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Clyde Western Area Remediation Project

Stage 2 - Detailed Remediation Action Plan

9 July 2021

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9 July 2021

Clyde Western Area Remediation Project

Stage 2 - Detailed Remediation Action Plan

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Acronyms and Abbreviations

Acronym	Description
ACM	Asbestos Containing Material
AECs	Areas of Environmental Concern
AEVR	Air Emissions Verification Report
AF	Asbestos Fines
AHD	Australian Height Datum
ANSTO	Australia Nuclear Science and Technology Organisation
ANZECC	Australian and New Zealand Environment and Conservation Council
ANZG	Australian and New Zealand Guidelines.
AOC	Accidentally Oil Contaminated
AQIA	Air quality impact assessment
AQMP	Air quality management plan
AS	Australian Standard
ASC	Assessment of Site Contamination.
ASS	Acid Sulphate Soil
BGL	Below Ground Level
BH	Borehole
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
CC	Continually Contaminated
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
CT	Contaminate Threshold
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 Licence
EPS	EnviroPacific Services
ERM	Environmental Resources Management
ESA	Environmental Site Assessment

Acronym	Description
ESL	Ecological Screening Level
eV	Electron Volt
FA	Fibrous Asbestos
FRTR	Federal Remediation Technologies Roundtable
GAC	Granular Activated Carbon
GME	Groundwater Monitoring Event
GMP	Groundwater Management Plan
Ha	Hectares
HHERA	Human Health and Ecological Risk Assessment
HIL	Health-Based Investigation Level
HSL	Health Screening Level
IMWs	Intrusive Maintenance Workers
km	Kilometre
LCS	Laboratory Control Samples
LEP	Local Environment Plan
LFG	Landfill Gas
LGA	Local Government Area
LNAPL	Light Non-Aqueous Phase Liquid
LOR	Limit of Reporting
LPG	Liquid Petroleum Gas
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
m3	Cubic Metres
mg/kg	Milligrams per Kilogram
mg/L	Milligrams per Litre
MHF	Major Hazard Facility
MJ/Kg	Megajoule per Kilogram
MPa	Megapascal
MW	Monitoring Well
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 Walls
OCP	Organochlorine Pesticides
OEH	Office of Environment and Heritage

Acronym	Description
OPP	Organophosphorus Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PASS	Potential Acid Sulfate Soils
PCB	Polychlorinated Biphenyls
PFAS	Per and Polyfluoroalkyl Substances
PFHxS	Perfluorohexanesulfonate
PFOS	Perfluorooctanesulfonic acid
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
REMP	Remediation Environmental Management Plan
RLs	Relative Levels
ROA	Remedial Options Analysis
RPD	Relative Percentage Difference
RSI	Remediation Site Investigation
RSW	Restricted Solid Waste
SAQP	Sampling and Analytical Quality Plan
SCC	Specific Contaminate Concentration
SIA	Specific Immobilisation Approval
SPOCAS	Suspension Peroxide Oxidation – Combined Acidity and Sulphate
SSD	State Significant Development.
SSTLs	Site Specific Target Levels
SuRF	Sustainable Remediation Forum
SVE	Soil Vapour Extraction
SVOC	Semi-Volatile Organic Compound
SWL	Standing Water Level
SWMP	Soil and Water Management Plan
TCLP	Toxicity Characteristic Leaching Procedure
TP	Test Pit
TRH	Total Recoverable Hydrocarbons
UCS	Unconfined Compressive Strength
µg/kg	Micrograms per Kilogram
µg/L	Micrograms per Litre
VENM	Virgin Excavated Natural Material
VOC	Volatile Organic Compound

Acronym	Description
WARP	Western Area Remediation Project
WWTP	Waste Water Treatment Plant

EXECUTIVE SUMMARY

Background

Viva Energy owns the land associated with the former Clyde Refinery, located at Durham Street, Rosehill on the Camellia Peninsula. Viva Energy currently operates the Clyde Terminal on part of the former Refinery footprint; however a large part of the former refinery land in the south-western portion (the 'Western Area') is no longer required for operational purposes. As such, Viva Energy is proposing to remediate contaminated soils which pose a risk to receptors within the Western Area, as shown on Figure 2.

Viva Energy intends to remediate the Western Area to a standard suitable to facilitate future commercial / industrial land use. Due to the scale of remedial works, and the strategic location of the Site the project was declared State Significant Development (SSD) and as such, to assess the potential environmental impacts from remediation, an Environmental Impact Statement (EIS) containing a Conceptual Remedial Action Plan was prepared (AECOM, 2019).

Based on correspondence agreed and approved by relevant project stakeholders, Viva Energy are staging the remediation of the Western Area as follows:

- Stage 1 – Former Process West (completed late 2020);
- Stage 2 – Former Utilities, Movements and Buried Waste Area; and
- Stage 3 – Former Process East.

In accordance with the consent conditions associated with approval SSD 9302 for the Project, a Detailed Remediation Action Plan and associated management plans are required to be developed prior to the commencement of remediation works for each of these stages.

This document represents the Detailed RAP for Stage 2 of the Project.

Remediation Objectives

The objective of the Detailed RAP was to outline the remediation approach to be implemented to achieve the remediation objectives for the Project. The remediation objectives for the Project, are as follows:

- Remediate soil and manage groundwater within the Stage 2 Area (as required), to enable the land to be used for commercial/ industrial purposes in the future, thereby reducing the risk of contamination from the land adversely affecting human health and the environment; and
- Ensure any approved remediation process that is implemented adheres to all applicable regulatory requirements so as to limit or eliminate where possible adverse effects to human health or ecological receptors. The remediation strategy for the Stage 2 Area is consistent with the above objectives and the strategy previously outlined within the Conceptual Remediation Action Plan (AECOM, 2019b[1]), which states:

Where remediation is required, the focus of the works would be on:

- Addressing petroleum hydrocarbon impacts in shallow soil horizons;
- Addressing soil/sludge impacts in the drainage network and surrounds;
- Removing LNAPL trapped within shallow soils to the extent practicable[2]; and
- Ensuring short or long-term contamination risks to the environment are removed, mitigated or managed.

[1] AECOM (2019b) Viva Energy Clyde Western Area Remediation Project. Appendix C: Conceptual Remedial Action Plan

[2] Removal of LNAPL 'to the extent practicable' is defined as whereby that residual risks are mitigated or able to be managed passively under a Long Term Environmental Management Plan (LTEMP)

The need to remove LNAPL would be mainly based on the level of potential human health risk for proposed commercial/industrial end use, and commercial decisions by Viva Energy. It should be noted that LNAPL and dissolved phase groundwater concentrations are considered to be stable in the Western Area, and therefore removal of LNAPL to reduce potential migration in groundwater is not a key driver for remediation.

Scope of Works

The scope of this detailed RAP is as follows:

- Set remediation goals that ensure the Stage 2 area would be suitable for the proposed use and would pose no unacceptable risk to human health or to the environment;
- Identify necessary approvals and licences required by regulatory authorities;
- Provide information on the nature and extent of impacts requiring remediation based on the conceptual site model (CSM). The CSM has been refined from environmental site investigation data from recent and historical works within the Stage 2 Area;
- Presentation of previously derived validation criteria from the Human Health and Ecological Risk Assessment (HHERA) (ERM, 2020b) to be used to ensure that remediation has been executed to the appropriate standard to mitigate future risk to human health or the environment;
- Provide a re-appraised Remediation Options Analysis (ROA) and/or management measures that are required to be implemented to reduce risks to acceptable levels for the proposed land use of the Stage 2 Area, protecting human health and the environment;
- Provide a finalised remediation plan and methodology (Remedial Design) to inform contractor specification for the remediation; and
- Outline contingency measures should the remediation not succeed at meeting the remediation objectives.

Summary of Findings

Data from numerous historical investigations, including a Remediation Site Investigation (RSI) and HHERA has been utilised in the development of this RAP. Site specific data collected from field and laboratory scale remediation trials has also been incorporated into a re-appraised remedial options analysis for the Stage 2 Area.

