21/10/2021	Normal	1.4-1.6	<0.1	<0.1	0.2	<0.1	<0.2	<0.3	-	<20	250	160	-	<50	410	58	58	310	307.8	<100	310	<100	-	160	200	270	200	110	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317882.0193	6254857.748	3D_B4_B_2.0	3D_B4_B	22/10/2021	Normal	2-2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	75	150	-	<50	225	<20	<20	130	130	120	250	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317882.437	6254860.179	3D_B4_N_0.5	3D_B4_N	22/10/2021	Normal	0.5-0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	300	460	-	<50	760	<20	<20	560	559.3	290	850	<100	-	55	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317882.437	6254860.179	3D_B4_N_1.5	3D_B4_N	22/10/2021	Normal	1.5-1.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	110	140	-	<50	250	<20	<20	190	188.5	<100	190	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317888.2719	6254854.069	3D_B5_B_2.0	3D_B5_B	22/10/2021	Normal	2-2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	23	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317889.6873	6254855.138	3D_B5_E_0.5	3D_B5_E	22/10/2021	Normal	0.5-0.5	<0.1	1.4	0.5	0.6	1.2	3.7	-	45	250	960	-	<50	1210	65	59	620	620	710	1330	<100	-	290	620	1290	1400	1000	730	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317889.6873	6254855.138	3D_B5_E_1.5	3D_B5_E	22/10/2021	Normal	1.5-1.5	<0.1	<0.1	<0.1	<0.1	0.3	<0.3	-	<20	250	1200	-	<50	1450	<20	<20	700	700	910	1610	<100	-	210	530	1210	1200	1000	710	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317888.488	6254859.006	3D_B5_N_0.5	3D_B5_N	22/10/2021	Normal	0.5-0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	170	1000	-	<50	1170	<20	<20	560	560	780	1340	<100	-	130	380	870	930	740	550	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317888.488	6254859.006	3D_B5_N_1.5	3D_B5_N	22/10/2021	Normal	1.5-1.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	210	1100	-	<50	1310	<20	<20	610	610	770	1380	<100	-	140	360	810	840	670	480	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317863.8981	6254852.448	3D_C2_B_2.0	3D_C2_B	22/10/2021	Normal	1.9-2.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	23	23	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317863.543	6254847.004	3D_C2_S_0.5	3D_C2_S	21/10/2021	Normal	0.4-0.6	<0.1	<0.1	0.8	<0.1	0.4	0.4	-	210	1200	950	-	<50	2150	370	370	1400	1387	620	2020	<100	-	980	1200	1790	1700	810	520	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317863.543	6254847.004	3D_C2_S_1.5	3D_C2_S	21/10/2021	Normal	1.4-1.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	130	220	200	-	<50	420	190	190	260	256.7	140	400	<100	-	83	120	193	120	110	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317860.8775	6254851.038	3D_C2_W_0.5	3D_C2_W	21/10/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	60	390	640	-	62	1092	110	110	580	580	480	1060	<100	-	180	280	550	590	370	310	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317860.8775	6254851.038	3D_C2_W_1.5	3D_C2_W	21/10/2021	Normal	1.4-1.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	70	160	-	<50	230	<20	<20	110	110	130	240	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317871.3964	6254849.081	3D_C3_B_2.0	3D_C3_B	22/10/2021	Normal	2-2	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	<20	120	73	-	<50	193	54	54	160	160	<100	160	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317871.301	6254846.161	3D_C3_S_0.5	3D_C3_S	22/10/2021	Normal	0.5-0.5	<0.1	<0.1	<0.1	0.1	0.4	0.5	-	<20	640	<1000	-	<50	<1000	40	40	980	977.5	620	1600	<100	-	470	820	1340	1400	870	530	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317871.301	6254846.161	3D_C3_S_1.5	3D_C3_S	22/10/2021	Normal	1.5-1.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317881.7901	6254850.472	3D_C4_B_2.0	3D_C4_B	22/10/2021	Normal	2-2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	45	130	-	<50	175	<20	<20	75	75	100	175	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317881.3171	6254845.279	3D_C4_S_0.5	3D_C4_S	22/10/2021	Normal	0.5-0.5	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-	<100	1400	2500	-	170	4070	180	180	2000	1991.4	2000	4000	<100	-	950	1600	2650	2700	1700	1100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317881.3171	6254845.279	DUP12_211022	3D_C4_S	22/10/2021	Field_D	0.5-0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	1000	2200	-	150	3350	32	32	1900	1894.6	1500	3400	<100	-	780	1400	2380	2400	1600	1000	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317881.3171	6254845.279	TRIP12_211022	3D_C4_S	22/10/2021	Interlab_D	0.5-0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	28	700	1670	-	<100	2370	44	44	1270	1270	1150	2420	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317881.3171	6254845.279	3D_C4_S_1.5	3D_C4_S	22/10/2021	Normal	1.5-1.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	41	620	1100	-	59	1779	74	74	930	925.8	810	1740	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317887.8028	6254847.14	3D_C5_B_2.0	3D_C5_B	22/10/2021	Normal	2-2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317889.563	6254847.516	3D_C5_E_0.5	3D_C5_E	22/10/2021	Normal	0.5-0.5	<0.1	3.4	3.1	1.9	12	14	-	220	810	2100	-	190	3100	280	260	1500	1689	1500	3120	120	-	600	1100	2120	2100	1400	960	120	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317889.563	6254847.516	3D_C5_E_1.5	3D_C5_E	22/10/2021	Normal	1.5-1.5	0.2	3.8	3.1	2.5	18	21	-	170	400	820	-	97	1317	230	200	640	631.7	610	1250	<100	-	500	840	1460	1500	960	680	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317887.537	6254844.824	3D_C5_S_0.5	3D_C5_S	22/10/2021	Normal	0.5-0.5	<0.1	0.2	0.4	0.5	2.7	3.2	-	70	710	1300	-	170	2180	120	120	1100	1093.4	990	2220	130	-	1000	1600	3240	3400	1900	1500	340	320	-	-	-	-	-	-	-	-	-	-
Lot 63	317887.537	6254844.824	3D_C5_S_1.5	3D_C5_S	22/10/2021	Normal	1.5-1.5	<0.1	<0.1	0.2	<0.1	<0.2	<0.3	-	<20	240	<500	-	<50	<500	<20	<20	400	398.3	360	760	<100	-	130	240	450	490	320	250	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317891.3272	6254752.339	3E-C2_B-1.5	3E-C2_B	1/11/2021	Normal	1.4-1.6	<0.1	<0.1	0.9	1.7	6.4	8.1	-	60	590	1100	-	390	2080	140	130	810	805.3	1200	2010	<100	-	750	990	2240	2300	1100	1100	390	190	-	-	-	-	-	-	-	-	-	-
Lot 63	317891.4912	6254755.411	3E-C2_N-0.5	3E-C2_N	1/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<40	210	-	<100	210	<20	<20	<100	<100	450	830	380	-	<50	<50	300	450	100	250	200	200	-	-	-	-	-	-	-	-	-	-
Lot 63	317891.4912	6254755.411	3E-C2_N-1.0	3E-C2_N	1/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	58	58	<20	<20	<50	<50	100	230	130	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317886.6492	6254750.872	3E-C2_W-0.5	3E-C2_W	1/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	29	1300	-	820	2149	<20	<20	100	100	1900	2210	210	-	<50	<50	1270	1400	770	1100	500	290	-	-	-	-	-	-	-	-	-	-
Lot 63	317886.6492	6254750.872	3E-C2_W-1.0	3E-C2_W	1/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-C3-B-2.0	3E-C3-B	17/11/2021	Normal	2-2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	28	330	900	-	350	1580	56	56	480	480	960	1620	180	-	78	200	728	710	480	510	170	<100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-C3-N-1.0	3E-C3-N	17/11/2021	Normal	1-1	<0.1	<0.1	0.3	<0.1	0.3	0.3	-	<20	610	1700	-	570	2880	46	45	990	987.9	1800	3070	280	-	320	700	1980	2100	1300	1200	360	180	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-C3-N-0.5	3E-C3-N	17/11/2021	Normal	0.5-0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	280	1300	-	430	2010	<20	<20	500	500	1100	1760	160	-	200	500	1650	1800	1100	1100	310	180	-	-	-	-	-	-	-	-	-	-
Lot 63	317911.3067	6254749.503	3E-C4_B-1.5	3E-C4_B	2/11/2021	Normal	1.4-1.6	<0.1	<0.1	0.5	0.8	0.8	1.6	-	<20	400	620	-	200	1220	44	42	550	547.8	630	1180	<100	-	430	510	810	840	380	330	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-C4_E-0.5	3E-C4_E	2/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	500	1100	-	390	1990	<20	<20	910	910	1100	2230	220	-	250	420	830	920	430	400	150	100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-C4_E-1.0	3E-C4_E	2/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	140	290	-	130	560	35	35	200	200	340	540	<100	-	100	140	280	340	180	200	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317911.7076	6254753.185	3E-C4_N-0.5	3E-C4_N	2/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317911.7076	6254753.185	3E-C4_N-1.0	3E-C4_N	2/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	40	360	530	-	<50	890	91	91	430	430	550	980	<100	-	170	230	440	510	270	280	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-C4-B-1.5	3E-C4-B	17/11/2021	Normal	1.5-1.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	140	370	-	<50	510	<20	<20	220	217.2	410	630	<100	-	<50	130	490	520	370	390	120	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317890.6357	6254742.181	3E-D2_B-1.5	3E-D2_B	1/11/2021	Normal	1.4-1.6	<0.1	<0.1	0.6	0.8	2.6	3.4	-	30	250	690	-	310	1250	51	47	390	387.6	790	1180	<100	-	230	320	690	660	350	340	110	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317885.6538	6254740.817	3E-D2_W-0.5	3E-D2_W	1/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	27	310	-	54	391	<20	<20	<50	<50	440	580	140	-	<50	<50	130	130	130	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317885.6538	6254740.817	3E-D2_W-1.0	3E-D2_W	1/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	81	580	-	260	921	<20	<20	160	160	730	890	<100	-	68	140	698	780	420	510	210	130	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-D3-B-2.0	3E-D3-B	17/11/2021	Normal	2-2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	38	91	-	<50	129	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-D4-B-1.5	3E-D4-B	17/11/2021	Normal	1.5-1.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-D4-E-0.5	3E-D4-E	3/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	180	1100	-	620	1900	<20	<20	380	380	1300	2170	490	-	200	310	730	660	410	350	120	<100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-D4-E-1.0	3E-D4-E	3/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	370	1500	-	730	2600	40	40	660	660	1800	2890	430	-	<50	59	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317889.4353	6254732.796	3E-E2_B-1.5	3E-E2_B	1/11/2021	Normal	1.4-1.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	32	310	490	-	54	854	69	69	360	357.6	530	1000	110	-	210	290	720	700	370	410	140	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317889.3156	6254725.509	3E-E2_S-0.5	3E-E2_S	1/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	220	500	-	<50	720	<20	<20	<50	<50	440	440	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317889.3156	6254725.509	3E-E2_S-1.0	3E-E2_S	1/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	81	-	<50	81	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317884.602	6254731.373	3E-E2_W-0.5	3E-E2_W	1/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	200	540	340	-	200	1080	<20	<20	50	50	470	520	<100	-	<50	<50	<100	120	<100	120	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317884.602	6254731.373	3E-E2_W-1.0	3E-E2_W	1/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	52	130	-	<50	182	<20	<20	65	65	160	225	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-E3-B-2.0	3E-E3-B	17/11/2021	Normal	2-2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	86	250	-	94

	BTEX						TRH NEPM (1999)					TRH NEPM (2013)							TRH Silica Gel Cleanup							TRH Aliphatic/Aromatic Split											
	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX	TRH C6-C9 Fraction	TRH >C10-C14 Fraction	TRH >C15-C28 Fraction	TRH >C15-C36 Fraction	TRH >C29-C36 Fraction	TRH >C10-C36 Fraction	TRH C6-C10 Fraction	TRH C6-C10 less BTEX	TRH >C10-C16 Fraction	TRH >C10-C16 Fraction less N	TRH >C16-C34 Fraction	TRH >C34-C40 Fraction	TRH >C10-C40 Fraction	TRH >C40-C60 Fraction	TRH >C34-C60 Fraction	TRH >C10-C16 Fraction SG less Naphthalene	TRH >C10-C16 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C34-C40 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C40-C60 Silica Gel Cleanup	TRH >C15-C28 Silica Gel Cleanup	TRH >C28-C34 Silica Gel Cleanup	TRH >C34-C40 Silica Gel Cleanup	TRH >C28-C40 Silica Gel Cleanup	TRH >C34-C60 Silica Gel Cleanup	TRH >C5-C7 (Benzene) Aromatic	TRH >C5-C8 Aliphatic	TRH >C8-C10 Aliphatic	TRH >C10-C12 Aliphatic	TRH >C12-C16 Aliphatic	TRH >C16-C21 Aliphatic	TRH >C21-C35 Aliphatic	TRH >C5-C7 Aromatic	TRH >C7-C8 Aromatic	TRH >C8-C10 Aromatic	TRH >C10-C12 Aromatic	TRH >C12-C16 Aromatic	TRH >C16-C21 Aromatic	TRH >C21-C35 Aromatic
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.2	0.3	0.2	10	20	50		50	50	10	10	50	50	100	50	100	50	100	50	20	50	50	50	50	100	50	100	0.1	10	10	10	10	10	10	0.1	0.1	1	10	10	10	10
NEPM (1999) Management Limits - Commercial/Industrial (coarse)														700		1000		3500		10000					1000					3500		10,000													