On the basis of the HHERA, four key drivers for risks to future receptors within the Stage 2 Area were identified:

- Indoor inhalation of vapours by future on site commercial workers from hydrocarbon impacted soil and LNAPL trapped within soils;
- Direct contact with contaminated soils (PAHs, TRH C10-C40, hexavalent chromium) by future on-site commercial workers and construction workers undertaking intrusive works;
- 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; and
- Potential acute hazards within future indoor settings where potential for hazardous ground gas accumulation (specifically methane) from LNAPL source areas within the soil profile has been identified (AEC-3A and AEC-3D).

The proposed remediation methodologies were selected for remediation of contaminated soil and LNAPL within the Stage 2 Area:

1) Excavation and on-Site bio-piling (hydrocarbon impacted areas);
2) Excavation and off-site disposal of soils (for asbestos impacted soils or as a contingency measure);
3) On-site management under a constructed engineered cap (specific approach to AEC-4); and
4) On-site management with management control outlined within an Long Term Environmental Management Plan (LTEMP) (direct contact risks and residual LNAPL)

Table ES-1 – Remediation Methodology Summary

Remediation Methodology	Combined Estimated In-situ Volume (m3)	Remediation Area(s) of Environmental Concern
Excavation and on-Site bio-piling (hydrocarbon impacted areas)	5690	■ AEC-3A, ■ AEC-3D, ■ AEC-3E, ■ AEC-14A, ■ AEC-14B
Excavation and off-site disposal of soils (for asbestos impacted soils or as a contingency measure)	701	■ AEC-1 ■ AEC-3B
On-site management under a constructed engineered cap (Specific to AEC-4)	6968	**AEC-4**
On-site management with management controls outlined within an LTEMP (direct contact risks and residual LNAPL)	-	■ AEC-2, ■ AEC-3C, ■ AEC-5, ■ AEC-8, ■ AEC-11, ■ AEC-14, ■ AEC-15

The above remediation methodologies are consistent with the shortlisted remediation methodologies outlined within the Conceptual RAP and EIS (AECOM, 2019). These remedial technologies were selected for use in combination and are considered technically, logistically and economically feasible, to address risks to human health and the environment from impacted soils and LNAPL impacts in groundwater.

A validation approach for assessment of excavations and beneficial re-use of treated and surplus stockpiled materials within later redevelopment phases of the Stage 2 Area has been presented.

A tailored approach to remediation and management of co-mingled soil contaminants and multiple exposure pathways has been presented for AEC-4.

Given the current assessment that hydrocarbon concentrations in groundwater are stable to decreasing, it is expected that the remediation works proposed will enhance the current natural attenuation processes to reduce residual groundwater impacts over time.

Conclusions and Recommendations

It is concluded that upon successful completion of the preferred remediation strategy described within this RAP, the Stage 2 Area can be made suitable for the proposed commercial/ industrial land use, subject to the implementation of legally enforceable LTEMP(s).

Further documentation recommendations are as follows:

LTEMP Requirements

The LTEMP for the Stage 2 Area will be required to document the following management restrictions associated with managing residual impacts in-situ:

- Restrictions on the use of groundwater;
- Restrictions on the type of land-uses and activities to be undertaken;
- Ensuring that barrier layers and capping remain in place (at AEC-4);
- Identification of areas subject to in-situ passive management (as outlined within Section 8.2.4);
- Task-specific WHS measures to mitigate exposure risks to workers and the environment during subsurface works (construction workers or future intrusive maintenance workers);
- Ongoing groundwater monitoring requirements (as per the GWMP) to demonstrate residual dissolved phase petroleum hydrocarbon impacts continue to be stable to decreasing trends for petroleum hydrocarbons and do not represent a risk to receptors following completion of soil remediation works;
- An unexpected finds procedure for the management of unexpected contamination identified during future redevelopment or excavation works.

The LTEMP(s) would be written in accordance with relevant development consent conditions and the NSW EPA (2020) *Consultants Reorting on Contaminated Land* Guidance and the *Guidelines for the NSW Site Auditor Scheme* (3rd edition) and will be provided to the Auditor for approval. The implementation of the LTEMP is anticipated to be a requirement for the issue of a Site Audit Statement, along with a site validation report.

REMP and Contractor Specific Documentation

In order to undertake the remediation scope undertaken within this RAP, works will be implemented in accordance with the overarching Remediation Environmental Management Plan (REMP) for the Project, which will include the following sub-plans, and relevant contractor work method statements to ensure compliance with the consent conditions of the State Significant Development (SSD 9302), EPL 570 and other relevant legislative requirements:

- Soil and Water Management Plan;
- Groundwater Monitoring and Management Plan;
- Air Quality and Odour Management Plan;
- Waste Management Plan; and
- Traffic Management Plan.

Preparation of a detailed design for construction of the capping layer at AEC-4 will be required to meet the remediation objectives for AEC-4. The framework and minimum requirements for this detailed design document is provided within this RAP. This detailed design and associated validation approaches will be required to be reviewed and endorsed by the Site Auditor to supplement this RAP.

Data Gaps

The following data gaps have been identified, as part of this RAP, which may be addressed concurrently with remediation and validation activities within Stage 2:

- Collection of additional in-situ soil data (via test pits) along the proposed road alignment to meet spatial coverage requirements and confirm no additional remediation or management requirements;
- Refinement of the lateral extent of AEC-3E requiring remediation through collection of additional in-situ soil data surrounding existing hotspot area (via test pits).

Staged Validation Approach

In consideration of the redevelopment project proposed for the Stage 2 area as part of SSD 10459, the Stage 2 Area will be validated in the context of the final proposed lot subdivision. Individual proposed lots will be progressively validated such that Section A Site Audit Statements may be obtained for areas which do not require active remediation works as specified within this RAP.

Based on anticipated schedule of remediation works, validation reporting for the Stage 2 area will undertake in three separate stages as outlined below and as shown on Figure 10:

1) **For areas where active remediation is not required:** Preparation of a 'Stage 2 Site Suitability Report' will provide an assessment of the consolidated historical dataset for lots where remediation is not required (Lots 52, 53, 54, 55, 56 and 61). This will be accompanied by an LTEMP where on-site management of residual impacts is required.
2) **Where remediation and validation works are required:** Preparation of a 'Stage 2 Validation Report' to validate successful completion of remediation works within areas detailed within this RAP, excluding the AEC-4 area (Lots 51, 58, 59, 60, 62, 63 and proposed road corridor). This will be accompanied by an LTEMP where on-site management of residual impacts is required.
3) **Validation of AEC-4 remedial works:** will include the remaining lot (Lot 64) where AEC-4 is located. The final validation of AEC-4 is anticipated to be completed last given the requirement for detailed design, groundwater monitoring and production of a more restrictive LTEMP than other lots within Stage 2.

1 INTRODUCTION

Viva Energy Australia Pty Ltd (Viva Energy) commissioned Environmental Resources Management Australia Pty Ltd (ERM) to prepare a Detailed Remediation Action Plan (RAP) for the 'Stage 2' portion of the Clyde Western Area Remediation Project (WARP), herein referred to as 'The Stage 2 Area'. The Stage 2 Area exists within the footprint of the Clyde Terminal, located at Durham Street, Rosehill, NSW. Site identification details and location are presented in Table 1 and on *Figure 1*, site features are presented on *Figure 2*.

This Stage 2 Detailed RAP presents the approach for remediation of soil and groundwater impacts within the Stage 2 Area of the site associated with the sites historic use as a crude oil refinery.

1.1 Background

Viva Energy owns the land associated with the former Clyde Refinery, located at Durham Street, Rosehill on the Camellia Peninsula ('the Site'). Viva Energy currently operates the Clyde Terminal on part of the Site; however a large part of the former refinery land in the south-western portion (the 'Western Area') is no longer required for operational purposes. As such, Viva Energy is proposing to remediate contaminated soils (as required) within the Western Area, as shown on *Figure 2*.

Viva Energy intends to remediate the Western Area to a standard suitable to facilitate future commercial / industrial land use. Due to the scale of remedial works and strategic location of the Site, the Project was declared State Significant Development (SSD) and as such, to assess the potential environmental impacts from remediation, an Environmental Impact Statement (EIS) containing a Conceptual Remedial Action Plan was prepared (AECOM, 2019).

To facilitate site remediation works, a Remediation Site Investigation (RSI), supplementary Environmental Site Assessments (ESAs) (i.e. AEC-4 ESA (ERM, 2021a)), Stage 2 ESA (ERM, 2021b) and Human Health and Ecological Risk Assessment (HHERA) (ERM, 2020b) were undertaken to address residual data gaps in the Conceptual Site Model and to collect information relevant to the preparation of a Detailed RAP.