Alternative_Name	x_coord	y_coord	Field_ID	Location_Code	Sampled_Date_Time	Sample_Type	Sample_Depth_Range																																								
Lot 63	317839.4851	6254833.866	TP21/21-1.0	TP21/21	8/03/2021	Normal	1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	63	-	<50	63	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317841.0008	6254856.17	TP21/22-0.2	TP21/22	8/03/2021	Normal	0.2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317841.0008	6254856.17	DUP01_210308	TP21/22	8/03/2021	Field_D	0.2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317841.0008	6254856.17	TRIP01_210308	TP21/22	8/03/2021	Interlab_D	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	-	-	-	-	-	<10	<10	-	-	-	-	-	-	<50	<50	<50	<50	<50	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317841.0008	6254856.17	TP21/22-1.0	TP21/22	8/03/2021	Normal	1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317868.6451	6254828.376	TP21/23-0.2	TP21/23	9/03/2021	Normal	0.2	<1	<1	<1	<1	<2	<3	-	<200	2100	720	-	140	2960	320	320	2100	2036	440	2540	<100	-	650	490	170	<100	<0.1	<10	120	86	140	49	67	-	<0.1	12	60	140	46	100
Lot 63	317868.6451	6254828.376	TP21/23-3.1	TP21/23	9/03/2021	Normal	3.1	<0.1	<0.1	0.3	0.7	1.9	2.6	-	26	1500	500	-	86	2086	150	150	1400	1386	310	1710	<100	-	1000	1100	370	250	<100	<100	<0.1	<10	120	42	49	19	16	-	<0.1	5.4	33	55	18	26
Lot 63	317920.9868	6254845.92	TP21/24-0.5	TP21/24	8/03/2021	Normal	0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	54	-	<50	54	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317920.9868	6254845.92	TP21/24-1.5	TP21/24	8/03/2021	Normal	1.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	120	180	-	<50	300	24	24	170	170	110	280	<100	-	<50	51	150	-	150	100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317770.587	6254838.638	TP21/74_1	TP21/74	15/03/2021	Normal	1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	680	4600	-	910	7800	<20	<20	1300	1300	5700	7650	650	-	540	1100	6400	-	3800	4400	700	540	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317770.587	6254838.638	TP21/74_2.5	TP21/74	15/03/2021	Normal	2.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	1200	3800	-	280	8300	64	100	1900	1900	3400	5470	170	-	850	1500	6200	-	2900	2500	190	150	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317887.9608	6254810.634	TP21/76_0.2	TP21/76	17/03/2021	Normal	0.2	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-	<100	1600	1100	-	1300	4000	240	240	1600	1578	3700	5950	650	-	700	910	2540	-	1300	1400	540	210	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317887.9608	6254810.634	TP21/76_2.0	TP21/76	17/03/2021	Normal	2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317887.9608	6254810.634	DUP07_210317	TP21/76	17/03/2021	Field_D	2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317887.9608	6254810.634	TRIP07_210317	TP21/76	17/03/2021	Interlab_D	2	<0.2	<0.5	<0.5	0.5	1.8	2.3	2.3	31	-	-	-	-	-	66	64	-	-	-	-	-	-	<50	<50	<50	<50	<50	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318021	6255110	D_140312_01	BH12/34	14/03/2012	Field_D	-0.3	<0.5	<0.5	<0.5	<0.5	<1	<1.5 [#1]	<1.5 [#1]	29	460	530	580 [#5]	<100	990 - 1040 [#5]	63	63	700	700	300	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318021	6255110	BH12/34_0.3	BH12/34	14/03/2012	Normal	0.3-0.3	<0.5	<0.5	<0.5	<0.5	<1	<1.5 [#1]	<1.5 [#1]	11	200	220	270 [#5]	<100	420 - 470 [#5]	25	25	300	300	120	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318021	6255110	BH12/34_0.6	BH12/34	14/03/2012	Normal	0.6-0.6	<0.5	<0.5	<0.5	<0.5	<1	<1.5 [#1]	<1.5 [#1]	85	820	860	910 [#5]	<100	1700 - 1730 [#5]	200	200	1200	1200	470	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318021	6255110	BH12/34_1.1	BH12/34	14/03/2012	Normal	1.1-1.1	<0.5	<0.5	<0.5	<0.5	<1	<1.5 [#1]	<1.5 [#1]	35	93	110	160 [#5]	<100	200 - 253 [#5]	67	67	140	140	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318017.9683	6255234.793	HA19/10_0.2	HA19/10	2/08/2019	Normal	0.1-0.3	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	<0.1	<10	<10	<10	<10	<10	<10	<0.1	<1	<10	<10	<10
Road alignment	318017.9683	6255234.793	HA19/10_0.05	HA19/10	2/08/2019	Normal	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	200	-	190	390	<20	<20	<50	<50	350	350	<100	-	<20	<50	175	-	94	160	81	<100	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318008.148	6255081.324	MW11/07_1.0	MW11/07	20/09/2011	Normal	1-1	<0.5	<0.5	<0.5	<0.5	<1	<1.5 [#1]	<1.5 [#1]	<10	180	-	-	-	180 - 530 [#1]	-	-	-	-	-	-	-	-	-	-	-	-	350	-	<100	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318008.148	6255081.324	MW11/07_5.0	MW11/07	20/09/2011	Normal	5-5	<0.5	<0.5	<0.5	<0.5	<1	<1.5 [#1]	<1.5 [#1]	<10	<50	-	-	-	<50 [#1]	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318008.148	6255081.324	MW11/07_0.5	MW11/07	20/09/2011	Normal	0.5-0.5	<0.5	<0.5	<0.5	<0.5	<1	<1.5 [#1]	<1.5 [#1]	<10	<50	-	-	-	<50 [#1]	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318018.6	6255136.1	SB18/14_1.2_20180209	SB18/14	9/02/2018	Normal	-1.2	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318018.6	6255136.1	SB18/14_0.3_2018	SB18/14	9/02/2018	Normal	-0.3	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318018.6	6255136.1	SB18/14_0.3_180209	SB18/14	9/02/2018	Normal	0.3-0.3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318018.6	6255136.1	SB18/14_1.2_180209	SB18/14	9/02/2018	Normal	1.2-1.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318018.6	6255136.1	SB18/14_2.4_180209	SB18/14	9/02/2018	Normal	2.4-2.4	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318001.8	6254968.8	TP18/31_3.0_20180208	TP18/31	8/02/2018	Normal	-3	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318001.8	6254968.8	TP18/31_1.2_20180208	TP18/31	8/02/2018	Normal	-1.2	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318001.8	6254968.8	TP18/31_3.0_20180208	TP18/31	8/02/2018	Normal	3-3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	100	450	-	<100	550	<10	<10	200	200	430	630	<100	-	60	<50	60	250	280	250	220	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318001.8	6254968.8	TP18/31_0.3_20180208	TP18/31	8/02/2018	Normal	0.3-0.3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	160	1090	-	390	1640	<10	<10	320	320	1220	1730	190	120	90	120	860	770	610	650	160	<100	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318001.8	6254968.8	TP18/31_1.2_20180208	TP18/31	8/02/2018	Normal	1.2-1.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	22	300	1390	-	310	2000	38	38	590	590	1320	2070	160	220	80	220	850	910	630	690	140	<100	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	317990.9349	6254956.214	TP19/02_0.2	TP19/02	30/07/2019	Normal	0.1-0.3	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	250	-	290	540	<20	<20	<50	<50	460	600	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318002.8879	6254945.594	TP19/07_0.4	TP19/07	2/08/2019	Normal	0.3-0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	550	2300	-	73	2923	<20	<20	1300	1300	1500	2800	<100	-	140	320	670	-	530	330	<50	<100	<0.1	<10	<10	56	820	840	160	-	<0.1	<1	18	130	190	89
Road alignment	318002.8879	6254945.594	TP19/07_0.1	TP19/07	2/08/2019	Normal	0-0.2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	41	1500	-	130	1671	<20	<20	220	220	1300	1520	<100	-	<20	<50	150	-	150	130	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	317989.5164	6254953.076	TP20/23_1.5	TP20/23	16/09/2020	Normal	1.4-1.6	<1	<1	<1	<1	<2	<3	-	<200	1500	5400	-	1300	8200	<200	<200	2700	2700	5300	8750	750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	317986.61	6254904.04	TP20/25_0.7	TP20/25	7/10/2020	Normal	0.7-0.8	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	190	1300	1600	-	68	2968	470	470	1900	1900	890	2790	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary

Number of Results	294	294	294	294	294	278	85	278	270	257	12	257	269	265	265	258	258	258	246	258	21	171	171	171	113	184	171	184	171	5	5	5	5	5	5	5	1	5	5	5	5	5	5	5	5
Number of Detects	3	7	31	16	23	20	2	49	144	159	6	113	175	82	82	135	135	151	152	70	11	73	86	89	62	97	93	44	22	1	1	3	4	4	4	4	1	0	3	4	4	4	4	4	4
Minimum Concentration	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.2	<10	<20	<50	160	<50	<50	<10	<10	<50	<50	<100	<50	<100	<50	<20	<50	<50	<50	90	<100	<50	<100	<0.1	<10	<10	<10	<10	<10	<10	0.3	<0.1	<1	<10	<10	<10	<10	<10
Minimum Detect	0.2	0.1	0.1	0.1	0.2	0.3	2.3	10	21	51	160	51	51	13	13	50	50	100	70	100	60	27	51	100	120	90	100	81	100	0.3	190	120	42	49	19	16	0.3	ND	5.4	18	55	18	26	
Maximum Concentration	<1	3.8	4.5	2.5	18	21	8.2	280	3100	37000	4580	18000	56200	470	470	4900	4900	47000	55900	15600	2020	2600	3600	18290	4270	14000	14000	3400	830	0.3	190	140	250	1900	1500	510	0.3	<0.1	13	60	560	690	370	
Maximum Detect	0.3	3.8	4.5	2.5	18	21	8.2	280	3100	37000	4580	18000	56200	470	470	4900	4900	47000	55900	15600	2020	2600	3600	18290	4270	14000	14000	3400	830	0.3	190	140	250	1900	1500	510	0.3	ND	13	60	560	690	370	
Average Concentration	0.09	0.16	0.19	0.17	0.4	0.51	0.4	24	255	901	688	324	1429	42	42	410	409	982	1568	199	251	184	288	832	612	530	542	153	81	0.1	42	78	88	583	483	152	0.05	6.3	31	178	190	118	
Median Concentration	0.05	0.05	0.05	0.05	0.05	0.1	0.1	10	29.5	200	130	50	340	10	10	59.5	59.5	215	375	50	60	25	51	150	220	105	130	50	50	0.05	5	120	56	140	49	67	0.05	5.4	33	130	46	89	
Standard Deviation	0.077	0.32	0.38	0.24	1.4	1.7	0.93	46	462	2647	1277	1352	4066	79	79	725	724	3275	4377	1036	463	333	504	1937	857	1284	1468	390	111	0.11	83	67	95	807	670	209	-	0	6	21	221	289	147	
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	0	17	0	1	0	0	14	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	0	17	0	1	0	0	14	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Data Comments

#1 ESDAT Combined with Non-Detect Multiplier of 0.5. Some Analytes are missing from this Combined Compound.
#2 ESDAT Combined. Some Analytes are missing from this Combined Compound.
#3 Reported Analyte LOR is higher than Requested Analyte LOR
#4 Combined by ESDAT using a Non-Detect Multiplier of 1.
#5 ESDAT Combined with Non-Detect Multiplier of 0.5.
#6 ESDAT Combined.

Appendix D

Data Quality Evaluation

Appendix D - Quality Assurance and Quality Control Review
Client: Viva Energy
Site: Clyde WARP Stage 2 AA2
Report: **AA2 Validation report (ERM, 2022b)**

Item	AA2 validation report (ERM, 2022b)
Quality Assurance Program	
Statement of pre-determined DQOs for field and laboratory procedures, including quantitative DQOs	Yes, in Section 4.
DQOs state the problem, identify goals of the study, identify information inputs, define the boundaries of the study, develop an analytical approach, specify performance or acceptance criteria and outline the plan for obtaining data	Yes, in Section 4.2.
Quality plan designed to achieve DQOs assessing accuracy, precision, comparability, representativeness and completeness of dat	Quality assurance/quality control are discussed in Section 4 and Appendix G.
Procedures for assessing chemical data to determine if DQOs are met, including quantitative DQOs (e.g. standard deviation, % recovery, RPDs)	Yes, in Appendix G.
Procedures that describe the actions if DQOs not met	Decision rule presented in DQOs.
Sampling and Analytical Program	
Site investigation objectives and a brief background provided	Yes, site investigation objectives presented in Section 1.3. Site background presented in Section 1.1 and site history in Section 3.1. A summary of previous investigation is presented in Section 3.6.
Summary of CSM provided	Yes, presented at conclusion of assessment of data in Section 8 (CSM pos-remediation)
Data gap analysis provided that reviews existing information	Highlighted in potential for contamination section – based on existing data
Preparation of a site specific health and safety plan and other necessary pre-mobilisation tasks	No, but the auditor questions why this is relevant to the audit given the audit is not of health and safety procedures.
Assessment includes all relevant environmental media (e.g. soil, dust, surface water, groundwater, air, sediments and biota)	Yes, soil, groundwater (during remediation) and ambient air were assessed in accordance with the approved Stage 2 RAP (SAS nº 065-2127799B) and Consent Condition nº 9302.
Sampling is representative of the site, based on selection of appropriate sampling points stated in sampling plan. Included are details of analytes to be monitored, sampling pattern/frequency, and number of samples, location and depth of sampling points	Yes, key areas of concern as well as site coverage incorporated into sampling design as per the approved Stage 2 RAP (SAS nº 065-2127799B).

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Acceptability of sample collection, handling and transportation in accordance with written procedures	Yes, standard industry methods used.
Sample analyses use appropriate methodologies in NATA (or equivalent) accredited laboratories for each analyte & matrix	Yes, samples sent to NATA accredited laboratories for analysis.
Appropriate sampling methods & procedures, field screening methods and analysis methods are outlined	Yes.
Detection limits for each chemical of potential concern are appropriate for use in assessment of risk	Yes, detection limits were less than nominated assessment levels.
For dynamic/reactive sampling, methods for analysing and interpreting field data are outlined	Not applicable.
Field QA/QC	
Use of standardised field sampling forms	Chain of custody forms (Appendix M) and borehole logs (Appendix F) provided. Field documentation is presented in Appendix D.
Sampling team	Yes, in Appendix G. The field team consisted of ERM consultants (as noted on field records, provided as Appendix D). All field personnel are considered to be suitably qualified personnel for the validation and sampling tasks undertaken.
Sampling methods including type of container used, labelling process, order and degree of filling, preservation, labelling, logging, custody	Sampling methods were described along with sample handling and chain of custody protocols.
Decontamination procedures between sampling	Yes, in Appendix G. Decontamination procedures were implemented between sampling locations where disposable consumables were utilised when collecting samples, in accordance with the methodologies outlined in Section 12.3.2 of the RAP. The processes followed were considered suitable for minimising cross-contamination during sampling. As re-usable sampling equipment was not utilised during collection of samples rinsate blanks were not collected. All samples were collected from the centre of an excavator bucket with use of disposable nitrile gloves replace between each sample location.
Logs for each sample, including time, date, location, sampler, duplicate location & type, chemical analyses to be performed, sample preservation method, site observations & weather	Details provided on borehole logs in Appendix F. Site observations presented in Appendix D.
COC for each sample, including sampler, sample nature, collection date, analyses to be performed, preservation method, dispatch time, condition of samples at dispatch and courier(s)	Yes, in Appendix M. Samples were collected, handled and transported following the methodologies outlined in Section 12.3.2 of the RAP. The adopted procedures are considered appropriate to meet the project objectives. Field records describing the site conditions, media sampled, indications of potential contamination (e.g.

Item	AA2 validation report (ERM, 2022b)
	staining, discolouration, odour or sheen), duplicate samples and sampling locations were completed (refer to Field Data Sheets in Appendix D and Borelogs in Appendix F). Soil samples for chemical analysis were collected into laboratory supplied sample containers, and stored in a chilled cooler on ice. All samples were forwarded to the NATA accredited laboratory under Chain-of-Custody conditions. The methods used to collect the samples, the types of sample containers, preservation techniques and custody protocols were documented appropriately. Samples were received by the laboratory intact and with cooling media present
Sample duplication/splitting techniques	Not stated.
Quality control samples, including:	
— background samples	Not applicable .
— field duplicate samples	Yes, in Appendix G.
— split samples	Not applicable.
— rinsate blanks	No.
— field blanks	No.
— trip blanks	Yes, in Appendix G. A total of 14 Laboratory-prepared trip blank samples were stored and transported to the laboratory with the soil samples, as summarised in Table G5 of the Validation report. The concentrations of hydrocarbons, the identified COPCs, were reported in the trip blank samples below the laboratory LOR, indicating a low likelihood of cross-contamination occurring during sampling and transport of samples.
— laboratory prepared trip spike samples	Yes, in Appendix G. A totalof 14 laboratory prepared trip spikes were stored and transported to the laboratory with the soil samples, as summarised in Table G6 of the Validation report. The semi-volatile and volatile compounds analysed from the trip spike were reported to be within the acceptable limits, indicating that there is a low likelihood for the loss of volatiles to have occurred during shipping and handling.
Background sample results	Not applicable.
Results of QC samples eg field blanks, background, rinsates, trip blanks	Yes, in Appendix G. During the course of the sampling events through AA2, a total of 124 primary soil samples were collected for chemical analysis of BTEXN, TRH C6-C40, PAH and TRH Speciation (CWG fractions)(where required). Intra- and inter-laboratory duplicates were collected at a ratio of at least one duplicate to ten primary samples, with 7 intra-laboratory duplicates and 7 inter-laboratory duplicates collected for 124 primary

Item	AA2 validation report (ERM, 2022b)
	samples. The Relative Percentage Differences (RPDs) of duplicate sample pairs were generally within the acceptance limits (30% RPD where one or both values were greater than 10 x limit of reporting (LOR) and 100% RPD where both values were less than 10 x LOR), with the exception of the duplicate pairs highlighted in red shading in Table G4 of the Validation report. The outliers are attributed to sample heterogeneity of the soil material and indicates a level of un-reproducibility of results. However, concentrations of results were reported within one order of magnitude. The highest value was adopted as a part of the assessment. The primary / duplicate pairs were reported below the adopted assessment criteria in all cases where RPD limits were exceeded.
Laboratory prepared trip spikes for volatile analytes and accompanying results	Yes, in Appendix G.
Field instrument calibrations (when used)	Yes, in Appendix E.
Tabulate field parameter measurements	Yes, in Annex 'Tables'.
Laboratory QA/QC	
Copy of completed COC including acknowledgment of receipt, conditions of samples on receipt and identity of samples included in shipments	Yes, listed on sample receipt acknowledgement and the analytical reports.
Record of holding times and compliance with methods	Yes.
Analytical methods used	
– Laboratory accreditation for methods used	Yes, in Appendix G. The primary laboratory used for the analysis of primary and intra-laboratory soil samples was NATA accredited Eurofins (NATA Registration No. 1261). The secondary laboratory used for the analysis of inter-laboratory soil samples was NATA accredited ALS (NATA Registration No. 825). All laboratory reports were NATA stamped and signed by a NATA signatory. All methodologies were considered appropriate for the identified COPCs.
– Performance in interlaboratory trials for methods used, where available	Not applicable.
Description & % recovery of surrogates & spikes	Yes.
Instrument detection limits and MDLs	Not supplied by analysing laboratory. Absence has no material effect.
Matrix or PQLs and limit of reporting for each analyte in each media	Yes, in Appendix G. The laboratory LOR for each analyte is presented in the laboratory reports (Appendix M of the Validation report) and laboratory analytical result summary tables (Tables 2-7 of the Validation report). All sample results were reported with LORs below the adopted assessment criteria.
Quality control samples:	

Item	AA2 validation report (ERM, 2022b)
— duplicates	Yes, in Appendix G. All laboratory quality control sample results were within the specified acceptable limits, with the exception of the outliers outlined in the laboratory documentation within Appendix M.
— method blanks	Yes, in Appendix G. All laboratory quality control sample results were within the specified acceptable limits, with the exception of the outliers outlined in the laboratory documentation within Appendix M.
— surrogates	Yes, in Appendix G. All laboratory quality control sample results were within the specified acceptable limits, with the exception of the outliers outlined in the laboratory documentation within Appendix M.
— matrix spikes	Yes, in Appendix G. All laboratory quality control sample results were within the specified acceptable limits, with the exception of the outliers outlined in the laboratory documentation within Appendix M.
Laboratory standard charts	Not supplied by analysing laboratory. Absence has no material effect.
◗ **QA/QC Data Evaluation**	
Evaluation of QA/QC with DQOs including: documentation completeness, data completeness, data comparability (see below), data representativeness	Yes.
Precision & accuracy of sampling & analysis for each analyte in each matrix, advising reliability, unreliability or qualitative value of data	Yes.
Data comparability including bias assessment, e.g. different personnel, methodologies, times, spatial and temporal changes etc	No.
Results of intra and interlaboratory QC checks	Yes.
Names of laboratories and details of their accreditation	Yes.
Discussion of appropriateness of non-standard test methods (incl. sample prep; method source and validation)	All analytical methods were standard methods.
PQLs and MDLs for all relevant matrices	Yes.
Acceptance limit(s) for each QC test (e.g. RPDs, recoveries) included	Listed on certificates of analysis.
Acceptance limits for each calibration standard	Details reported by the laboratories.
Results for all data tabulated according to each type of soil, fill, groundwaters, surface water and sediments, with appropriate statistical analysis.	Yes, in Annex ‘Tables’
QC results relevant to the sample analyses	Yes.
QA/QC ANALYTICAL METHODS	
Field Methods	
Applicability and appropriateness of field screening methods discussed.	Appropriateness of field screening methods mentioned.

Item	AA2 validation report (ERM, 2022b)
Adequacy of calibration of field monitoring equipment and validation of field measurements	Yes, in Appendix E
Laboratory screening methods	
Applicability and limitations of analytical screening techniques appropriately discussed	Not applicable.
Analytical screening method performance expressed, and based on acceptable false negative rate	Not applicable.
Methods specific for contaminants	
Sensitivity of analytical methods appropriate for assessment of risk	Yes.
Precision and accuracy criteria in quality plan meet performance of 95% of laboratories in recognised inter-laboratory trials	Not presented and rarely is, unless requested.

Appendix E

Stage 2 AA2 LTEMP



Clyde Western Area Remediation Project

Proposed Lots 59, 60 and 63 – Long Term Environmental Management Plan

25 March 2022

Project No.: 0561882

The business of sustainability

ERM

Document details	
Document title	Clyde Western Area Remediation Project
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Final	02	Joshua Panton	Stephen Mulligan / Peter Lavelle	Michael Gaggin	25.03.2022	Final Version following Site Auditor Review

Signature Page

25 March 2022

Clyde Western Area Remediation Project

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GLOSSARY

Glossary Term	Definition
the Site	Viva Energy owned land on the Camellia Peninsula consisting of the following Lots: Lot 398 DP41324, Lots 100 and 101 of DP 1168951, Lot 101 DP809340, Lot 2 DP 224288, and Lot 1 DP 383675. It includes the Clyde Terminal, the Parramatta Terminal, the Wetland, the Western Area and other land that is currently vacant or leased to third parties
the Western Area	A largely vacant area of land, approximately 40 Ha in size, located in the south western part of the Site. The land previously contained a variety of refinery assets that have now been removed.
the Project	The proposal to remediate contaminated soils in the Western Area to a commercial/industrial standard
The Management Area	Parts of Lot 100 DP 1168951 being proposed Lots 59, 60, 63 and a portion of proposed road alignment adjoining the eastern boundary of the proposed Lots 59 and 60, located within the western portion of the Stage 2 Area, as Approved under SSD 10459. The Management Area is shown on *Figure 1, Appendix A* and in the Site Survey (*Appendix B*). The area of each of the proposed lots is as follows: Proposed Lots under SSD 10459: Lot 59: 21,350 m^2 Lot 60: 33,180 m^2 Lot 63: 36,330 m^2 Proposed Road: 5,597.97 m^2 Accordingly, the total area of the Management Area is 96,457.97 m^2 (9.65 ha).
The Land Custodian	The legal owner(s) of the site identified as proposed Lots 59, 60, 63 and a portion of a proposed road alignment to the east of proposed Lots 59 and 60 of the Stage 2 Area, from time to time.
Site Operator	The entity in occupation of (or portions of) the Management Area who is responsible for day to day operations. This will include any contractors carrying out works on the site and tenants of the Management Area from time to time.

EXECUTIVE SUMMARY

Introduction

Environmental Resources Management Australia Pty Ltd (ERM) was engaged by Viva Energy Australia Pty Ltd (Viva Energy) to prepare this Long-Term Environmental Management Plan (LTEMP) to outline required environmental management procedures and controls for the ongoing use of part of Lot 100 DP 1168951 being proposed Lots 59, 60, 63 and a portion of a proposed road alignment to the east of proposed Lots 59 and 60, within the 'Stage 2' portion of the Clyde Western Area Remediation Project (WARP). This area is collectively referred to as 'Audit Area 2' (AA2). The parts of AA2 that are subject to the ongoing environmental management requirements contained in this LTEMP are referred to as 'the Management Area'. The extent of the Management Area is shown on *Figure 1, Appendix A*.

Background Information

Remediation works have been completed within the Management Area to remove contaminated soils that may have posed a potential risk to human health and ecological receptors during the ongoing commercial / industrial use of the land.

Upon completion of remediation and validation works, ERM considers the Management Area to be suitable for all slab-on grade commercial / industrial land uses with no basement structures or beneficial re-use of groundwater on site.

Application of this LTEMP

This LTEMP must be complied with before carrying out any works that involve intrusive excavation within the Management Area.

All such works must be undertaken in accordance with relevant requirements outlined within *Sections 2* and *3* of this document.

This LTEMP documents the nature and extent of residual contamination on-site and outlines the mechanisms required for managing identified residual contamination into the future.

Residual Contamination Following Remediation Works

Following completion of remediation works within the Management Area, the following residual contamination remains, which requires management as per this LTEMP:

- Hydrocarbon impacted soils - limited to aesthetic considerations (presence of hydrocarbon staining and / or odours) which may be identified during future intrusive works. The location and extent of residual hydrocarbon impacted soils within the Management Area are shown on *Figure 2*, *Appendix A*.
- Residual oily water / sludge remaining within decommissioned sections of with former underground drainage infrastructure. The location and extent of potentially impacted drainage infrastructure is shown on *Figure 3, Appendix A.*
- A suspected section of asbestos cement pipe/conduit identified at the extent of remediation excavation within Lot 63 which remains in-situ (refer to *Figure 2, Appendix A* for starting location and direction of the conduit).
- Following soil remediation works, asbestos in soil has not been identified above criteria for the proposed commercial/industrial land-use. However, given the long history of industrial land use and surrounding industries, the possibility of discovering isolated asbestos in soil as an unexpected find during further intrusive excavations within the Management Area cannot be precluded. A description of the residual contamination and the associated risks where future intrusive excavation works are undertaken is presented within *Sections 4* and *5*.

Required Environmental Management Controls

Based on the nature and extent of residual contamination identified within the Site the following management controls are required under various operational scenarios:

- Where works involve no intrusive excavation (i.e. normal site operations) – no management controls are required.
- Where intrusive excavation works are proposed – the environmental management controls detailed in *Sections 6* and *7* of this LTEMP must be implemented.

1. INTRODUCTION AND BACKGROUND

Environmental Resources Management Australia Pty Ltd (ERM) was engaged by Viva Energy Australia Pty Ltd (Viva Energy) to prepare this Long-Term Environmental Management Plan (LTEMP) for a portion of the Clyde Western Area, referred to as 'Audit Area 2' (AA2) to outline required environmental management procedures and controls for future Site Operators.

The portion of AA2 subject to this LTEMP formed part of 'Stage 2' of the Clyde Western Area Remediation Project (WARP), and is referred to as 'the Management Area' in this LTEMP.

The extent of the Management Area subject to this LTEMP is shown on Figure 1, Appendix A. This extent is defined by the boundaries of those parts of Lot 100 DP1168951 forming proposed Lots 59, 60, 63 and part of the proposed road alignment east of proposed Lots 59 and 60, as authorised for subdivision under State significant development consent 10459.

This LTEMP must be implemented following completion of remediation and validation works.

Prior to the commencement of any workings involving intrusive excavation, all site personnel / contractors are to be inducted into the requirements of this LTEMP.

1.1 Background and Site Identification

The Western Area is an approximately 40 hectare (ha) parcel of land currently owned by Viva Energy within the footprint of the wider Clyde Terminal Site and is bordered to the south by the Duck River, to the east by current Clyde Terminal Operations and to the north and west by other Industrial zoned properties.

A Site Survey showing the extent of the Management Area is provided as Appendix B.

The Management Area (as outlined on Figure 1, Appendix A) contained former tankfarms, office spaces, sub stations, a fire station, a warehouse, a bitumen loading gantry, roads and an area formerly leased to AutoNexus Pty Ltd for the storage of imported vehicles.

Specific site identification details are summarised in Table 1, below.

Table 1: Site Identification

Item	Description
Site Owner	Viva Energy Australia Pty Ltd
Site Occupier	Viva Energy Australia Pty Ltd
Site Address	Devon Street, Rosehill NSW
Current Legal Description	Part Lot 100 in DP 1168951
Local Government Authority	City of Parramatta Council
Current Zoning	IN3 – Heavy Industrial under the Parramatta Council Local Environmental Plan 2011
Current Land Uses	Vacant site
Future Proposed Land Use	■ Commercial/ Industrial (slab on grade commercial/ industrial) ■ Upon completion of remediation and validation works, the site is suitable for commercial / industrial land uses with no basement structures or beneficial re-use of groundwater.

Item	Description
Permissible Land Use(s) [1]	Any permissible use allowed under the sites zoning (with consent), which includes: Agricultural produce industries; Building identification signs; Business identification signs; Depots; Freight transport facilities; General industries; Hardware and building supplies; Hazardous storage establishments; Heavy industries; Horticulture; Kiosks; Medical centres; Offensive storage establishments; Pubs; Roads; Rural supplies; Sawmill or log processing works; Take away food and drink premises; Timber yards; Warehouse or distribution centres; Water storage facilities.
Area [2]	Proposed Lots under SSD 10459: Lot 59: 21,350 m^2 Lot 60: 33,180 m^2 Lot 63: 36,330 m^2 Proposed Road: 5,597.97 m^2 Management Area Total: 96,457.97 m^2 (9.65 ha)
Elevation	Between approximately 5 to 6 metres relative to Australian Height Datum (m AHD)

Source:

1. City of Parramatta Council Local Environmental Plan (2011).
2. Plan of Proposed Subdivision of Lot 100 DP1168951, (Landpartners Pty Ltd). Sheet 4 of 44.

1.2 Purpose of the LTEMP

The specific objectives of this LTEMP are to:

- summarise background environmental information, known and likely conditions within the Management Area, to inform the Land Custodian, workers and managers of the potential risks to human health and / or the environment arising from contact with residual contamination;
- outline methods and procedures to avoid and / or mitigate potential adverse effects on human health and / or the environment associated with the residual contaminated soil;
- provide a recommended methodology for the appropriate environmental management of excavation works that may encounter residual contaminated soil;
- provide environmental requirements for the sourcing and placement of backfill material;
- discuss safety measures / considerations for dealing with potentially contaminated soil; and
- outline restrictions to potential future land uses as detailed within *Table 1*.

All work related to excavation, movement, handling, importation and placement of fill and soil materials and / or groundwater within the site should be carried out in accordance with this LTEMP and in compliance with relevant legislation detailed within *Section 2*.

Groundwater is not to be extracted for use within the Management Area and future beneficial re-uses of groundwater have not been considered as part of this LTEMP. If beneficial re-use of groundwater is proposed, further assessment of the suitability of groundwater must be completed by a suitably qualified environmental specialist with the findings reviewed and endorsed by a New South Wales Environment Protection Authority (NSW EPA) accredited Site Auditor. Other limitations are outlined in *Section 1.3* of this document.

The implementation of this LTEMP is considered to be a passive management approach. The primary purpose of the plan is to document the nature and extent of residual contamination on-site and outline mechanisms for managing potential risks into the future.

1.3 Limitations to this LTEMP

This LTEMP is land-use specific and applies to all commercial / industrial uses involving buildings supported by ground-level slabs which do not include any underground basement structures, such as underground car parks.

If, in the future, any land uses differ from the commercial / industrial use described above (including by including a basement structure) reflected in ERM (2020) Human Health and Ecological Risk Assessment (HHERA), this LTEMP will need to be reviewed and updated in accordance with the procedures contained in *Section 2.4*.