Information from the RSI and HHERA was utilised to prepare a Remedial Options Analysis (ROA) for the Western Area and separately for AEC-4, as summarised in Section 8.

The list of references used throughout this report is included as Section 15.

1.2 Remediation Stages

Based on correspondence between key project stakeholders (as outlined in Section 1.9), Viva Energy are proposing to stage the remediation of the Western Area as follows:

- Stage 1 – Former Process West;
- Stage 2 – Former Utilities, Movements and Buried Waste Area; and
- Stage 3 – Former Process East.

In accordance with the consent conditions associated with approval SSD 9302 for the Project, a Detailed Remediation Action Plan and associated management plans are required to be developed prior to the commencement of remediation works for each of these stages. This document represents the Detailed RAP for Stage 2 of the Project.

1.3 Project Objectives

Viva Energy has developed three main project objectives as follows:

- Ensure on-going operational viability of Clyde Terminal assets and associated licences to operate (including but not limited to Safework NSW Major Hazard Facility (MHF) Licence, Environment Protection Licence (EPL) 570 and the SSD 5147 consent conditions);
- Ensure any future redevelopment decisions are considerate of the operational requirements of the existing terminal; and
- Meet applicable regulatory requirements.

1.4 Remediation Objectives

The remediation objectives for the project, as defined within the Conceptual RAP (AECOM, 2019) are as follows:

- *"Remediate the soil and manage groundwater within the appropriate parts of the Western Area (i.e. the Stage 2 Area), to enable the land to be used for commercial / industrial purposes in the future, thereby reducing the risk of contamination from the land adversely affecting human health and the environment; and*
- *Ensure any approved remediation process that is implemented adheres to all applicable regulatory requirements so as to limit or eliminate (where possible) adverse effects to human health or ecological receptors.."*

These overarching remediation objectives are applicable to Stages 1 to 3 of the project.

1.5 Detailed RAP Scope

This Detailed RAP document has been developed in general accordance with the following:

- Consultants Reporting on Contaminated Land Guidance (NSW EPA, 2020);
- The scope as outlined in the EIS (AECOM, 2019a) and Conceptual RAP (AECOM, 2019b);
- The requirements of the Development Consent for State Significant Development (SSD 9302) ('the Development Consent')

1.5.1 Conceptual RAP Requirements

The scope of the Detailed RAP, as defined in the Conceptual RAP (AECOM, 2019b) is provided in Table 1-1 below.

Table 1-1 – Detailed RAP Scope Summary (adapted from AECOM (2018b))

RAP Scope Item	Included within this document	Relevant Report Section
*Set **remediation goals** that ensure the remediated Project area would be suitable for the proposed use and would pose no unacceptable risk to human health or to the environment*	√	Section 7.1
*Identify necessary **approvals and licences** required by regulatory authorities*	√	Section 1.8

RAP Scope Item	Included within this document	Relevant Report Section
Undertake a Remedial Investigation (RI) to address identified data gaps	√ (summary)	Reported Comprehensively within Remediation Site Investigation Report (ERM 2020a) Summary of progress against data gaps is provided in Section 4.2
*Preparation of a **Human Health and Ecological Risk Assessment** (HHERA) (including the RI data) to derive risk-based validation criteria for the remedial works to ensure that remediation has been executed to the appropriate standard to mitigate future risk to human health or the environment.*	√ (summary)	Reported Comprehensively within the Human Health and Ecological Risk Assessment Report (ERM 2020b) Summary of HHERA outcomes is provided in Section 4.2. Risk based validation criteria are outlined within Table D.1 of Appendix D.
*Provide information on the **nature and extent of impact** based on the available data and data gaps assessment*	√	Section 5
*Reappraised Remediation Options Assessment: **Finalise decision on the role of shortlisted remediation techniques** (as shortlisted in the Conceptual RAP) and/or management measures that are required to be implemented to reduce risks to acceptable levels for the proposed land use of the Project Area, protecting human health and the environment.*	√	Section 8
*Finalised remediation plan and methodology (**Remedial Design**). Preparation of a detailed remediation design to inform contractor specification for the remediation*	√	Sections 9 - 13
***Contingency measures** should the remediation not succeed at meeting the remediation objectives*	√	Section 13
*Establish **Management Plans** to complete the remediation in an acceptable manner*	√	Remediation Management Plans are being prepared separately to this Detailed RAP in accordance with the SSD consent conditions and will be appended to the final version of the RAP.

1.5.2 SSD Requirements

As per the SSD 9302 Conditions of Consent, 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)[3];
- be reviewed by the Site Auditor in accordance with the requirements;
- be submitted to the EPA for review and be approved by the Site Auditor and Planning Secretary, prior to the commencement of preparation works;
- detail all final remediation methods and technologies (*Section 8*) including layouts and design (Section 9);
- detail the decision protocol for determining which remediation method applies to different materials (Section 12);
- includes triggers for contingency actions to ensure the remediation objectives are achieved (Section 13); and
- details all procedures and plans to be implemented to reduce risks to an acceptable level for the proposed final land use (Section 12).

1.6 Regulatory Framework

Development of the remediation and validation strategy was undertaken with reference to relevant parts of the following guidelines:

- ANZAST (2018). Australian and New Zealand Guidelines for Fresh and Marine Water Quality.
- Australian Standard (2005). AS 4482.1 2005, Guide to the Investigation and Sampling of sites with Potentially Contaminated Soil, Part 2: Non-volatile and Semi-volatile compounds.
- Australian Standard (1999). AS 4482.2 1999, Guide to the Sampling and Investigation of Potentially Contaminated Soil, Part 2: Volatile Substances.
- National Health and Medical Research Council (2011). Australian Drinking Water Guidelines ADWG [updated August 2018].
- Heads of EPA Australia and New Zealand (2020). PFAS National Environmental Management Plan Version 2.0 This is hereafter referred to as ‘the NEMP, 2020’.
- National Environment Protection Council (2013). National Environment Protection (Assessment of site Contamination) Amendment Measure (No.1). This is hereafter referred to as ‘the NEPM, 2013’.
- National Health and Medical Research Council/National Resource Management Ministerial Council, Commonwealth of Australia, Canberra (2011). Australian drinking water guidelines paper 6 national water quality management strategy.
- NSW Environment Protection Authority (1995). Sampling Design Guidelines.
- NSW Environment Protection Authority (2017). Guidelines for the NSW Site Auditor Scheme (3rd edition).
- NSW EPA (2020). Consultants Reporting on Contaminated Land. Contaminated Land Guidelines.
- WA Department of Health (2009). Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated sites in Western Australia.

[3] OEH (2011) reporting guidance has now been superseded by *NSW EPA (2020). Consultants Reporting on Contaminated Land. Contaminated Land Guidelines*

1.7 Planning Context

1.7.1 SSD 9302 – Clyde Western Area Remediation Project

The strategic location of the Western Area within the Greater Parramatta and Olympic Peninsula area, the potential complexity and scale of the remediation works and the benefits of release of this land for other land uses meant that the project was 'called-in' as State Significant Development. This means that under the requirements of the Environmental Planning and Assessment Act 1979 (NSW) (EP&A Act), the Environmental Planning and Assessment Regulation 2000 (NSW) (EP&A Regulation) and State Environmental Planning Policy 55 – Remediation of Land (SEPP 55), the Project requires development consent in order to proceed.

In order to be granted development consent, the SSD application for the Project required the development of an Environmental Impact Statement (AECOM, 2019a).

A Conceptual RAP (AECOM, 2019b) formed an appendix to the EIS for the project, which underpinned the SSD application. Following development consent, it was proposed that the Conceptual RAP and the conditions of consent would be utilised as key inputs to the final remediation design provided in a Detailed RAP (this document).

The Remediation documentation requirements specified in Section 1.9 will apply to each stage of the remediation. Where appropriate, some of the documentation developed may apply to multiple stages of the Project.

1.7.2 SSD 10459 – Sydney Central Industrial Estate and Downer Sustainable Road Resource Centre

The Stage 2 Area falls within the extent of proposed site redevelopment works proposed to be completed as per State Significant Development 10459. While remediation activities are not subject to this SSD and associated consent conditions, consideration of the proposed subdivision of the Stage 2 Area for commercial/industrial land use has been incorporated into aspects of remedial planning and approaches outlined within this Detailed RAP document.