1.4 Related Documentation

The following documentation relating to the environmental condition of the Management Area prior to and following the completion of remediation / validation works within the Management Area should be made available to the Site Operator upon request:

- ERM 2021d. Clyde Western Area Remediation Project – Stage 2 Drainage Decommissioning Validation Report. Dated 17 June 2021
- ERM 2022. Clyde Western Area Remediation Project – Stage 2 – Validation Report (Proposed Lots 59, 60 and 63). March 2022.

2. STATUTORY REQUIREMENTS

2.1 Legal Enforceability and Public Notification of this EMP

Condition B10 of State significant development consent 9302 granted under the *Environmental Planning and Assessment Act 1979* (the 'EP&A Act') provides as follows:

> ***B10. Upon completion of the Site Audit Statement and Site Audit Report, the Applicant must:***
>
> ***(a) Implement the approved LTEMP***
>
> ***(b) Provide evidence to the Planning Secretary that the LTEMP is listed on the relevant planning certificate for the land, issued under section 10.7 of the EP&A Act***

In addition, condition A9 of State significant development consent 10459 provides as follows:

> ***A9. The Applicant must implement the Long Term Environmental Management Plan (LTEMP) approved under condition B8 of SSD 9302 and provide evidence to the Planning Secretary that the LTEMP is listed on the relevant planning certificate(s) issued under section 10.7 of the EP&A Act for each lot created by Stages 1A and B, 2 and 3 as shown in the 'Subdivision Drawings prepared by Land Partners' in Appendix 1***

Accordingly:

- This LTEMP was prepared in accordance with development consent SSD 9302. It is also enforceable under development consent SSD 10459, granted under the EP&A Act.
- As per conditions B10(b) and A9 and relevant NSW EPA requirements, Parramatta Council will be provided with a copy of this LTEMP and requested to add a notation on the planning certificates issued for the Management Area under section 10.7 of the *EP&A Act* confirming that they are subject to this LTEMP.

2.2 Licence and Approval Requirements

The Site Operator is responsible for obtaining all necessary / required environmental, planning safety and occupational hygiene consents, approvals and licences prior to the commencement of any intrusive excavation works in the Management Area.

- All required consents, approvals and licences required for the relevant works must be obtained prior to works commencing.
- All site personnel, contractors, sub-contractors etc. must comply with the terms and conditions of all relevant approvals and licences.
- Upon commencement of the intrusive works, all processes and procedures outlined in this LTEMP must be implemented immediately.

2.3 Regulatory Framework

All operational personnel carrying out any intrusive works in the Management Area must comply with the applicable environmental regulatory requirements in NSW.

2.4 Document Revision

This LTEMP may be reviewed and updated as necessary from time to time. Therefore, it is the responsibility of the reader of this document to ensure they have the current version of the LTEMP.

Any updates to this LTEMP must be reviewed and endorsed by a NSW EPA Accredited Site Auditor.

The master document, with the up-to-date version of the LTEMP will be available from the Land Custodian.

The current version of this LTEMP is detailed within the table below. Any subsequent revisions of this LTEMP must include a clear date / revision identifier to enable the most recent to be readily identified.

Table 2: LTEMP Revision

Document Name	Document Revision Number	Date
Clyde Western Area Remediation Project: Stage 2 – Audit Area 2 – Long Term Environmental Management Plan	Revision 1	25 March 2022

3. APPLICATION AND RESPONSIBILITIES

3.1 Implementation of this LTEMP

No works involving any intrusive excavations are to be undertaken until all relevant site personnel / contractors have been inducted into the requirements of this LTEMP.

The LTEMP should be acknowledged in relevant management plans prepared for any intrusive investigations. For smaller intrusive works this is likely to take the form of a safe work method statement while a Construction Environmental Management Plan (CEMP) is likely to be required for more significant development and construction activities.

3.2 Area to which this LTEMP applies

This LTEMP applies to the entire Management Area. However, specific management is required for areas within a 20 m buffer of areas containing residual hydrocarbon impacted soil and if undertaking earthworks within the vicinity of suspected asbestos containing materials presented on *Figure 2, Appendix A*, which are described within *Section 4* of this LTEMP and in the Asbestos register, provided as *Appendix C.*

3.3 Application of LTEMP

Under regular site conditions (i.e. pre or post intrusive excavation works), none of the controls in this LTEMP are activated.

This LTEMP must be complied with immediately upon the initiation of any works that involve intrusive excavation from the ground surface. This includes the following activities:

- excavation of fill and natural soil materials to facilitate removal, realignment or construction of any subsurface infrastructure;
- maintenance and / or upgrade of site utility services;
- temporary stockpiling of excavated material resulting from on-site intrusive works; and
- off-site disposal of any waste contaminated soil / groundwater (if required).

Additional controls including engagement of an appropriate Qualified Environmental Specialist, environmental monitoring and development of a task specific works plan (detailed within Section 6.1) are required for certain intrusive excavation works. This includes and excavation undertaken within 20 m of residual contamination as shown in Figures 2 and 3, Appendix A and/or when conducting intrusive works within the vicinity of suspected asbestos containing materials (See *Appendix C*).

Due to the historical land uses within the Management Area (i.e. former Refinery), all intrusive excavation works or re-use of existing stockpiled materials must be undertaken in consideration of potential unexpected finds of contamination. Where unexpected finds are encountered during works, they are to be managed in accordance with the requirements outlined within *Section 6.1* of this LTEMP.

Where groundwater is proposed for future beneficial re-uses, an assessment of suitability must be undertaken by a suitably qualified environmental professional. The assessment and any recommendations for re-use etc. must be reviewed and endorsed by a NSW EPA accredited Site Auditor.

3.4 Roles and Responsibilities

The following table summarises the requirements to be implemented within the Management Area.

Table 3: LTEMP Roles and Responsibilities

Position / Company	Responsibility
The Land Custodian and Site Auditor	■ Approve the LTEMP
The Land Custodian	■ Ensure all workers and contractors conducting intrusive works are aware of the requirements of this LTEMP. ■ Maintain records of all works undertaken within the site as required within this LTEMP.
Site Operator (including Contractors and Subcontractors)	■ Implement the LTEMP. ■ Provide adequate training in this LTEMP for all employees and contractors undertaking intrusive excavations during site induction, and as required on an ongoing basis during the works. ■ Require any contractors conducting intrusive works to comply with this LTEMP. ■ Conduct monitoring as required in the LTEMP. ■ Complete all necessary registers, databases and records required in the LTEMP. ■ During excavation works, assess any potentially contaminating unexpected finds in consideration of the site's use. ■ During intrusive excavation works, as required, undertake site inspections and monitoring of the site operations to ensure they are carried out in an environmentally responsible manner and meet the requirements of this LTEMP. ■ Notify the Land Custodian / nominated representative of any environmental issues arising during intrusive excavations. ■ Assess the requirement and (where necessary) engage an environmental specialist / scientist to undertake additional monitoring of excavations / unexpected finds.
Qualified Environmental Specialist	■ Where required, a suitably qualified environmental specialist is to be engaged to manage, monitor and evaluate environmental controls, demonstrate compliance with this LTEMP and assess specific requirements associated with excavation works within areas of known residual contamination and / or unexpected finds.

4. RESIDUAL CONTAMINATION SUMMARY

4.1 Site Geology/ Hydrogeology

A detailed assessment of geology and hydrogeology relevant to the Management Area is provided within the Validation Report (ERM, 2022), A summary of the geology identified within the management area during historical investigations is detailed below:

- **Fill material** - This material is described as poorly compacted mixture of silt, clay and gravel, with localised areas of slag, furnace ash and concrete. The average thickness of fill material within the management area is 0.6 m and thickens to between 1.2- 1.5 m further south in proximity to the Duck River. Localised areas of backfill sand have been identified surrounding subsurface features (pipework) to depths of up to of 2 m Below Ground Level (BGL).
- **Alluvial sediments and residual clay** - high plasticity orange red and grey clay (alluvial sediments) across the management area underlying fill material (up to 20 m thick, including clay with sandy lenses) and residual Ashfield Shale were reported in previous investigations.

The majority of residual hydrocarbon contamination requiring management has been encountered within coarser grained fill materials and/or sandy lenses within residual clay and may appear as visibly stained dark brown, grey or black.

Groundwater is present within fill and anthropogenic structures, such as backfill around drainage features at depths between 0.5 - 2m BGL and flows towards the Duck River in the south to south-east.

4.2 Residual Contamination Requiring Management

Remediation works completed within the Management Area were undertaken to reduce contaminant concentrations in soils to enable future commercial / industrial land uses and mitigate potential risks to human health / ecological receptors. The location of known residual contamination (including coordinates for relevant historical sampling locations or pit junctions for historical drainage infrastructure) is illustrated on *Figures 2 and 3, Appendix A* and *3* and described in *Table 4* below.

Table 4: Residual Contamination

Known Residual Contamination	Descriptions
Hydrocarbon impacted soil	■ Residual Light Non-Aqueous Phase Liquids (LNAPL) or soil contamination exceeding 'TRH Management Limits' are present in a limited number of locations (see *Figure 2, Appendix A*). ■ The Human Health and Ecological Risk Assessment (HHERA) indicates that the presence of residual hydrocarbon impacted soils does not pose a risk to on-site or off-site receptors under normal site operations (i.e., no ground disturbance) and are limited to aesthetic considerations (presence of hydrocarbon staining and/or odours) which may be identified during future intrusive works.
Asbestos (suspected)	■ A buried conduit suspected of containing asbestos was noted at the edge of former remediation works within adjoining Lot 63, which appeared to extend beyond the remediation extent to an unknown final extent (see *Figure 2, Appendix A*). ■ Although there are no known asbestos impacts exceeding land use criteria for soils remaining in the Management Area following remedial works, given the long history of industrial land use and surrounding industries, the possibility of discovering isolated asbestos in the subsurface and within existing stockpiled material present on site cannot be discounted. ■ If asbestos is identified during intrusive works, any finds should be investigated as per the unexpected finds methodology detailed within Section 6.1 and appropriate health & safety and waste management measures implemented.

Known Residual Contamination	Descriptions
Oily water / sludge associated with former underground drainage infrastructure	■ Due to the former operational history of the Site, there are redundant underground pipes / drains throughout the Site which contained hydrocarbon residues following cleaning and decommissioning works and require consideration during future potential intrusive excavation works. These sections of pipework and adjoining pits remaining in-situ which which were unable to be fully decontaminated due to access/ structural constraints are shown on *Figure 3, Appendix A*. ■ Underground drainage lines were subject to cleaning (to the extent practical), decontamination and were decommissioned in-situ via permanent disconnection from operational portions of Viva Energy's Clyde Terminal drainage network and backfilling pits and junctions with stabilised sand. ■ While drainage infrastructure within the Site is not considered to pose a risk to future site operations, residual hydrocarbon impacted sludge and sediment within pipes and pits shown on *Figure 3, Appendix A* should be managed to avoid inadvertent release of LNAPL during future construction works and manage potential safety risks for workers (via dermal contact / inhalation) during future excavation works undertaken to remove this infrastructure. ■ Residual conditions are discussed in detail within the Stage 2 Drainage Decommissioning Validation Report[1]. The location of drainage infrastructure requiring management is provided on *Figure 3, Appendix A*.

4.3 Location and Extent of Residual Contamination

As outlined in *Section 3.2*, this LTEMP applies to the whole Management Area but more specifically to areas of the Management Area where residual contaminated materials are present beneath the site surface, as indicated in *Figure 2, Appendix A*. Following completion of remediation works, the following residual sources of contamination are known to exist within the Management Area:

- Residual soil impacts (petroleum hydrocarbons) – limited to presence of observed Light Non-Aqueous Phase Liquids (LNAPL) or hydrocarbon impacts exceeding 'TRH Management Limits':
  - **Lot 59 –** SB18/12 (0.5-1.5 m), HA19/06 (1.5 m), BH12/34 (0.6 m), SB18/16 (0.3 m), TP18/15 (0.9 m), BH12/35 (0.1 m), HA19/04 (0.4 m), HA19/05 (0.3 m) and TP19/37 (0.2 m).
  - **Lot 60 –** TP18/31 (0.7-2.4 m), TP20/21 (0.8 m), TP20/22 (1.5 m), TP20/23 (1.5 m), TP18/29 (2.2-3 m), TP21/11 (0.5 m), TP20/25 (0.7 m), TP19/35 (0.1 m) and SB1B (0.5 m).
  - **Lot 63 –** TP20/24 (1.0 m), TP19/16 (0.8 m), TP19/20 (1.0 m), MW12/03 (1.0 m), TP21/23 (0.2-3.1 m), TP21/74 (1.0-2.5 m), 3D_C2_S (0.5 m), 3D_C4_S (0.5 m), 3D_C5_E (0.5 m), 3D_C5_S (0.5 m) and 3E-E3-S (1.0 m).
  - **Proposed Roadway (AA2) –** HA19/06 (1.5 m), BH12/34 (0.6 m), TP18/31 (0.7-2.4 m), TP20/21 (0.8 m), TP20/22 (1.5 m), TP20/23 (1.5 m), TP20/25 (0.7 m), TP20/24 (1.0 m).
- Buried fibre cement conduit suspected of containing asbestos within Lot 63 (as outlined in *Figure 2, Appendix A* and detailed within the asbestos register *Appendix C*).
- Residual hydrocarbon sludge remaining within the following decommissioned drainage pipes and adjoining pit junctions (as per *Figure 3, Appendix A*):
  - **Lot 59 –** pipe 14D920-4, pit 14-P21A and pipe 14D920-3.

[1] ERM (2021). *Clyde Western Area Remediation Project – Stage 2 Drainage Decommissioning Validation Report*. Final, Revision 3. 17th June 2021.

- **Lot 60 –** pit 9-P1, pipe 9D610-1, pit 9-P2, pipe 10D1070-2, pit 10-P3, pipe 10D1070-1, pit 10-P1, pipe 14D920-4, pipe 14D920-3, pipe 10D380-1, pipe 10-P4, pipe 10D300-1A and pipe 10D920-1.
- **Lot 63 –** pit P26 and connecting pipe to pit 9-P27.
- **Proposed Roadway (AA2) –** pipe 9D610-2, pit 9-P3, pit 10-P12 and pipe 10D920-2.

Due to the historical land uses within the extent of the Management Area, all future ground disturbance works, including movement and re-working of existing stockpiled material on site for future site redevelopment activity must be undertaken in consideration of potential unexpected finds of contamination (see *Section 6.1*).

It should be noted the presence of stained or odorous material may be identified beneath the site during future intrusive works outside of those locations outlined in this LTEMP, however these conditions may not be representative of unacceptable exposure scenarios. Should this scenario arise, advice should be sought from a Qualified Environmental Specialist as previously defined in *Table 3*.

5. POTENTIAL RISKS TO HUMAN HEALTH AND THE ENVIRONMENT

5.1 Risks Where No Intrusive Excavation Works Are Undertaken

There are no identified risks to human health or the environment associated with residual contamination if not disturbed.

5.2 Potential Risks Where Intrusive Excavation Works Are Undertaken

The following table outlines the potential risk to human health and the environment if excavation works are undertaken and the material is disturbed without proper management controls. These risks may result from excavation works, including the installation of services, stockpiling of excavated materials and works that encounter residual contamination identified within *Figures 2* or *3,* or additional unexpected finds.

Table 5: Potential Risks Where Intrusive Excavation Works Are Undertaken

Contaminant	Source	Human Health Risks	Environmental Risks	Exposure Pathways
Total Recoverable Hydrocarbons (C10-C16, C16-C34) and LNAPL	Residual contamination within soils and oily water / sludge	Limited to generation of nuisance odours during subsurface intrusive works resulting from degraded hydrocarbons within open excavations.	Risks associated with contamination transported to potentially sensitive receptors (see exposure pathways)	Human Exposure Pathways: Limited to aesthetic considerations including potential for generation of odours during subsurface intrusive works **Environmental Exposure pathways:** Surface water / sediment run off to adjacent stormwater drains. Uncontrolled release of dust/ odours generated during excavation works.
Asbestos	Buried fibre cement conduit suspected to contain asbestos	Asbestos fibres can cause asbestosis, lung cancer and mesothelioma if inhaled	Asbestos is inert within the environment and therefore poses no known environmental risk	Human Exposure Pathways: Inhalation of liberated asbestos fibres could occur via breakage or disturbance of asbestos containing materials during excavation works. **Environmental Exposure pathways: Nil**

6. ENVIRONMENTAL MANAGEMENT

As outlined above the primary targets / goals of this LTEMP are to facilitate the management of the site so that:

- the assessed risks to human health and the environment arising from contact with residual contamination is understood by all site workers and managers;
- prior to the commencement of any intrusive excavation works, appropriate systems and controls are put in place to mitigate the potential risks posed by residual contamination; and
- all ongoing operational, monitoring and maintenance requirements are adhered to by the Site Operator.

6.1 Environmental Management Requirements

Prior to the commencement of any works, it is the responsibility of the Site Operator to identify whether works within the Management Area will require intrusive excavation. Where any intrusive excavation works are undertaken within the Site the following controls must be implemented:

Table 6: Site Environmental Management Requirements for Intrusive Excavation Works

Item	Requirements
All Intrusive Excavation Works Undertaken within the Management Area	
Training and Competence	The Site Operator is to establish that all site workers are suitably qualified to undertake required works and inducted into all relevant requirements stipulated within this LTEMP. The induction will include outlining all requirements within this LTEMP and other relevant documentation, the location of known residual contamination (as per *Figures 2* and *3*) and the identification of unexpected finds of contamination (via visual and olfactory means).
Health and Safety Plan	The Site Operator or contactor carrying out the works is to prepare a task specific health and safety plan that includes suitable protection measures for working with residual hydrocarbon and asbestos contamination including but not limited to: ■ training requirements; ■ air / dust / odour monitoring procedures; ■ respiratory protection; ■ minimum Personnel Protective Equipment (PPE) requirements; ■ site signage requirements; ■ site security; ■ exposure mitigation measures (dust suppression etc.); ■ vehicle / machinery / plant safety; and ■ general site safety.
Excavation works and temporary stockpiling	To reduce and / or prevent the exposure of human receptors at the site to potential contamination within on-site soils, the following will be undertaken during any intrusive excavation works: ■ To reduce the area of disturbed material, the number of areas subject to excavation works at any one time can be minimised. ■ During excavation works, measures to reduce dust emissions such as spraying with water, addition of soil binding agents etc. should be undertaken. ■ During excavation and materials handling, sufficient odour control such as covers, tarps, odour control sprays etc. are to be implemented during works to minimise any disturbance to neighbouring premises. ■ Where material requires off-site disposal, excavated material should be placed directly into a tipper truck and, where possible, material should not be placed into temporary stockpiles awaiting off-site disposal.

Item	Requirements
	■ Where material requires stockpiling prior to off-site disposal, appropriate dust and sediment controls must be in place. Smaller volumes can be contained within an enclosed or covered skip. ■ All materials movement within the site must be recorded within an appropriate Materials Tracking Register.
Waste Materials handling and disposal	■ **Soil** - Excavated materials are to be either re-instated within the same location and depth (in accordance with relevant planning / DA conditions) or disposed off-site to a suitably licenced landfill / receiving facility in accordance with relevant NSW EPA waste disposal guidance at the time of works. ■ **Groundwater** - Any groundwater extracted from excavation works is to be managed or disposed in accordance with relevant NSW EPA made or endorsed waste disposal guidance at the time of works.
Sediment and Stormwater Run-off Controls	During works, sediment and surface water run-off controls will be implemented to minimise generation and transport of potentially contaminated sediments and surface water within and off the Site. Controls will be developed based on a specific management plan (which may be a safe work method statement or Construction Environmental Management Plan (CEMP) depending on the nature of the works) specific to the location / nature of works to be undertaken, controls may include (but not be limited to): ■ sediment control; ■ clean water diversions; and ■ stormwater drain protection. ■ Environmental Management Controls as per *Managing Urban Stormwater – Soils and Construction (Landcom 2004),* or its most recent update.
Imported Fill Material	If imported fill is required at the site, only construction materials or certified Excavated Natural Material (ENM) or 'Virgin Excavated Natural Material' (VENM) materials are to be imported for use. If ENM / VENM is imported to the site accompanied by an ENM / VENM certificate, sampling will not be required. The ENM / VENM certificate should at a minimum: ■ state that the material has been classified as ENM / VENM (in accordance with relevant NSW EPA guidance) and is suitable for re-use within the site; and ■ include a summary of the site history of the source site, the findings of any environmental site investigations undertaken at that site and the results of any soil analysis undertaken. If the ENM / VENM certificate does not meet these requirements, it must be approved in writing from the NSW EPA (such as a Resource Recovery Exemption). All ENM / VENM / imported material classification reports are to be provided to the Land Custodian or their nominated representative and included within compliance reporting upon completion of works (*Section 6.2*).
Unexpected Finds Management	During excavation or stockpile re-working there is the potential of encountering additional in-ground finds. Unexpected finds may include (but not be limited to): ■ asbestos containing materials; ■ additional LNAPL / hydrocarbon impact; ■ buried building rubble; ■ unusual soil staining and discoloration; and ■ odours emanating from the ground during earthworks. Where unexpected finds are uncovered: ■ works are to cease immediately in the vicinity of the excavation; ■ the Land Custodian or their nominated representative is to be informed immediately; ■ the area surrounding the unexpected find is to be barricaded to ensure the area is not further disturbed; and ■ a 'qualified environmental specialist' is to visit the site, assess the discovery and undertake assessment / provide recommendations. The environmental consultant is to advise on the required course of action for the find. This may include:

Item	Requirements
	■ sample collection and analysis; ■ a detailed assessment (if required); and ■ preparation of an assessment report and remediation plan (if required). All reports are to be prepared in accordance with relevant NSW EPA guidance and provided to the Land Custodian for record keeping requirements. Should finds of asbestos containing materials be reported, the asbestos Register (Appendix C) should be updated accordingly.
Excavation Re-instatement	Upon completion of excavation works, the area must be re-instated with excavated material in the order in which it was excavated or with other approved imported fill materials.
Intrusive Excavation Works Within 20 m of Identified Residual Contamination (*Figure 2, Appendix A*)	
Engagement of Environmental Specialist	Where excavation works are undertaken within 20 m of identified residual contamination (*Figure 2, Appendix A*) prior to the commencement of any intrusive works, the Site Operator or nominated representative is to engage a suitably qualified environmental specialist to undertake a review of health and safety management procedures, manage, monitor and evaluate environmental controls and demonstrate compliance with this LTEMP. Where unexpected finds of contamination are identified within other areas of the Management Area during excavation works, a suitably qualified environmental specialist should be engaged to manage, monitor and evaluate environmental controls, demonstrate compliance with this LTEMP and assess specific requirements for unexpected finds detailed above.
Environmental Monitoring	Environmental monitoring is to be undertaken for odour management purposes during all excavation and construction works within 20 m of identified residual hydrocarbon contamination to evaluate the effectiveness of control measures (*Figure 2, Appendix A*). ■ The specific monitoring methodology / regime should be developed by the environmental specialist and based on the specific tasks / construction methodology being undertaken. ■ Action levels (odour, dust) are to be developed to incorporate thresholds where intrusive works are to cease and control measures are to be re-assessed / implemented. ■ These action levels are to be based on relevant regulatory guidance at the time of works and are to be incorporated into Environmental and Health and Safety Planning documentation when undertaking works.
Task Specific Works Plan	Where intrusive excavation works are undertaken within 20 m of identified residual contamination illustrated on *Figure 2, Appendix A*, prior to undertaking works, the contractor is to ensure that a Task Specific Works Plan is prepared by a suitably qualified environmental professional to ensure all environmental risks are appropriately managed. ■ The Works Plan should be prepared for the specific works to be undertaken. ■ The Works Plan should be prepared in accordance with good industry practice standards at the time of works and must comply with all relevant NSW EPA regulatory guideline criteria relating to contaminated sites. The plans should include (but not be limited to) the following details: ■ Risks to human health and the environment – potential risks associated with the work should be highlighted. ■ General site management – Details of required inductions of employees or contractors. ■ Procedures and methodologies to be used for undertaking the works. ■ Specific details of ways to limit disturbance of impacted soils / groundwater / redundant site drainage infrastructure etc. (e.g. soil boring as opposed to open trenching). ■ Mitigation measures. ■ Air / dust monitoring action levels, around areas of residual hydrocarbon impacts; ■ Personal protective equipment.

Item	Requirements
	■ Other protection measures (cabin ventilation, etc.). ■ Roles and responsibilities for implementing the mitigation measures. ■ Soil and groundwater management controls - As a minimum the following requirements should be detailed: – Any groundwater extracted during intrusive works is to be disposed in accordance with all legal requirements. – Excavated soils should be placed within a bunded area to minimise potential run off. – Soil / concrete material should be kept moist to limit dust. – Excavated materials, where possible, be replaced in the same location. Where this is not practicable, material must be disposed of in accordance with all legal requirements. ■ Reinstatement of the site surface. ■ Waste management including waste disposal. ■ Record Keeping, audit and review.
Biodiversity Management Measures (Green and Golden Bell Frog)	
Green and Golden Bell Frog (GGBF)	Pursuant to a Biodiversity Development Assessment Report dated 3 Dec 2018 prepared by Biosis (see appendix I to the EIS for SSD 10459) there is no residual GGBF habitat within the Management Area. In addition, the further earthworks authorised under development consent SSD 10459 are to be completed in order to create subdivided lots 59, 60 and 63 within the Management Area. When completed, those earthworks will remove ponding of water that might provide potential for habitat for GGBF.

6.2 Reporting and LTEMP Review

The table below outlines the reporting, and review requirements related to this LTEMP.

Table 7: LTEMP Reporting

Report	Requirement
Material Classification Reports	■ All reports relating to unexpected finds, off-site disposal of soil materials from excavations and existing stockpiles and importation of any fill materials used for construction / backfilling purposes are to be provided to the Land Custodian upon completion of works. ■ Reports are to include details of laboratory analysis (as required) and subsequent classification information and materials tracking information detailing the total volume and final placement / disposal location.
Non-Conformance Reporting	■ Any non-conformances with this LTEMP will be recorded in a Non-Conformance and Corrective Action Report. Details of the non-conformance, including any immediate corrective actions undertaken, are to be recorded by the Site Operator. ■ It is the responsibility of the Site Operator to immediately initiate corrective actions, if required. Once completed, the Site Operator will provide details of the actions undertaken on the Non-Conformance Report and sign, date and file the report.

Report	Requirement
LTEMP Review	This LTEMP should be reviewed by the Land Custodian or their nominated representative upon completion of all intrusive excavation activities and / or after incidents or reported findings, to ensure that: ■ information and environmental management strategies remain current; ■ any opportunities for improvement are identified; and ■ changes to legislation, environmental standards licence and approval conditions are identified and complied with. Information obtained during intrusive works including (but not limited to) the following sources may be utilised to review the LTEMP: ■ Details of the works undertaken including relevant photographs. ■ Details of any unexpected finds (nature, location, extent and results of testing / analysis undertaken, photographs). ■ Any pertinent additional safety controls which were required to be implemented during intrusive works. The assessment should take into account all changes such as (but not limited to): ■ changes to site conditions; ■ work requirements; ■ legislation; and ■ environmental condition. If during the review process described above, areas for improvement are identified, or it be determined that the LTEMP requires revision, any changes to the document will require agreement by at least the following stakeholders: ■ Land Custodian (or nominated representative); ■ a qualified environmental specialist; and ■ a NSW EPA accredited Site Auditor.
Record Keeping	All records related to implementation of the LTEMP should be maintained by the Land Custodian or their nominated representative in a consolidated and easily accessible location.

7. CONTINGENCY ACTIONS

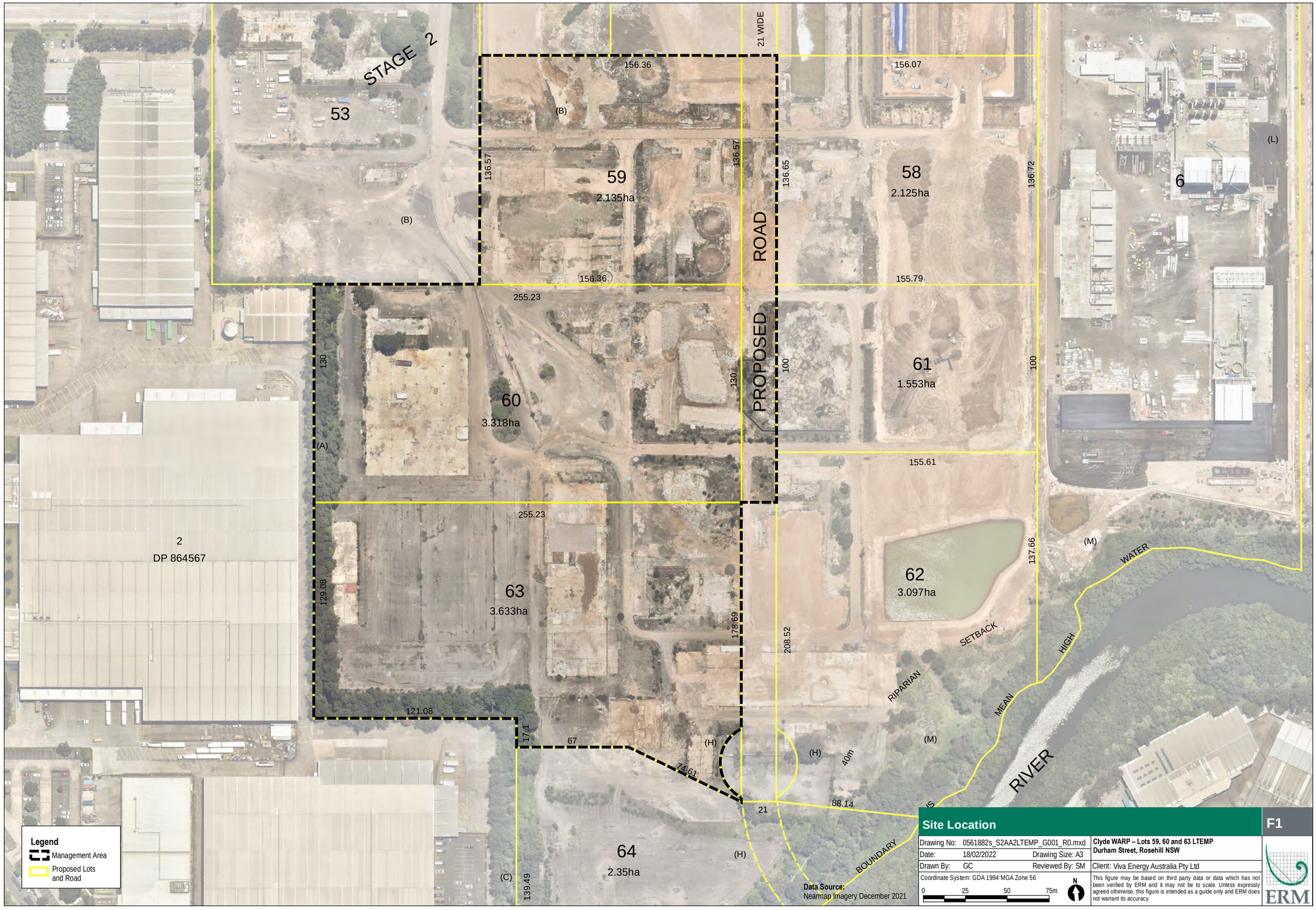
The purpose of the contingency plan is to identify unexpected situations that could occur, and specify procedures that can be implemented to manage such situations and prevent or minimise adverse impacts to the environment and human health.