1.8 Required Environmental Approvals

The required environmental approvals for the project are as follows:

- Development consent for Clyde Western Area Remediation Project (SSD 9302), approved by the Minister for Planning and Public Spaces, Department of Planning, Industry and Environment;

In addition to development consent Viva Energy is required to ensure ongoing compliance with the following existing approvals throughout the project:

- The development consent for the Clyde Terminal Conversion Project (SSD 5147) (the 'Conversion Project'). The Conversion Project included the demolition of redundant tanks and other infrastructure and upgrades and improvements to site infrastructure. It was aimed at improving the efficiency of the Clyde Terminal by upgrading existing facilities and structures, improving environmental performance and further improving the safety of the Clyde Terminal.
- Environment Protection Licence number 570 (EPL 570) issued under the Protection of Environment Operations Act 1997 (NSW) (PoEO Act).
- Safework NSW Major Hazard Facility Licence issued under the Work Health and Safety Regulation 2011 (NSW).

The operational conditions of consent for SSD 5147 and the conditions of EPL 570 still apply to part of the Western Area during the Project. The Site will also continue to be classified as a Major Hazard Facility throughout the project.

Approvals requiring consideration in relation to pumping and dewatering of groundwater which have previously been identified within the EIS include:

- Aquifer Interference Approval – Due to contact with groundwater, under Section 91 of the Water Management Act. Volumes of groundwater to be extracted are likely to be negligible and do not require a water access licence for Stage 2 of the Project; and
- Water Access Licence – due to the the removal and movement of water from one water source to another, subject to discharge volumes >3ML per annum, under Section 56 of the Water Management Act. Discharge of groundwater to the Duck River is not proposed to be undertaken as part of Stage 2 works. Volumes thresholds are not expected to be exceeded and Discharge of groundwater to the Duck River is no longer proposed to be undertaken (as per the EIS). Based on the nature of works proposed, a water access licence is not considered to be required for Stage 2 of the Project.

A discussion of potential volumes of impacted groundwater requiring dewatering from excavations is provided in Section 9.6.2.

1.9 Key Project Stakeholders

The key project stakeholders involved within the remediation project are as follows:

- Viva Energy – Site Owner and Clyde Terminal Operator;
- NSW Department of Planning, Industry and Environment (NSW DPIE);
- NSW Environment Protection Authority (NSW EPA);
- Site Auditor;
- Validation Consultant(s);
- Remediation Contractor(s);
- VE Property – responsible for future site subdivision, divestment and redevelopment works of Stage 2 area under SSD-10459; and
- Neighbouring businesses and local community.

ERM notes that suitably qualified Remediation Contractors may be engaged separately for different remediation tasks to be undertaken within Stage 2 of the Project.

1.10 Required Remediation Documentation

Project Plan	Author	Approval By	Timing
Project Management Plan including: ■ Community Consultation Plan; ■ Occupational Health and Safety Plan; ■ Quality Management Plan; ■ Emergency Response and Contingency Plan Further detail regarding Contractor Environmental Management Plans is Provided in Section 10.	Remediation Contractor	Viva Energy	Prior to commencement of Preparation and Remediation Works
Remediation Environmental Management Plan (REMP) including the following sub-plans:	Validation Consultant	Viva Energy/ NSW DPIE/ NSW EPA	Prior to commencement of Preparation and Remediation Works

Project Plan	Author	Approval By	Timing
■ Soil and Water Management Plan ■ Groundwater Monitoring and Management Plan ■ Air Quality and Odour Management Plan ■ Waste Management Plan ■ Traffic Management Plan			
Detailed Remediation Action Plan (RAP)	Validation Consultant	Viva Energy/ Auditor, approval by DPIE	Prior to commencement of Preparation Works
Air Emissions Verification Report (AEVR)	Validation Consultant	Viva Energy/ Auditor/ DPIE/ NSW EPA	Prior to commencement of Preparation and Remediation Works
Validation Report	Validation Consultant	Viva Energy / Site Auditor	Post Remediation, within 6 months of completion of Remediation Works
Long Term Environmental Management Plan (LTEMP) including a Groundwater Monitoring Plan	Validation Consultant	Viva Energy / Site Auditor	Prepared post remediation, required prior to approval of Site Audit Statement

1.11 Limitations

This report was prepared in accordance with the scope of work outlined within this report and subject to the applicable cost, time and other constraints. ERM performed the services in a manner consistent with the normal level of care and expertise exercised by members of the environmental profession. ERM makes no warranty concerning the suitability of the Site for any purpose or the permissibility of any use, development or re-development of the Site. Except as otherwise stated, ERM's assessment is limited strictly to identifying specified environmental conditions associated with the subject Site and does not evaluate structural conditions of any buildings on the subject Site. Lack of identification in the report of any hazardous or toxic materials on the subject Site should not be interpreted as a guarantee that such materials do not exist on the Site.

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.

ERM is not engaged in environmental consulting and reporting for the purpose of advertising, sales promoting, or endorsement of any client interests, including raising investment capital, recommending investment decisions, or other publicity or investment purposes.

Nothing in this section or in this report in any way affects, limits or qualifies ERM's obligations and liabilities, or Viva Energy's rights and benefits under the agreement entitled Global Framework Agreement for the procurement of services (and related goods) (RET/10/0313/GLES) between Viva Energy Australia Pty Ltd and ERM (as amended, varied, supplemented, novated or replaced).

ERM PREPARED THIS REPORT FOR THE SOLE AND EXCLUSIVE BENEFIT AND USE OF VIVA ENERGY. NOTWITHSTANDING DELIVERY OF THIS REPORT BY ERM OR VIVA ENERGY TO ANY THIRD PARTY, UNLESS OTHERWISE EXPRESSLY AGREED, ANY COPY OF THIS REPORT PROVIDED TO A THIRD PARTY IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY, WITHOUT THE RIGHT TO RELY AND ERM DISCLAIMS ALL LIABILITY TO SUCH THIRD PARTY TO THE EXTENT PERMITTED BY LAW. ANY USE OF THIS REPORT BY A THIRD PARTY IS DEEMED TO CONSTITUTE ACCEPTANCE OF THIS LIMITATION.

2 SITE IDENTIFICATION

The Western Area is an approximately 40 hectare (ha) parcel of land 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.

The Stage 2 Area is situated within the Western portion of the Clyde Western Area, bordered to the east by the Stage 1 Area and extends from Devon Street to the North to the Duck River at the southern boundary of the Western Area. The surveyed extent of the Stage 2 Area is provided as *Appendix E*.

The Stage 2 Area contained the former refinery processing areas, tank farms and pipe tracks along with numerous warehouses, workshops, fire station, sub stations, office space and an area formerly leased to AutoNexus Pty Ltd for the storage of imported vehicles.

A site layout plan showing the location of the Western area and the Stage 2 Area is provided as Figure 2. The location of former refinery infrastructure within the Stage 2 boundary is provided on as *Figure 3*.

Specific site identification details are summarised in Table 2-1, below.

Table 2-1 – WARP Stage 2 Area Site Identification

Item	Description
Site Owner	Viva Energy Australia Pty Ltd
Site Occupier	Viva Energy Australia Pty Ltd
Site Address	Durham Street, Rosehill NSW
Legal Description	Part Lot 100 in DP 1168951
Local Government Authority	City of Parramatta Council
Current Zoning	IN3 – Heavy Industrial under the Parramatta Local Environmental Plan 2011
Current Land Uses	Vacant site
Permissible Land Use(s)	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 and any other land use that is not explicitly prohibited under land use zone IN3.
Area[1]	28.07 hectares [1]
Elevation	Between 3 and 6 metres Australian Height Datum (m AHD)

Source:

Plan of Proposed Subdivision of Lot 100 DP1168951, Stage 1B (Landpartners Pty Ltd). Sheet 2 of 44

It is understood that the Stage 2 Area is proposed to be subdivided for site redevelopment under SSD 10459, as per Survey Plans provided in Appendix E. Final validation of the Stage 2 Area as suitable for ongoing land use under the current IN3 zoning will be undertaken in the context of these boundaries. The approximate areas of these proposed subdivision boundaries are shown below in Table 2-2.

Table 2-2 – Proposed Lot Subdivision Areas

Proposed Lot ID	Area (Ha)
51	0.806
52	0.806
53	2.755
54	1.067
55	1.067
56	2.133
58	2.125
59	2.135
60	3.318
61	1.553
62	3.097
63	3.633
64	2.35
Proposed Road	3.35

3 SITE SETTING

3.1 Site History

3.1.1 Refinery Operations (Early 1900s – 2012)

A summary of the Site's history is provided below and has been developed based on desktop reviews, including interviews and aerial photograph reviews undertaken during the previous investigations summarised in Section 4.

Shell Refining commenced operations at the Clyde Refinery in 1928. Prior to the purchase of the Land by Shell, the Site was operated initially by the Commonwealth Oil Corporation during the early 1900's. ERM understands that hydrocarbon storage and refining facilities were constructed around this time based on currently available information regarding the Site history.

Between 1928 and 1953, several oil refining units were commissioned. In 1934, the crude product intake was approximately 250 tonnes/day, which increased to approximately 1000 tonnes/day in 1953. Major expansions occurred in 1958, 1960 and 1966, with the Parramatta Terminal being completed in 1964. New equipment was continuously installed since the purchase of the property, including pipelines installed in the 1970s to Gore Bay, ICI Botany and Sydney Airport.

The refinery's primary processing was carried out by a crude distillation unit. The major secondary processing unit was the catalytic cracking unit, which converted the heaviest parts of crude oil into gasoline, LPG, propylene, diesel fuel and fuel oil blending components. The refinery had a continuous catalytic reformer (platformer), which enhanced the refinery's octane capability. The refinery also supplied bitumen for road building. The majority of these process units, along with a significant portion of the above ground fuel storage infrastructure were located within the Western Area.

The fuel and other chemical products that were received, stored and processed at the Clyde Refinery before refining operations ceased in 2012 included:

- Crude oil;
- Residue;
- Condensate;
- Jet fuel;
- Diesel;
- Intermediates;
- Hydrofluoric acid; and
- Catalyst materials and caustic (sodium hydroxide).

The Stage 2 Area comprised the following infrastructure and operations:

- administration buildings, car parking areas and offices,
- Fuel and product storage infrastructure, including tankfarm 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 (8) and associated transformer yards,
- underground drainage infrastructure (Accidentally Oil Contaminated and clean water council drainage), pump house 1 and corrugated plate interceptor unit (1);
- Southern Buried Waste Area (referred to as 'AEC-4'), which is known to have been the source of burial of refinery wastes and soil materials sourced from excavations across the Clyde Refinery footprint.

The identified contaminant sources associated with these former land-uses are provided in Section 6.

A site layout plan showing the location of the Western Area and the Stage 2 Area is presented in *Figure 1.*

3.1.2 Refinery Closure, Demolition and Decommissioning (2012 – 2021)

On 30 September 2012, Shell Refining (Australia) Pty Limited (Shell Refining) ceased refining operations at the (then) Clyde Refinery and commenced conversion of the facility to a bulk fuel import and distribution terminal (now referred to as Clyde Terminal).

Plant decommissioning, decontamination and above grade demolition activities of the majority of above-ground infrastructure, including the Stage 2 Area was completed between 2012 and 2016. Demolition of the final remaining above ground infrastructure (Western Tank farm, Tank farm C and remaining pipe track areas) was completed during early 2020.

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).

3.2 Current Site Condition

The Stage 2 Area is currently a vacant site. The following key features exist across the Stage 2 Area and are shown on *Figure 4*:

- Concrete and bitumen hardstanding was present across the vast majority of the Stage 2 area with the exception of grassed and vegetated areas at the north-west and southern extents;
- Subgrade drainage lines remain in-situ, with pits, sumps and interceptor units backfilled with stabilised sand following completion of decommissioning activities;
- Concrete Bund walls remain in place but have been partially demolished surrounding former Tank farm A1;
- A total of 15 stockpiles of demolition waste (predominantly concrete and bricks) and 3 stockpiles of soil material sourced from demolition of refinery infrastructure, as shown on *Figure 4*;
- Three (3) covered stockpiles of previously biopiled material from Stage 1 (SP75, SP76 and SP77) remaining within former Tank farm A1;
- A single Corrugated Plate Interceptor (CPI) remains at the ground surface within Tank farm A2 and has been backfilled with imported stabilised sand.

3.3 Site Topography and Drainage

The surface of the Site, including the Western Area has been reshaped over time with the use of imported fill material, to provide a relatively flat site. During rainfall events, surface water and runoff previously directed towards the drainage network pools within isolated low-lying areas, with infiltration and evaporation of standing water occurring post drainage decommissioning works.

Minor overland flow to the south into the Duck River occurs during periods of high rainfall from southern portions of the Stage 2 Area.

The Duck River is lined with Mangroves adjacent to the Site but is considered a moderately disturbed catchment. The tidal limit of the Duck River extends approximately 1 km upstream of the Site, to the Clyde Railway culvert (Cardno Lawson-Treloar, 2008). The upper reaches of the Duck River extend approximately 10 km south to Condell Park, within Bankstown LGA where storm water flows within a series of storm water pipes and open concrete drains.

The downstream extent of the Duck River converges with the Parramatta River at the north-east boundary of the Site. The Parramatta River is the major tributary of Sydney Harbour which is located approximately 15 km downstream of the site which, in turn, discharges into the Pacific Ocean.

3.4 Geology

The geology of the Clyde Terminal has been characterised into four units, based on investigations completed by ERM and interpretation of soil bore log data obtained during previous investigations.

A summary of the strata identified during historical investigations is detailed below:

- **Unit 1 (Fill Material)** - This material is described as poorly compacted mixture of silt, clay and gravel, with localised areas of slag, furnace ash and concrete. This material was used to raise the level of the surface of the low-lying tidal swamp/mangrove area along the Parramatta and Duck Rivers. The fill material pinches out to the west;
- **Unit 2 (Estuarine Sediments)** - This unit comprises of silty clay – clayey silt with occasional sandy lenses and shell fragments to a thickness of approximately 4 m. The unit generally thickens towards the Parramatta River and represents the natural profile prior to development and filling; and
- **Units 3 and 4 (Alluvial Sediments and Residual Clay)** - Tertiary alluvial sediments (up to 20 m thick, including clay with sandy lenses) and residual Ashfield Shale were reported in previous investigations.

With the exception of AEC-4, the average thickness of fill material within the Stage 2 Area is 0.6 m and thickens to between 1.2- 1.5m further south in proximity to the Duck River. Fill material is underlain by high plasticity orange red and grey clay (alluvial sediments) across the majority of the Stage 2 Area. Localised areas of backfill sand have been identified surrounding subsurface features (pipework) to depths of up to of 2 m BGL.

During the RSI (ERM, 2020a) and previous site investigations, the following ground conditions were identified specific to AEC-4:

- Heterogeneous fill materials were identified to a depth of 4.0 m bgl. ERM notes that previous test pitting was terminated within fill materials in AEC-4 and as such the potential for deeper fill was noted to exist.
- The fill material is described as poorly compacted mixture of silt, clay and gravel, with localised areas of slag, furnace ash, black sludge and concrete. The RSI specifically identified anthropogenic waste such as bricks, timber, metal pipes, tiles and glass.
- LNAPL and “sludge materials” were identified at variable depths and locations throughout the fill materials.
- Field observations (and subsequent laboratory analysis) identified ACM and fibrous asbestos at a number of locations. Based on the nature and extent of fill within AEC-4, it was considered asbestos may be widely distributed throughout the fill matrix.

The Acid Sulfate Soil (ASS) Risk Map for Parramatta/Prospect (scale 1:25,000) produced by the Department of Land and Water Conservation (1997) identified the Western Areas as having a high probability of ASS in estuarine sediments adjacent to the Duck River. The Stage 2 Area is classed predominantly as Class 4. A small portion of Class 2 area is noted to be present at the south-eastern extent of the Stage 2 area.

Recent investigation at AEC-4 indicates PASS conditions may exist in natural soils below the depth of fill material in AEC-4. Other areas of the Stage 2 area are considered to have low potential for PASS/ ASS to be present.

3.5 Hydrogeology

A detailed summary of hydrogeology across the wider Western Area has been provided within the RSI Report (ERM, 2020a). A summary relevant to the Stage 2 Area is provided in Table 3-1 below.