Details of the procedures are defined in the table below:

Table 8: Contingency Actions

Item	Contingency Action
Asbestos in soils	■ While the risk of significant and / or widespread asbestos contamination within the Management Area is unlikely based on existing environmental assessments, where asbestos contaminated soil is identified during development works, any finds should be investigated as per the unexpected finds methodology detailed within *Section 6.1*. ■ Identified asbestos remaining on site should be included on an updated version of the Asbestos Register (provided as *Appendix C*).
Additional / unexpected LNAPL / Hydrocarbon Contamination resulting in Potential Vapour Risk	■ While the likelihood of vapour risk from additional / unexpected finds of LNAPL / hydrocarbon impacted soil and / or groundwater is unlikely, during future development works, where potential indicators of vapour risk are identified, the Land Custodian should engage an environmental specialist to undertake further assessment. ■ The location of LNAPL or residual hydrocarbons in soil within the Management Area, which is known and has been assessed as not presenting a risk to future workers, is identified on *Figures 2* and *3, Appendix A*.

APPENDIX A FIGURES

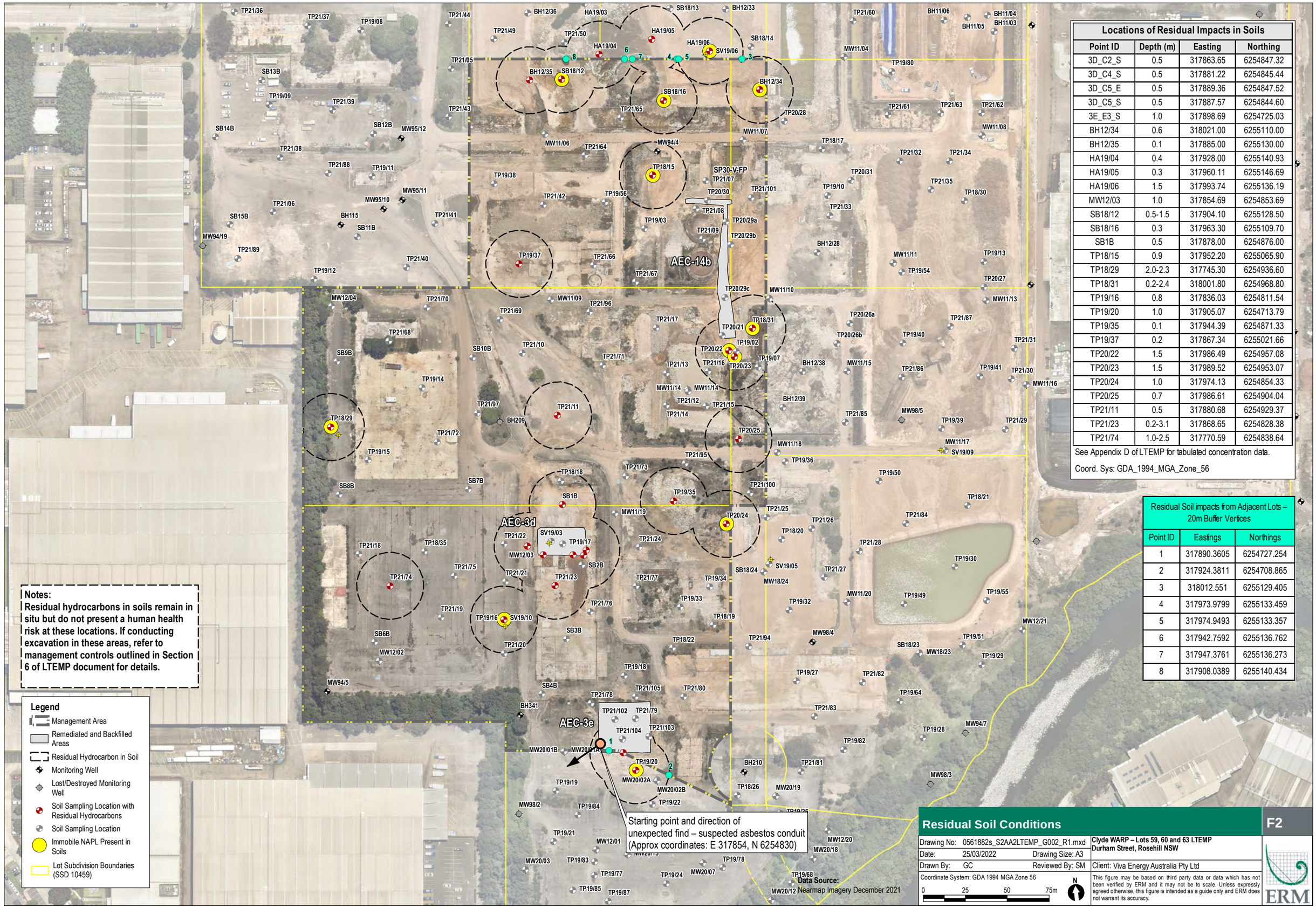


Site Location

F1

Drawing No:	0561882s_S2AA2LTEMP_G001_R0.mxd		**Clyde WARP – Lots 59, 60 and 63 LTEMP Durham Street, Rosehill NSW**
Date:	18/02/2022	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd
Coordinate System: GDA 1994 MGA Zone 56			This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

ERM



Locations of Residual Impacts in Soils			
Point ID	Depth (m)	Easting	Northing
3D_C2_S	0.5	317863.65	6254847.32
3D_C4_S	0.5	317881.22	6254845.44
3D_C5_E	0.5	317889.36	6254847.52
3D_C5_S	0.5	317887.57	6254844.60
3E_E3_S	1.0	317898.69	6254725.03
BH12/34	0.6	318021.00	6255110.00
BH12/35	0.1	317885.00	6255130.00
HA19/04	0.4	317928.00	6255140.93
HA19/05	0.3	317960.11	6255146.69
HA19/06	1.5	317993.74	6255136.19
MW12/03	1.0	317854.69	6254853.69
SB18/12	0.5-1.5	317904.10	6255128.50
SB18/16	0.3	317963.30	6255109.70
SB1B	0.5	317878.00	6254876.00
TP18/15	0.9	317952.20	6255065.90
TP18/29	2.0-2.3	317745.30	6254936.60
TP18/31	0.2-2.4	318001.80	6254968.80
TP19/16	0.8	317836.03	6254811.54
TP19/20	1.0	317905.07	6254713.79
TP19/35	0.1	317944.39	6254871.33
TP19/37	0.2	317867.34	6255021.66
TP20/22	1.5	317986.49	6254957.08
TP20/23	1.5	317989.52	6254953.07
TP20/24	1.0	317974.13	6254854.33
TP20/25	0.7	317986.61	6254904.04
TP21/11	0.5	317880.68	6254929.37
TP21/23	0.2-3.1	317868.65	6254828.38
TP21/74	1.0-2.5	317770.59	6254838.64

See Appendix D of LTEMP for tabulated concentration data.

Coord. Sys: GDA_1994_MGA_Zone_56

Residual Soil impacts from Adjacent Lots – 20m Buffer Vertices		
Point ID	Eastings	Northings
1	317890.3605	6254727.254
2	317924.3811	6254708.865
3	318012.551	6255129.405
4	317973.9799	6255133.459
5	317974.9493	6255133.357
6	317942.7592	6255136.762
7	317947.3761	6255136.273
8	317908.0389	6255140.434

Notes:
Residual hydrocarbons in soils remain in situ but do not present a human health risk at these locations. If conducting excavation in these areas, refer to management controls outlined in Section 6 of LTEMP document for details.

Legend
- Management Area
- Remediated and Backfilled Areas
- Residual Hydrocarbon in Soil
- Monitoring Well
- Lost/Destroyed Monitoring Well
- Soil Sampling Location with Residual Hydrocarbons
- Soil Sampling Location
- Immobile NAPL Present in Soils
- Lot Subdivision Boundaries (SSD 10459)

Residual Soil Conditions

F2

Drawing No:	0561882s_S2AA2LTEMP_G002_R1.mxd		Clyde WARP – Lots 59, 60 and 63 LTEMP Durham Street, Rosehill NSW
Date:	25/03/2022	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

0 25 50 75m

N

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

ERM

Pit ID	Eastings	Northings
10-P1	317926.61	6254984.92
10-P12	317994.22	6254981.93
10-P3	317925.36	6254968.58
10-P4	317945.50	6254965.54
14-P11	317933.82	6255050.73
9-P1	317918.59	6254898.02
9-P2	317978.39	6254891.69
9-P26	317942.31	6254830.34
9-P27	317965.70	6254828.00
9-P3	317998.76	6254889.58

PCS: GDA 1994 MGA Zone 56

Notes:
Residual hydrocarbon sludge in drainage lines – refer to management controls as per Section 6 of LTEMP during any excavation/demolition work in these areas.

Legend
- Management Area
- Sumps / Drainage Pits
- Drainage Pipelines
- Residual Sludge within Pipe Network
- Pit Location
- Lot Subdivision Boundaries (SSD 10459)

Data Source: Nearmap Imagery December 2021

Residual Drainage Infrastructure

F3

Drawing No:	0561882s_S2AA2LTEMP_G003_R0.mxd		Clyde WARP – Lots 59, 60 and 63 LTEMP Durham Street, Rosehill NSW
Date:	18/02/2022	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

0 25 50 75m

N

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

ERM

APPENDIX B SITE SURVEY

M.G.A

STAGE 3

DEVON STREET

COLQUHOUN STREET

UNWIN STREET

STAGE 2

51 | 52 | 54 | 55 | 53 | 59 2.135ha | 56 | 58 2.125ha | 6 STAGE 1 SUBDIVISION | 7

60 3.318ha | 61 1.553ha | 63 3.633ha | 62 3.097ha | 64 2.35ha

21 WIDE PROPOSED ROAD

SUBDIVISION

156.36 | 156.07 | 255.23 | 155.79 | 155.61 | 136.57 | 136.55 | 136.72 | 130 | 100 | 178.69 | 208.52 | 137.66 | 129.08 | 121.08 | 17.1 | 67 | 74.61 | 88.14 | 40m | 130.085 | 139.49

(A) (B) (C) (G) (H) (L) (M)

WATER

HIGH MEAN SETBACK RIPARIAN

RIVER

DUCK

BOUNDARY

CARNARVAN STREET

2
DP 864567

NSW GOVERNMENT | Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No: SSD-10459

Granted on: 31 January 2021

Signed: JF Sheet No: 4 of 44

NOTES:
1. ALL DIMENSIONS SHOWN HEREON ARE APPROXIMATE AND SUBJECT TO FINAL SURVEY
2. NO CADASTRAL SURVEY HAS BEEN UNDERTAKEN

(A) EASEMENT TO DRAIN WATER 10.2 & 13.4 WIDE (AC 424785)
(B) EASEMENT 6.095 WIDE (B309159) – SYDNEY WATER PIPELINE
(C) EASEMENT TO DRAIN WATER 13.4 WIDE (AC424784)
(G) PROPOSED EASEMENT FOR SERVICES 5 WIDE
(H) RIGHT OF ACCESS 21 WIDE AND VARIABLE WIDTH
(L) EASEMENT FOR OVERLAND FLOW 5 WIDE
(M) EASEMENT FOR PEDESTRIAN ACCESS 40 WIDE & VARIABLE WIDTH

20 0 40 100 140m
SCALE 1:1500

CLIENT
VE PROPERTY PTY LTD

PROJECT
PLAN OF PROPOSED SUBDIVISION OF LOT 57 OF STAGE 2 OF SUBDIVISON OF LOT 100 IN DP1168951 STAGE 3

NOTES
The title boundaries shown hereon were not marked at the time of survey and have been determined by plan dimensions only and not by field survey.

Services shown hereon have been located where possible by field survey. If not able to be so located, services have been plotted from the records of relevant authorities where available and have been noted accordingly on the plan. Where such records do not exist or are inadequate a notation has been made hereon.

Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.

8	GKO	23/11/2020	LOT 61 & 62 AMENDED
7	GKO	11/11/2020	AMEND RIPARIAN SETBACK & (H)
6	GKO	02/11/2020	LANDSCAPE SETBACK REMOVED
5	GKO	29/10/2020	PLAN AMENDED
4	GKO	20/10/2020	LOT BOUNDARIES AMENDED
3	GKO	24/07/2020	EASEMENTS DETAIL ADDED
2	GKO	17/07/2020	EASEMENT AMENDED
1	GKO	22/06/2020	INITIAL ISSUE

SYM	CODE	DESCRIPTION
	BIN	BIN
	BM	BENCH MARK
	BO	BOLLARD
	DJM	DRAINAGE MANHOLE
	EFP	ELEC FUSE BOX
	ELP	ELEC GARDEN LIGHT
	EL	ELEC GREEN PILLAR
	LP	ELEC LIGHT POLE
	EP	ELECT SINGLE PIT
	SPL	ELEC STAY POLE
	PP	ELEC POWER POLE
	ELP	ELEC POLE/LIGHT
TRANS		ELE POLE/TRANSFORM
	FD	FUEL DIP
	GM	GAS MAIN
	GMR	GAS METER
	GAS	GAS VALVE
	AG	GATE
	GUL	GULLY PIT
	HYD	HYDRANT
	BOR	BOREHOLE

SYM	CODE	DESCRIPTION
	OFM	OPTICAL FIBRE MARKER
	OFP	OPTICAL FIBRE PIT
	TM	PALM TREE
	SE	SEAT
	TS	SHRUB
	TCA	TELSTRA PIT
	SLH	SEWER LAMP HOLE
	SMH	SEWER MANHOLE
	SVP	SEWER VENT PIPE
	SI	SIGN
	BUS	BUS STOP SIGN
	T	TREE
	SGL	TRAFFIC LIGHT
	SCL	TRAFFIC CONTROLLER
	SJX	TRAFFIC JUNCTION BOX
	US	UNKNOWN SERVICE
	WAV	WATER AIR VALVE
	WMR	WATER METER
	WEP	WATER PUMP
	WSV	WATER STOP VALVE
	WTF	WATER TAP

Symbols shown are indicative only. The symbol size and orientation does not necessarily represent the real size or orientation of the feature.

DRAINAGE PIPE U/G
DRAIN
ELECT. CABLE A/G
ELEC. CABLE U/G
GAS PIPE
FENCE LINE
SEWERAGE PIPE
TELSTRA CABLE
WATER PIPE

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HEIGHT DATUM: AHD	LOCAL AUTHORITY: CITY OF PARRAMATTA
HEIGHT ORIGIN: N/A	SCALE: 1:1500 (A1)
MERIDIAN: 56	CONTOUR INTERVAL: N/A
CO-ORD SYSTEM: MGA	SURVEYOR: N/A — DATE OF SURVEY: -
CCAD FILE: 74707 ver 9 final subdivision	DRAWN: SF/CLP — DATE: 23/11/2020
AUTOCAD FILE: SY074707.000.13.8	CHECKED: GKO — DATE: 23/11/2020
ARCHIVE FILE: SY074707.000.13.6	APPROVED: GKO — DATE: 23/11/2020
PLAN NUMBER: SY074707.000.13.8	SHEET 1 OF 1

APPENDIX C ASBESTOS REGISTER

Asbestos Register

As outlined within *Section 4*, a residual conduit suspected of containing asbestos was noted to extend beyond a remediation extent in Lot 63. ERM notes that while no asbestos in soil has been identified, where works are to be undertaken within 20 m of the below location, asbestos management controls outlined within *Section 6* are to be implemented.