Table 3-1 – Hydrogeology Summary (Stage 2 Area)

Stage	Comment
Groundwater Depth	Groundwater is represented as a shallow unconfined water zone within the fill material and estuarine-alluvial sediments at depths between 1-3 m bgl. Preferential pathways for groundwater flow have been identified as being present within sandy lenses within the fill and estuarine units along with anthropogenic structures, such as the on-site storm water drainage network.
Groundwater Flow Direction	Direction of groundwater flow may be subject to fluctuation following rainfall events and localised groundwater mounding, but has generally been established to be towards the bounding Duck and Parramatta Rivers. Inferred groundwater flow direction based upon recent gauging activities since demolition works in 2016 is towards the Duck River, to the south and south-east. Within AEC-4, groundwater flows radially in line with site topography from the central northern portion of the buried waste mound towards the Duck River in the south and south east. Groundwater contours indicate a westerly to south-westerly flow towards an unlined drainage channel west of the buried waste mound. Groundwater flow in the north east is effected by the localised mounding of groundwater associated with unsealed ground.
Hydraulic Gradient	Average hydraulic gradients calculated parallel to groundwater flow direction indicated the hydraulic gradient to range between 0.003 m/m along the up gradient portion of the Western Area to 0.011 m/m across the southern portions of the Western Area. Hydraulic gradients were found to increase with proximity to the Duck River (ERM, 2018).
Hydraulic Conductivity	Based on historical assessments undertaken: ■ Hydraulic conductivity has been established to be low across the large majority of the Site, with estimated hydraulic conductivity values estimated for wells that were screened across clay, sandy clay and gravelly clay typically ranging from $5x10^{-5}$ m / day to $6x10^{-3}$ m/day. ■ Higher hydraulic conductivity values were reported for wells screened across coarser grained sandy clay soils within the southern portion of the Site and are consistent with the more transmissive nature of these geologies. ■ Generally, hydraulic conductivity values increased from a minimum 5×10^{-5} m/day at the up gradient site boundary to up to 4×10^{-2} m/day closer to the southern site boundary due to the presence of sand/silt estuarine deposits closer to the Duck River. ■ laterally continuous higher hydraulic conductivity lithological units are not expected to be encountered within the Stage 2 Area. Specifically to AEC-4: ■ estimated hydraulic conductivity values estimated for wells that were screened across fill (gravelly clay), sandy clay and clay ranged from $1x10^{-3}$ m / day to 3 m/day.
Tidal Influence	On the basis of static water level data obtained from monitoring wells adjacent to the Duck River (including AEC-4), tidal interaction of surface water within the Duck River with groundwater within is not considered likely to be occurring, and is consistent with tidal assessments undertaken within other area of the Clyde Terminal.

- The focus of investigation activities and resulting refinement of the Conceptual Site Model (CSM) has been on assessment of the shallow water bearing unit. This is due to the nature of soil and groundwater sources within the Stage 2 Area being at or near surface (historical aboveground storage and pipework and near surface drainage). The presence of fill material underlain by impermeable clay lithology has limited vertical migration of impacts in soil and groundwater to within the surficial shallow water bearing unit. This is supported by soil analytical results indicating that COPCs in soil samples collected from within the clay layer (or at depths greater than 2 m bgl) do not exceeded applicable screening criteria
- Based upon the understanding of geology and hydrogeology at the site, the lateral migration potential of COPCs in groundwater is limited by the low permeability of the lithology, relatively flat hydraulic gradient and low average groundwater velocity. This is supported by the limited extent of impacted groundwater reported, indicating that, where present, areas of impacted groundwater are relatively stable and do not appear to be migrating; and
- Given the nature of soil and groundwater sources within the Stage 2 Area (aboveground storage and pipework and near surface drainage), the low permeability clay layer underlying fill material appears to have limited the vertical migration of COPCs. This is supported by the analytical results indicating that COPCs in soil samples collected from within the clay layer (or at depths greater than 2 m bgl) do not exceeded applicable screening criteria, with only a few exceptions (i.e., the Southern Buried Waste Area)). This is further supported by soil data obtained from depths greater than 2 m.

The potential for groundwater interaction within proposed remediation excavations has been evaluated within Section 9.6.2 of this report and has also been considered in the Groundwater Monitoring Program, outlined in Section 10.5.

4 SUMMARY OF RELEVANT REPORTS

The Western Area, including the Stage 2 Area, has been subject to extensive environmental investigations as part of broader investigations completed for the Clyde Terminal (former Clyde Refinery) since 1991. A summary of investigation data utilised to inform the current CSM for the Site are provided in Table 4-1 below.

Information from the below investigations relevant to the Western Area has been utilised in the development of a refined Conceptual Site Model, which has been produced within the RSI (ERM, 2020a) and HHERA (ERM 2020b). The refined CSM for the Stage 2 Area is presented within Section 8 and includes consideration of the below historical data sources.

Table 4-1 – Clyde Historical Site Investigation Summary

Date	Site Activities
1992	■ Coffey Partners International Pty Ltd developed a geotechnical model of the site using information from 150 previous site investigations. Ten wells were also installed along the south eastern boundary to determine if the migration of contaminants into Duck River was occurring. ■ ANSTO conducted water sampling
1993	■ Groundwater Monitoring Event (GME) conducted by Groundwater Technology in March ■ GME conducted by Groundwater Technology in July ■ Environmental Site Assessment (ESA) conducted by Coffey (16 boreholes), August ■ ESA conducted by Golder (8 boreholes), November ■ ESA conducted by OTEK (3 boreholes), December
1994	■ ESA conducted by Coffey (6 boreholes), January
1995	■ ESA conducted by Groundwater Technology in March in the former chemical plant and Tankfarm E1 ■ ESA conducted by Groundwater Technology in April near the refuelling facility on the western site boundary
1997	■ ESA conducted by OTEK (13 boreholes eastern site boundary), July
1998	■ ESA (test pitting) completed by Coffey, November
1999	■ Sludge pilot conducted by IT (formerly Groundwater Technology) in February ■ ESA conducted by IT in May near the refuelling facility on the western site boundary ■ GME conducted by IT in October ■ ESA conducted by Woodward Clyde (43 boreholes), August
2000	■ GME conducted by IT in October
2001	■ GME conducted by IT in February ■ ESA conducted by IT in March near the sludge drying area ■ GME conducted by IT in August
2002	■ Pollution Reduction Program and Remedial Action Plan produced by Shell Engineering Pty Ltd in July
2003-2004	■ GME conducted by IT in December 2003 and January 2004

Date	Site Activities
2004	■ Gauging event conducted by IT in February 2004 ■ Gauging event conducted by IT in April 2004 ■ Gauging event conducted by IT in May 2004 ■ GME conducted by IT in July 2004 ■ Gauging event conducted by IT in August 2004 ■ Gauging event conducted by IT in September 2004 ■ Limited ESA conducted by IT in September 2004 ■ Gauging event conducted by IT in October 2004 ■ Gauging event conducted by IT in December 2004
2005	■ GME conducted by IT in March 2005 ■ Gauging event conducted by IT in June 2005 ■ Gauging event conducted by IT in July 2005 ■ GME conducted by IT in August-September 2005 ■ Gauging event conducted by IT in November 2005 ■ Gauging event conducted by IT in December 2005
2006	■ Gauging event conducted by IT in January 2006 ■ GME conducted by IT in March 2006 ■ Gauging event conducted by Coffey in July 2006 ■ GME conducted by Coffey in September/October 2006 ■ Gauging event and limited GME conducted by Coffey in December 2006
2007	■ GME conducted by HLA ENSR in September 2007
2008	■ Conceptual Site Model and Data Gaps Analysis completed by ERM in October 2008 ■ GME conducted by ERM in February 2008 ■ GME conducted by ERM in November 2008
2009	■ ESA Phase Separated Hydrocarbon Assessment (Sub Area CSM2) - ERM April 2009 ■ GME conducted by ERM in April 2009 ■ ESA of Tankfarm E2 September 2009 ■ GME conducted by ERM in November 2009
2009/2010	■ ESA Chromium Assessment conducted by ERM November 2009 - January 2010
2010	■ GME (Q1.2010) conducted by ERM in March 2010 ■ GME (Q2 2010) conducted by ERM in June 2010 ■ GME (Q3 2010) conducted by ERM in September 2010 ■ Investigation of Tank 92 release conducted by ERM in October 2010 ■ GME (Q4 2010) conducted by ERM in November 2010
2011	■ GME (Q1.2011) conducted by ERM in March 2011 ■ GME (Q2 2011) conducted by ERM in June 2011 ■ GME (Q3 2011) conducted by ERM in September 2011 ■ CSM3 ESA conducted by ERM in October/November 2011 ■ GME (Q4 2011) conducted by ERM in December 2011 ■ Investigation of Tank 30 release conducted by ERM in December 2011

Date	Site Activities
2012	■ GME (Q1 2012) conducted by ERM in March 2012 ■ ESA (Lot 1 SPMT and Mobil Tank Farm) Phase 2 conducted in June 2012 ■ GME (Q2 2012) conducted by ERM in June 2012 ■ GME (Q3 2012) conducted by ERM in September 2012 ■ GME (Q4 2012) conducted by ERM in December 2012
2013	■ GME (Q1 2013) conducted by ERM in March 2013 ■ GME (Q2 2013) conducted by ERM in June 2013 ■ GME (Q3 2013) conducted by ERM in September 2013 ■ GME (Q4 2013) conducted by ERM in December 2013
2014	■ GME (Q1 2014) conducted by ERM March 2014 ■ GME (Q2 2014) conducted by ERM in May 2014 ■ Lot 101 Detailed Site Investigation conducted by ERM in August/September 2014 ■ GME (Q3 2014) conducted by ERM in September 2014 ■ GME (Q4 2014) conducted by ERM in December 2014
2015	■ GME (Q1 2015) conducted by ERM March 2015 ■ GME (Q2 2015) conducted by ERM in June 2015 ■ GME (Q4 2015) conducted by ERM in November 2015
2016	■ GME (Q2 2016) conducted by ERM in August 2016 ■ GME (Q4 2016) conducted by ERM in December 2016
2017	■ GME (Q2 2017) conducted by ERM in May 2017 ■ GME (Q4 2017) conducted by ERM in December 2017
2018	■ Western Area Targeted Site Investigation (TSI) completed by AECOM in January - March 2018 ■ GME (Q2 2018) conducted by ERM in June 2018 ■ PFAS PSI and Conceptual Site Model Fieldworks completed by ERM in August 2018 ■ GME (Q4 2018) conducted by ERM in December 2018 ■
2019	■ Western Area Remediation Project – Environmental Impact Statement (EIS), prepared by AECOM ■ Western Area Remediation Project - Conceptual Remediation Action Plan, prepared by AECOM ■ GME (Q2 2019) conducted by ERM in May/ June 2019 ■ Remediation Site Investigation (RSI) conducted by ERM in July and August 2019 ■ Remediation Trials conducted by ERM in October 2019 – January 2020 ■ Western Area Remediation Project – Response to Submissions Report, prepared by AECOM
2020	■ Stage 1 – Remediation of AEC-9 excavation and Soil Validation ■ Stage 1 Drainage Decommissioning Validation Report ■ Stage 2 Drainage Decommissioning Validation Report (ERM, 2021d) ■ AEC-4 Supplementary ESA (ERM, 2021a) ■ Stage 2 – Stockpile Assessment (ERM 2021c)

Date	Site Activities
2021	■ Stage 2 – Additional ESA (ERM, 2021b)

4.1 Stage 2 Area

A summary of relevant investigation data which has informed the preparation of this Detailed RAP is provided within Table 4-2 below. A total of 51 groundwater monitoring wells, 198 test pits, 88 soil bores and 6 soil vapour wells have been sampled/installed as part of these investigations and thus informed the preparation of this Detailed RAP.

The location of soil, groundwater and soil vapour investigation locations is shown on *Figure 5*.

Table 4-2 – Previous Soil and Groundwater Investigations –Stage 2 Area

Author	Year of Investigation	Scope of Works	Investigation Locations Completed within Stage 2	Relevance to RAP
Groundwater Technology	1994	Assessment of Soil And Groundwater Conditions	■ 6 monitoring wells	General information on site geology to inform CSM and this Detailed RAP
Woodward Clyde	1998	Groundwater monitoring well installation	■ 4 Monitoring Wells (MW98/2, MW98/3, MW98/4, MW98/5) ■ 13 soil bores	■ General information on site geology to inform CSM and this Detailed RAP ■ Soil data not used given >22 years since collection
Coffey	1998	'Green Mound' Environmental Site Assessment (AEC-4)	■ 15 Test pits	Overall contaminant characterisation of AEC-4 Buried Waste Area including source. No specific location data available for test pits, evidence of re-working of material since investigation.
ERM	2009	Shallow soil investigation of 'Old Admin Area'	■ 15 soil bores (SB01-SB15)	Soil data used in development of CSM
ERM	2009	Autonexus UST Validation	■ 5 soil validation samples	Confirmation of UST removal and validated soils
ERM	2008 - 2020	Groundwater Monitoring Events. Monitoring of available monitoring wells for compliance purposes	■ Various	Information on LNAPL, dissolved phase COPC concentrations and trends in groundwater and hydrogeological information has informed the CSM and this Detailed RAP
Douglas Partners	2010	Sydney Metro – geotechnical investigation	■ 5 monitoring wells (BH115, BH116, BH209, BH210, BH341)	General information on site geology/ groundwater conditions to inform

Author	Year of Investigation	Scope of Works	Investigation Locations Completed within Stage 2	Relevance to RAP
				CSM and this Detailed RAP
ERM	2011	Tank 30 Release Investigation	■ 6 Soil bores ■ 2 temporary groundwater monitoring wells	General information on nature and extent of historical release to inform requirement for remediation or management
ERM	2012	Stage 1 and 2 Environmental Site Assessment	■ 11 Soil Bores (BH12/29-BH12/39) ■ 12 Groundwater Monitoring Wells	General information on site history, LNAPL distribution, site characterisation to inform the CSM and this Detailed RAP
AECOM	2018	Targeted Site Investigation (TSI)	■ 2 groundwater monitoring wells (MW18/23, MW18/24) ■ 5 soil bores ■ 15 test pits	General information on LNAPL, site characterisation has informed the CSM and this Detailed RAP
ERM	2018	PFAS Preliminary Site Investigation and Mass Flux Assessment	■ Groundwater sampling (existing wells); ■ Hydraulic Testing (existing wells).	■ Hydrogeological data, including transmissivity ■ Evaluation of potential PFAS sources ■ Assessment of potential risk from PFAS for consideration in remedial approach
ERM	2018	Autonexus – Lease Exit Investigation	■ 15 Soil bores (SB1B – SB15B)	Soil data used in development of CSM
ERM	2019	Remediation Site Investigation (RSI)	■ 57 test pits ■ 8 hand auger bores ■ 6 soil vapour monitoring wells	■ Address data gaps in Conceptual RAP. ■ General information on LNAPL and site characterisation has informed the CSM and this Detailed RAP (See Section 4.2)
ERM	2019- 2020	Remediation Trials	■ Excavation of ~1200 m3 of soil material from Process West for bioremediation treatability trials	■ Information regarding handling, treatability of material via landfarming and biopiling. ■ Air quality data collected during excavation and soil handling activities

Author	Year of Investigation	Scope of Works	Investigation Locations Completed within Stage 2	Relevance to RAP
ERM	2020	Stage 2 Drainage Decommissioning Validation	■ 14 test pits ■ 9 sludge characterisation samples	■ Information regarding residual hydrocarbons in drainage network requiring management; ■ location of compromised pipework and characterisation of surrounding soil impact
ERM	2020	AEC-4 Supplementary ESA	■ 22 Groundwater Monitoring Wells	■ Evidence of no offsite risk via groundwater migration from AEC-4 ■ Refinement of CSM and LNAPL CSM ■ Confirmation of AEC-4 remedial approach
ERM	2020	Stage 1 – Remediation of AEC-9 excavation and Soil Validation	Not Applicable	■ General supporting information on distribution of contamination within soils. ■ Information collected during full-scale implementation of excavation works, including air quality and biopile performance data
ERM	2020	Stage 2 – characterisation of stockpiled material on site	■ Sampling of 4 soil stockpiles ■ Visual inspection of 11 demolition waste stockpiles on site for presence of ACM	■ Provision of stockpile register; ■ Waste Classification of stockpiles requiring offsite disposal. ■ Assessment of re-use suitability for existing materials.
ERM	2021	Stage 2 – Additional ESA for increased sample density for validation of future subdivision	97 Test Pits: ■ 63 Sampled with lab analysis ■ 34 Visual observation and field screening	■ Increased spatial coverage and confirmation of CSM. ■ Refinement of remediation extents and areas requiring management across Stage 2

4.2 ERM (2020a) – Remediation Site Investigation (RSI)

The objectives of the RSI were to address remaining data gaps in the Conceptual Site Model and to collect information relevant to the preparation of the Detailed RAP for the Project.