Date identified	ID	Approximate Eastings	Approximate Northings	Approximate Depth (m BGL)	Description	Friable or non-friable	Observed condition	Accessibility
1st November 2021	UF2	317854	6254830	1.0 m	■ Suspected ACM conduit (buried)	Non-friable	■ Good – bonded and intact conduit	Inaccessible under normal site conditions – only accessed via excavation

APPENDIX D RESIDUAL HYDROCARBON SUMMARY

ERM

| | | | | | | | | | BTEX | | | | | | | TRH NEPM (1999) | | | | | | | TRH NEPM (2013) | | | | | | | | | | | | TRH Silica Gel Cleanup | | | | | | | | | | | | TRH Aliphatic/Aromatic Split | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---

	BTEX							TRH NEPM (1999)						TRH NEPM (2013)						TRH Silica Gel Cleanup						TRH Aliphatic/Aromatic Split											
	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX	TRH C6-C9 Fraction	TRH >C10-C14 Fraction	TRH >C15-C28 Fraction	TRH >C15-C36 Fraction	TRH >C29-C36 Fraction	TRH >C10-C36 Fraction	TRH C6-C10 Fraction	TRH C6-C10 less BTEX	TRH >C10-C16 Fraction	TRH >C10-C16 Fraction less N	TRH >C16-C34 Fraction	TRH >C34-C40 Fraction	TRH >C10-C40 Fraction	TRH >C34-C40 Fraction	TRH >C10-C16 Fraction SG less Naphthalene	TRH >C10-C16 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C34-C40 Silica Gel Cleanup	TRH >C10-C16 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C34-C40 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C10-C16 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C34-C40 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C5-C7 (Benzene) Aromatic	TRH >C7-C8 Aliphatic	TRH >C8-C10 Aliphatic	TRH >C10-C12 Aliphatic	TRH >C12-C16 Aliphatic	TRH >C16-C21 Aliphatic	TRH >C21-C35 Aliphatic	TRH >C7-C7 Aromatic	TRH >C7-C8 Aromatic	TRH >C8-C10 Aromatic	TRH >C10-C12 Aromatic	TRH >C12-C16 Aromatic	TRH >C16-C21 Aromatic	TRH >C21-C35 Aromatic
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.2	0.3	0.2	10	20	50		50	50	10	10	50	50	100	50	100		50	20	50	50	50	50	100	50	100	0.1	10	10	10	10	10	10	0.1	0.1	1	10	10	10	10
NEPM (1999) Management Limits - Commercial/Industrial (coarse)								700		1000		3500								10000				1000																			
																												3500		10,000											

Alternative_Name	x coord	y coord	Field_ID	Location_Code	Sampled_Date_Time	Sample_Type	Sample_Depth_Range																																						
Lot 60	317807.516	6254921.165	TP21/72_0.9	TP21/72	16/03/2021	Normal	0.9	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	<20	590	1100	-	310	2000	<20	<20	1000	988	2100	3210	110	-	120	240	340	-	220	230	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 60	317953.5161	6254892.832	TP21/95_0.5	TP21/95	18/03/2021	Normal	0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 60	317953.5161	6254892.832	TP21/95_1.0	TP21/95	18/03/2021	Normal	1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	180	850	-	<50	1030	<20	<20	370	370	690	1060	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 60	317953.5161	6254892.832	DUP08_210318	TP21/95	18/03/2021	Field_D	1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 60	317953.5161	6254892.832	TRIP08_210318	TP21/95	19/03/2021	Interlab_D	1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	-	-	-	-	-	<10	<10	-	-	-	-	-	<50	<50	<50	<50	<50	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317864.4502	6254859.795	3D_B2_B_2.0	3D_B2_B	21/10/2021	Normal	1.9-2.1	<0.1	<0.1	0.2	<0.1	<0.2	<0.3	-	<20	21	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	600	700	1300	1100	1100	1100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317864.6178	6254862.078	3D_B2_N_0.5	3D_B2_N	21/10/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	21	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317864.6178	6254862.078	3D_B2_N_1.5	3D_B2_N	21/10/2021	Normal	1.4-1.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	36	<50	-	<50	<50	39	39	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317861.4167	6254858.332	3D_B2_W_0.5	3D_B2_W	21/10/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	260	1000	520	-	<50	1520	450	450	1100	1098.9	300	1400	<100	-	820	900	1210	1100	390	200	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317861.4167	6254858.332	3D_B2_W_1.5	3D_B2_W	21/10/2021	Normal	1.4-1.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	33	33	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317871.9923	6254856.233	TRIP11_211021	3D_B3_B	21/10/2021	Interlab_D	2-2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	60	<100	-	<100	60	13	13	70	70	<100	70	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317871.9923	6254856.233	3D_B3_B_2.0	3D_B3_B	21/10/2021	Normal	1.9-2.1	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317871.9923	6254856.233	DUP11_211021	3D_B3_B	21/10/2021	Field_D	1.9-2.1	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	49	49	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317872.3728	6254861.063	3D_B3_N_0.5	3D_B3_N	21/10/2021	Normal	0.4-0.6	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	20	490	330	-	<50	820	65	65	620	617.6	200	820	<100	-	640	790	1050	1000	410	230	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317872.3728	6254861.063	3D_B3_N_1.5	3D_B3_N	21/10/2021	Normal	1.4-1.6	<0.1	<0.1	0.2	<0.1	<0.2	<0.3	-	<20	250	160	-	<50	410	58	58	310	307.8	<100	310	<100	-	160	200	270	200	110	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317882.0193	6254857.748	3D_B4_B_2.0	3D_B4_B	22/10/2021	Normal	2-2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	75	150	-	<50	225	<20	<20	130	130	120	250	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317882.437	6254860.179	3D_B4_N_0.5	3D_B4_N	22/10/2021	Normal	0.5-0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	300	460	-	<50	760	<20	<20	560	559.3	290	850	<100	-	55	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317882.437	6254860.179	3D_B4_N_1.5	3D_B4_N	22/10/2021	Normal	1.5-1.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	110	140	-	<50	250	<20	<20	190	188.5	<100	190	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317888.2719	6254854.069	3D_B5_B_2.0	3D_B5_B	22/10/2021	Normal	2-2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	23	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317889.6873	6254855.138	3D_B5_E_0.5	3D_B5_E	22/10/2021	Normal	0.5-0.5	<0.1	1.4	0.5	0.6	1.2	3.7	-	45	250	960	-	<50	1210	65	59	620	620	710	1330	<100	-	290	620	1290	1400	1000	730	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317889.6873	6254855.138	3D_B5_E_1.5	3D_B5_E	22/10/2021	Normal	1.5-1.5	<0.1	<0.1	<0.1	<0.1	0.3	<0.3	-	<20	250	1200	-	<50	1450	<20	<20	700	700	910	1610	<100	-	210	530	1210	1200	1000	710	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317888.488	6254859.006	3D_B5_N_0.5	3D_B5_N	22/10/2021	Normal	0.5-0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	170	1000	-	<50	1170	<20	<20	560	560	780	1340	<100	-	130	380	870	930	740	550	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317888.488	6254859.006	3D_B5_N_1.5	3D_B5_N	22/10/2021	Normal	1.5-1.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	210	1100	-	<50	1310	<20	<20	610	610	770	1380	<100	-	140	360	810	840	670	480	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317863.8981	6254852.448	3D_C2_B_2.0	3D_C2_B	22/10/2021	Normal	1.9-2.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	23	23	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317863.543	6254847.004	3D_C2_S_0.5	3D_C2_S	21/10/2021	Normal	0.4-0.6	<0.1	<0.1	0.8	<0.1	0.4	0.4	-	210	1200	950	-	<50	2150	370	370	1400	1387	620	2020	<100	-	980	1200	1790	1700	810	520	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317863.543	6254847.004	3D_C2_S_1.5	3D_C2_S	21/10/2021	Normal	1.4-1.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	130	220	200	-	<50	420	190	190	260	256.7	140	400	<100	-	83	120	193	120	110	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317860.8775	6254851.038	3D_C2_W_0.5	3D_C2_W	21/10/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	60	390	640	-	62	1092	110	110	580	580	480	1060	<100	-	180	280	550	590	370	310	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317860.8775	6254851.038	3D_C2_W_1.5	3D_C2_W	21/10/2021	Normal	1.4-1.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	70	160	-	<50	230	<20	<20	110	110	130	240	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317871.3964	6254849.081	3D_C3_B_2.0	3D_C3_B	22/10/2021	Normal	2-2	<0.1	<0.1	0.1	<0.1	<0.2	<0.3	-	<20	120	73	-	<50	193	54	54	160	160	<100	160	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317871.301	6254846.161	3D_C3_S_0.5	3D_C3_S	22/10/2021	Normal	0.5-0.5	<0.1	<0.1	<0.1	0.1	0.4	0.5	-	<20	640	<1000	-	<50	<1000	40	40	980	977.5	620	1600	<100	-	470	820	1340	1400	870	530	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317871.301	6254846.161	3D_C3_S_1.5	3D_C3_S	22/10/2021	Normal	1.5-1.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317881.7901	6254850.472	3D_C4_B_2.0	3D_C4_B	22/10/2021	Normal	2-2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	45	130	-	<50	175	<20	<20	75	75	100	175	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317881.3171	6254845.279	3D_C4_S_0.5	3D_C4_S	22/10/2021	Normal	0.5-0.5	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-	<100	1400	2500	-	170	4070	180	180	2000	1991.4	2000	4000	<100	-	950	1600	2650	2700	1700	1100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317881.3171	6254845.279	DUP12_211022	3D_C4_S	22/10/2021	Field_D	0.5-0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	1000	2200	-	150	3350	32	32	1900	1894.6	1500	3400	<100	-	780	1400	2380	2400	1600	1000	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317881.3171	6254845.279	TRIP12_211022	3D_C4_S	22/10/2021	Interlab_D	0.5-0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	28	700	1670	-	<100	2370	44	44	1270	1270	1150	2420	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317881.3171	6254845.279	3D_C4_S_1.5	3D_C4_S	22/10/2021	Normal	1.5-1.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	41	620	1100	-	59	1779	74	74	930	925.8	810	1740	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317887.8028	6254847.14	3D_C5_B_2.0	3D_C5_B	22/10/2021	Normal	2-2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317889.563	6254847.516	3D_C5_E_0.5	3D_C5_E	22/10/2021	Normal	0.5-0.5	<0.1	3.4	3.1	1.9	12	14	-	220	810	2100	-	190	3100	280	260	1500	1689	1500	3120	120	-	600	1100	2120	2100	1400	960	120	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317889.563	6254847.516	3D_C5_E_1.5	3D_C5_E	22/10/2021	Normal	1.5-1.5	0.2	3.8	3.1	2.5	18	21	-	170	400	820	-	97	1317	230	200	640	631.7	610	1250	<100	-	500	840	1460	1500	960	680	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317887.537	6254844.824	3D_C5_S_0.5	3D_C5_S	22/10/2021	Normal	0.5-0.5	<0.1	0.2	0.4	0.5	2.7	3.2	-	70	710	1300	-	170	2180	120	120	1100	1093.4	990	2220	130	-	1000	1600	3240	3400	1900	1500	340	320	-	-	-	-	-	-	-	-	-	-
Lot 63	317887.537	6254844.824	3D_C5_S_1.5	3D_C5_S	22/10/2021	Normal	1.5-1.5	<0.1	<0.1	0.2	<0.1	<0.2	<0.3	-	<20	240	<500	-	<50	<500	<20	<20	400	398.3	360	760	<100	-	130	240	450	490	320	250	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317891.3272	6254752.339	3E-C2_B-1.5	3E-C2_B	1/11/2021	Normal	1.4-1.6	<0.1	<0.1	0.9	1.7	6.4	8.1	-	60	590	1100	-	390	2080	140	130	810	805.3	1200	2010	<100	-	750	990	2240	2300	1100	1100	390	190	-	-	-	-	-	-	-	-	-	-
Lot 63	317891.4912	6254755.411	3E-C2_N-0.5	3E-C2_N	1/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<40	210	-	<100	210	<20	<20	<100	<100	450	830	380	-	<50	<50	300	450	100	250	200	200	-	-	-	-	-	-	-	-	-	-
Lot 63	317891.4912	6254755.411	3E-C2_N-1.0	3E-C2_N	1/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	58	58	<20	<20	<50	<50	100	230	130	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317886.6492	6254750.872	3E-C2_W-0.5	3E-C2_W	1/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	29	1300	-	820	2149	<20	<20	100	100	1900	2210	210	-	<50	<50	1270	1400	770	1100	500	290	-	-	-	-	-	-	-	-	-	-
Lot 63	317886.6492	6254750.872	3E-C2_W-1.0	3E-C2_W	1/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-C3-B-2.0	3E-C3-B	17/11/2021	Normal	2-2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	28	330	900	-	350	1580	56	56	480	480	960	1620	180	-	78	200	728	710	480	510	170	<100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-C3-N-1.0	3E-C3-N	17/11/2021	Normal	1-1	<0.1	<0.1	0.3	<0.1	0.3	0.3	-	<20	610	1700	-	570	2880	46	45	990	987.9	1800	3070	280	-	320	700	1980	2100	1300	1200	360	180	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-C3-N-0.5	3E-C3-N	17/11/2021	Normal	0.5-0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	280	1300	-	430	2010	<20	<20	500	500	1100	1760	160	-	200	500	1650	1800	1100	1100	310	180	-	-	-	-	-	-	-	-	-	-
Lot 63	317911.3067	6254749.503	3E-C4_B-1.5	3E-C4_B	2/11/2021	Normal	1.4-1.6	<0.1	<0.1	0.5	0.8	0.8	1.6	-	<20	400	620	-	200	1220	44	42	550	547.8	630	1180	<100	-	430	510	810	840	380	330	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-C4_E-0.5	3E-C4_E	2/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	500	1100	-	390	1990	<20	<20	910	910	1100	2230	220	-	250	420	830	920	430	400	150	100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-C4_E-1.0	3E-C4_E	2/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	140	290	-	130	560	35	35	200	200	340	540	<100	-	100	140	280	340	180	200	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317911.7076	6254753.185	3E-C4_N-0.5	3E-C4_N	2/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317911.7076	6254753.185	3E-C4_N-1.0	3E-C4_N	2/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	40	360	530	-	<50	890	91	91	430	430	550	980	<100	-	170	230	440	510	270	280	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-C4-B-1.5	3E-C4-B	17/11/2021	Normal	1.5-1.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	140	370	-	<50	510	<20	<20	220	217.2	410	630	<100	-	<50	130	490	520	370	390	120	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317890.6357	6254742.181	3E-D2_B-1.5	3E-D2_B	1/11/2021	Normal	1.4-1.6	<0.1	<0.1	0.6	0.8	2.6	3.4	-	30	250	690	-	310	1250	51	47	390	387.6	790	1180	<100	-	230	320	690	660	350	340	110	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317885.6538	6254740.817	3E-D2_W-0.5	3E-D2_W	1/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	27	310	-	54	391	<20	<20	<50	<50	440	580	140	-	<50	<50	130	130	130	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317885.6538	6254740.817	3E-D2_W-1.0	3E-D2_W	1/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	81	580	-	260	921	<20	<20	160	160	730	890	<100	-	68	140	698	780	420	510	210	130	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-D3-B-2.0	3E-D3-B	17/11/2021	Normal	2-2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	38	91	-	<50	129	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-D4-B-1.5	3E-D4-B	17/11/2021	Normal	1.5-1.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-D4-E-0.5	3E-D4-E	3/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	180	1100	-	620	1900	<20	<20	380	380	1300	2170	490	-	200	310	730	660	410	350	120	<100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-D4-E-1.0	3E-D4-E	3/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	370	1500	-	730	2600	40	40	660	660	1800	2890	430	-	<50	59	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317889.4353	6254732.796	3E-E2_B-1.5	3E-E2_B	1/11/2021	Normal	1.4-1.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	32	310	490	-	54	854	69	69	360	357.6	530	1000	110	-	210	290	720	700	370	410	140	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317889.3156	6254725.509	3E-E2_S-0.5	3E-E2_S	1/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	220	500	-	<50	720	<20	<20	<50	<50	440	440	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317889.3156	6254725.509	3E-E2_S-1.0	3E-E2_S	1/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	81	-	<50	81	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317884.602	6254731.373	3E-E2_W-0.5	3E-E2_W	1/11/2021	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	200	540	340	-	200	1080	<20	<20	50	50	470	520	<100	-	<50	<50	<100	120	<100	120	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63	317884.602	6254731.373	3E-E2_W-1.0	3E-E2_W	1/11/2021	Normal	0.9-1.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	52	130	-	<50	182	<20	<20	65	65	160	225	<100	-	<50	<50	<100	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-
Lot 63			3E-E3-B-2.0	3E-E3-B	17/11/2021	Normal	2-2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	86	250	-	94

	BTEX						TRH NEPM (1999)					TRH NEPM (2013)							TRH Silica Gel Cleanup							TRH Aliphatic/Aromatic Split											
	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX	TRH C6-C9 Fraction	TRH >C10-C14 Fraction	TRH >C15-C28 Fraction	TRH >C15-C36 Fraction	TRH >C29-C36 Fraction	TRH >C10-C36 Fraction	TRH C6-C10 Fraction	TRH C6-C10 less BTEX	TRH >C10-C16 Fraction	TRH >C10-C16 Fraction less N	TRH >C16-C34 Fraction	TRH >C34-C40 Fraction	TRH >C10-C40 Fraction	TRH >C40-C60 Fraction	TRH >C34-C60 Fraction	TRH >C10-C16 Fraction SG less Naphthalene	TRH >C10-C16 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C34-C40 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C40-C60 Silica Gel Cleanup	TRH >C15-C28 Silica Gel Cleanup	TRH >C28-C34 Silica Gel Cleanup	TRH >C34-C40 Silica Gel Cleanup	TRH >C28-C40 Silica Gel Cleanup	TRH >C34-C60 Silica Gel Cleanup	TRH >C5-C7 (Benzene) Aromatic	TRH >C5-C8 Aliphatic	TRH >C8-C10 Aliphatic	TRH >C10-C12 Aliphatic	TRH >C12-C16 Aliphatic	TRH >C16-C21 Aliphatic	TRH >C21-C35 Aliphatic	TRH >C5-C7 Aromatic	TRH >C7-C8 Aromatic	TRH >C8-C10 Aromatic	TRH >C10-C12 Aromatic	TRH >C12-C16 Aromatic	TRH >C16-C21 Aromatic	TRH >C21-C35 Aromatic
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.2	0.3	0.2	10	20	50		50	50	10	10	50	50	100	50	100	50	100	50	20	50	50	50	50	100	50	100	0.1	10	10	10	10	10	10	0.1	0.1	1	10	10	10	10
NEPM (1999) Management Limits - Commercial/Industrial (coarse)														700		1000		3500		10000					1000					3500		10,000													

Alternative_Name	x_coord	y_coord	Field_ID	Location_Code	Sampled_Date_Time	Sample_Type	Sample_Depth_Range																																								
Lot 63	317839.4851	6254833.866	TP21/21-1.0	TP21/21	8/03/2021	Normal	1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	63	-	<50	63	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317841.0008	6254856.17	TP21/22-0.2	TP21/22	8/03/2021	Normal	0.2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317841.0008	6254856.17	DUP01_210308	TP21/22	8/03/2021	Field_D	0.2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317841.0008	6254856.17	TRIP01_210308	TP21/22	8/03/2021	Interlab_D	0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	-	-	-	-	-	<10	<10	-	-	-	-	-	-	<50	<50	<50	<50	<50	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317841.0008	6254856.17	TP21/22-1.0	TP21/22	8/03/2021	Normal	1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317868.6451	6254828.376	TP21/23-0.2	TP21/23	9/03/2021	Normal	0.2	<1	<1	<1	<1	<2	<3	-	<200	2100	720	-	140	2960	320	320	2100	2036	440	2540	<100	-	650	490	170	<100	<0.1	<10	120	86	140	49	67	-	<0.1	12	60	140	46	100
Lot 63	317868.6451	6254828.376	TP21/23-3.1	TP21/23	9/03/2021	Normal	3.1	<0.1	<0.1	0.3	0.7	1.9	2.6	-	26	1500	500	-	86	2086	150	150	1400	1386	310	1710	<100	-	1000	1100	370	250	<100	<100	<0.1	<10	120	42	49	19	16	-	<0.1	5.4	33	55	18	26
Lot 63	317920.9868	6254845.92	TP21/24-0.5	TP21/24	8/03/2021	Normal	0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	54	-	<50	54	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317920.9868	6254845.92	TP21/24-1.5	TP21/24	8/03/2021	Normal	1.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	120	180	-	<50	300	24	24	170	170	110	280	<100	-	<50	51	150	-	150	100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317770.587	6254838.638	TP21/74_1	TP21/74	15/03/2021	Normal	1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	680	4600	-	910	7800	<20	<20	1300	1300	5700	7650	650	-	540	1100	6400	-	3800	4400	700	540	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317770.587	6254838.638	TP21/74_2.5	TP21/74	15/03/2021	Normal	2.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	1200	3800	-	280	8300	64	100	1900	1900	3400	5470	170	-	850	1500	6200	-	2900	2500	190	150	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317887.9608	6254810.634	TP21/76_0.2	TP21/76	17/03/2021	Normal	0.2	<0.5	<0.5	<0.5	<0.5	<1	<1.5	-	<100	1600	1100	-	1300	4000	240	240	1600	1578	3700	5950	650	-	700	910	2540	-	1300	1400	540	210	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317887.9608	6254810.634	TP21/76_2.0	TP21/76	17/03/2021	Normal	2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317887.9608	6254810.634	DUP07_210317	TP21/76	17/03/2021	Field_D	2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 63	317887.9608	6254810.634	TRIP07_210317	TP21/76	17/03/2021	Interlab_D	2	<0.2	<0.5	<0.5	0.5	1.8	2.3	2.3	31	-	-	-	-	-	66	64	-	-	-	-	-	-	<50	<50	<50	<50	<50	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318021	6255110	D_140312_01	BH12/34	14/03/2012	Field_D	-0.3	<0.5	<0.5	<0.5	<0.5	<1	<1.5 [#1]	<1.5 [#1]	29	460	530	580 [#5]	<100	990 - 1040 [#5]	63	63	700	700	300	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318021	6255110	BH12/34_0.3	BH12/34	14/03/2012	Normal	0.3-0.3	<0.5	<0.5	<0.5	<0.5	<1	<1.5 [#1]	<1.5 [#1]	11	200	220	270 [#5]	<100	420 - 470 [#5]	25	25	300	300	120	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318021	6255110	BH12/34_0.6	BH12/34	14/03/2012	Normal	0.6-0.6	<0.5	<0.5	<0.5	<0.5	<1	<1.5 [#1]	<1.5 [#1]	85	820	860	910 [#5]	<100	1700 - 1730 [#5]	200	200	1200	1200	470	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318021	6255110	BH12/34_1.1	BH12/34	14/03/2012	Normal	1.1-1.1	<0.5	<0.5	<0.5	<0.5	<1	<1.5 [#1]	<1.5 [#1]	35	93	110	160 [#5]	<100	200 - 253 [#5]	67	67	140	140	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318017.9683	6255234.793	HA19/10_0.2	HA19/10	2/08/2019	Normal	0.1-0.3	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	<0.1	<10	<10	<10	<10	<10	<10	<0.1	<1	<10	<10	<10
Road alignment	318017.9683	6255234.793	HA19/10_0.05	HA19/10	2/08/2019	Normal	0-0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	200	-	190	390	<20	<20	<50	<50	350	350	<100	-	<20	<50	175	-	94	160	81	<100	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318008.148	6255081.324	MW11/07_1.0	MW11/07	20/09/2011	Normal	1-1	<0.5	<0.5	<0.5	<0.5	<1	<1.5 [#1]	<1.5 [#1]	<10	180	-	-	-	180 - 530 [#1]	-	-	-	-	-	-	-	-	-	-	-	-	350	-	<100	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318008.148	6255081.324	MW11/07_5.0	MW11/07	20/09/2011	Normal	5-5	<0.5	<0.5	<0.5	<0.5	<1	<1.5 [#1]	<1.5 [#1]	<10	<50	-	-	-	<50 [#1]	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318008.148	6255081.324	MW11/07_0.5	MW11/07	20/09/2011	Normal	0.5-0.5	<0.5	<0.5	<0.5	<0.5	<1	<1.5 [#1]	<1.5 [#1]	<10	<50	-	-	-	<50 [#1]	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318018.6	6255136.1	SB18/14_1.2_20180209	SB18/14	9/02/2018	Normal	-1.2	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318018.6	6255136.1	SB18/14_0.3_2018	SB18/14	9/02/2018	Normal	-0.3	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318018.6	6255136.1	SB18/14_0.3_180209	SB18/14	9/02/2018	Normal	0.3-0.3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318018.6	6255136.1	SB18/14_1.2_180209	SB18/14	9/02/2018	Normal	1.2-1.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318018.6	6255136.1	SB18/14_2.4_180209	SB18/14	9/02/2018	Normal	2.4-2.4	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318001.8	6254968.8	TP18/31_3.0_20180208	TP18/31	8/02/2018	Normal	-3	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318001.8	6254968.8	TP18/31_1.2_20180208	TP18/31	8/02/2018	Normal	-1.2	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318001.8	6254968.8	TP18/31_3.0_20180208	TP18/31	8/02/2018	Normal	3-3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	100	450	-	<100	550	<10	<10	200	200	430	630	<100	-	60	<50	60	250	280	250	220	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318001.8	6254968.8	TP18/31_0.3_20180208	TP18/31	8/02/2018	Normal	0.3-0.3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<10	160	1090	-	390	1640	<10	<10	320	320	1220	1730	190	120	90	120	860	770	610	650	160	<100	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318001.8	6254968.8	TP18/31_1.2_20180208	TP18/31	8/02/2018	Normal	1.2-1.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	22	300	1390	-	310	2000	38	38	590	590	1320	2070	160	220	80	220	850	910	630	690	140	<100	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	317990.9349	6254956.214	TP19/02_0.2	TP19/02	30/07/2019	Normal	0.1-0.3	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	<20	250	-	290	540	<20	<20	<50	<50	460	600	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	318002.8879	6254945.594	TP19/07_0.4	TP19/07	2/08/2019	Normal	0.3-0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	550	2300	-	73	2923	<20	<20	1300	1300	1500	2800	<100	-	140	320	670	-	530	330	<50	<100	<0.1	<10	<10	56	820	840	160	-	<0.1	<1	18	130	190	89
Road alignment	318002.8879	6254945.594	TP19/07_0.1	TP19/07	2/08/2019	Normal	0-0.2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<20	41	1500	-	130	1671	<20	<20	220	220	1300	1520	<100	-	<20	<50	150	-	150	130	<50	<100	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	317989.5164	6254953.076	TP20/23_1.5	TP20/23	16/09/2020	Normal	1.4-1.6	<1	<1	<1	<1	<2	<3	-	<200	1500	5400	-	1300	8200	<200	<200	2700	2700	5300	8750	750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	317986.61	6254904.04	TP20/25_0.7	TP20/25	7/10/2020	Normal	0.7-0.8	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	190	1300	1600	-	68	2968	470	470	1900	1900	890	2790	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary

Number of Results	294	294	294	294	294	278	85	278	270	257	12	257	269	265	265	258	258	258	246	258	21	171	171	171	113	184	171	184	171	5	5	5	5	5	5	5	1	5	5	5	5	5	5	5	5
Number of Detects	3	7	31	16	23	20	2	49	144	159	6	113	175	82	82	135	135	151	152	70	11	73	86	89	62	97	93	44	22	1	1	3	4	4	4	4	1	0	3	4	4	4	4	4	4
Minimum Concentration	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.2	<10	<20	<50	160	<50	<50	<10	<10	<50	<50	<100	<50	<100	<50	<20	<50	<50	<50	90	<100	<50	<100	<0.1	<10	<10	<10	<10	<10	<10	0.3	<0.1	<1	<10	<10	<10	<10	<10
Minimum Detect	0.2	0.1	0.1	0.1	0.2	0.3	2.3	10	21	51	160	51	51	13	13	50	50	100	70	100	60	27	51	100	120	90	100	81	100	0.3	190	120	42	49	19	16	0.3	ND	5.4	18	55	18	26	
Maximum Concentration	<1	3.8	4.5	2.5	18	21	8.2	280	3100	37000	4580	18000	56200	470	470	4900	4900	47000	55900	15600	2020	2600	3600	18290	4270	14000	14000	3400	830	0.3	190	140	250	1900	1500	510	0.3	<0.1	13	60	560	690	370	
Maximum Detect	0.3	3.8	4.5	2.5	18	21	8.2	280	3100	37000	4580	18000	56200	470	470	4900	4900	47000	55900	15600	2020	2600	3600	18290	4270	14000	14000	3400	830	0.3	190	140	250	1900	1500	510	0.3	ND	13	60	560	690	370	
Average Concentration	0.09	0.16	0.19	0.17	0.4	0.51	0.4	24	255	901	688	324	1429	42	42	410	409	982	1568	199	251	184	288	832	612	530	542	153	81	0.1	42	78	88	583	483	152	0.05	6.3	31	178	190	118	
Median Concentration	0.05	0.05	0.05	0.05	0.05	0.1	0.1	10	29.5	200	130	50	340	10	10	59.5	59.5	215	375	50	60	25	51	150	220	105	130	50	50	0.05	5	120	56	140	49	67	0.05	5.4	33	130	46	89	
Standard Deviation	0.077	0.32	0.38	0.24	1.4	1.7	0.93	46	462	2647	1277	1352	4066	79	79	725	724	3275	4377	1036	463	333	504	1937	857	1284	1468	390	111	0.11	83	67	95	807	670	209	-	0	6	21	221	289	147	
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	0	17	0	1	0	0	14	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	0	17	0	1	0	0	14	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Data Comments

#1 ESDAT Combined with Non-Detect Multiplier of 0.5. Some Analytes are missing from this Combined Compound.
#2 ESDAT Combined. Some Analytes are missing from this Combined Compound.
#3 Reported Analyte LOR is higher than Requested Analyte LOR
#4 Combined by ESDAT using a Non-Detect Multiplier of 1.
#5 ESDAT Combined with Non-Detect Multiplier of 0.5.
#6 ESDAT Combined.

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