The scope of works undertaken as part of the RSI (undertaken across the Western Area) involved:

- Completion of an additional 80 test pits to a maximum depth of 4.8 m bgl to characterise soils in specific areas;
- Advancement of 16 additional boreholes to a maximum depth of 2.2 m bgl in areas inaccessible to mechanical excavation, including tank farms A2, A3, C and sections of pipe track areas;
- Assessment of groundwater influx including any change with depth;
- Groundwater contaminant loading (both physical and chemical), including any change in water quality and influence of free-phase product to aid in the assessment of de-watering and treatment throughput requirements;
- Installation and sampling of eight soil vapour bores to a maximum depth of 1 m bgl;
- Collection of field measurements and groundwater samples from 15 monitoring wells for assessment of potential Monitored Natural Attenuation (MNA) conditions;
- Provision of a summary of groundwater characterisation, based on historical and the Quarter 4 (Q4) 2019 GME results; and
- Interpretation of the collected data set and refinement of the CSM.

ERM developed an investigation methodology to collect data to assess the risk of contamination to sensitive onsite and offsite human health and ecological receptors resulting from the Areas of Environmental Concern (AECs) in the Western Area, as summarised in the table below. Of these AECs, investigation locations from AEC-1, AEC-2, AEC-3, AEC-4, AEC-5, AEC-8, AEC-11 and portions of AEC-7, AEC-13, AEC-14 and AEC-15 are situated within the Stage 2 Area.

Details regarding the extent, targeted COPCs and specific objectives of investigation for each AEC are provided within the RSI report (ERM, 2020a).

Table 4-3 – Areas of Environmental Concern (RSI and HHERA)

Identification	Description
AEC-1	Old Administration Area
AEC-2	Buried Waste Area 8 – CDU tank farm sludge
AEC-3	Southern Contractor Area
AEC-4	Southern Buried Waste Area
AEC-5	Platformer 3
AEC-6	Buried Waste – Ex Solvents Plant
AEC-7	Pipe Track Areas
AEC-8	Tank farm J
AEC-9	Process West
AEC-10	Process East
AEC-11	Tank farms A1, A2, A3

Identification	Description
AEC-12	Tank farm C
AEC-13	Substation Areas and Transformer Yards
AEC-14	Subsurface drainage network
AEC-15/ General Site Areas	Other areas within the Western Area

An excerpt from the RSI report relating to the data gaps addressed across the Western Area is provided below. Based on the consolidated historical dataset and the RSI, ERM concluded the following in relation to the specific objectives of this investigation:

Project Objective	***Comment***
Refine the nature and extent of petroleum hydrocarbon impacts and LNAPL	■ *Based on the information collected as part of previous investigations and the RSI and in consideration of the refined CSM presented within Section 8.0, there was considered to be sufficient information to suitably characterise the nature and extent of impacts requiring remediation within the Western Area.* ■ *Based on field observations and the results of the RSI it is the opinion of ERM that the distribution and nature / extent of contamination identified within the site is generally consistent with previous investigations. Soil impacts and LNAPL (generally related to petroleum hydrocarbons in soils) were identified to a depth of 2.0 m bgl in the vicinity of former storage / process infrastructure. Contaminated fill was also identified to a depth of approximately 4.0 m within the southern waste burial area (AEC-4).* ■ *The lateral and vertical extent of LNAPL identified at the site was consistent with historical investigations undertaken. The migration potential of LNAPL was considered negligible based on the following lines of evidence:* – *Ongoing primary sources of LNAPL impact which provide a source of driving head for LNAPL bodies have been removed. This, in combination with flat hydraulic gradient and low hydraulic conductivity limit the migration potential of LNAPL in the subsurface;* – *While the configuration of LNAPL impacted areas has been modified over time through the addition of monitoring wells, LNAPL has not been identified in monitoring wells down-gradient of residual impacts over the course of monitoring since 2008;* – *LNAPL is generally noted to be present within fill material or discontinuous sandy lenses at the level of groundwater. Vertical migration of constituents of concern does not appear to be significant based on analytical results of soil samples collected from within the low permeability clay layer and of groundwater samples collected from deeper monitoring wells* – *Dissolved phase groundwater impacts associated with LNAPL, appear to be generally stable (in nature and extent) and limited to on site areas, with no indication of off-site migration;*
Potential pre-validation of low risk areas to potentially exclude from remediation and / or management	*Based on the results of the RSI and historical investigations and understanding of historical land uses, 'low risk' areas are limited to AEC-1 (Old Admin Area) and AEC-13 (Substation Areas).* *The presence of shallow asbestos containing materials was identified within isolated portions of these AECs during the investigation. These portions of the site will not require further assessment as part of the subsequent Tier 2 HHERA, however, remediation or management of these identified impacts will be required.*

Project Objective	***Comment***
Further characterisation of buried waste areas (nature and extent of impacts)	*Test pitting within AEC-4 was terminated in fill at a depth of 4.0 m bgl in several test pits and as such the potential for deeper fill materials may require consideration, however based on the results of this RSI and previous investigations the lateral extent of AEC-4 is considered to have been suitably delineated.*
Drainage and subsurface infrastructure characterisation	*Fill materials underlying pipe tacks were identified to be generally shallow, extending to approximately 0.1 – 0.2 in depth. Such fill materials located around drainage / pipe-track infrastructure may act as a preferential pathway for site contamination, results of collected soil samples returned concentrations of CoPCs less than the adopted tier 1 screening criteria.* *On the basis of the extensive nature of the drainage network, it is recommended that an unexpected finds protocol is implemented during future excavation and removal of the subsurface drainage network, which will allow appropriate management and assessment of isolated soil impacts during remediation and sub-grade infrastructure removal.*
Further characterisation of non-petroleum COPCs to confirm the remediation methodology/ management	■ ***Asbestos –*** *was identified in the form of ACM fragments at isolated locations throughout the site, associated with demolished former infrastructure. ERM notes that ACM impacts identified during investigations were limited to shallow fill materials and surface soils in localised areas. Soils within AEC-4 were identified to contain ACM fragments and fibres at variable depths and is consistent with historically documented waste burial activities within the south-western area of the Western Area. The extent of identified asbestos identified during the RSI and historical investigations is shown on RSI Report Figure 11.* ■ ***Heavy metals –*** *laboratory analysis of collected soil samples returned concentrations of all heavy metals less than the adopted assessment criteria with the exception of one isolated sample located within AEC 11, which exceeded the assessment criteria for lead. Historical results have also identified the presence of elevated total chromium results associated with buried waste within AEC-4.* ■ ***Dioxins –*** *were reported less than LOR and / or the adopted assessment criteria. ERM notes that dioxin concentrations presented within the AECOM (2018) TSI were not previously discussed or screened against tier 1 criteria, but are below the adopted screening criteria.* ■ ***PFAS -*** *ASLP leachate and excavation water samples identified PFAS within localised areas of the Western Area.* *Reported concentrations of PFAS were below adopted screening criteria for current and future on-site receptors. Although concentrations of PFAS (specifically PFOS) were reported at some individual locations exceeding offsite ecological criteria, potential for risk to offsite receptors is considered negligible based on previous mass flux modelling undertaken by ERM.*
Collect data to support HHERA and development of risk-based Site Specific Target Levels (SSTLs) for remediation	*ERM considered the RSI data set and historical data to be sufficient for the purposes of developing a HHERA to refine the undertaking of risk to identified human health and sensitive ecological receptors and aid in the development of site specific target levels (SSTLs) and remedial end points.*
Collect data from likely remediation areas to assist with technical specification development for Remediation Contractors	*In undertaking this RSI, ERM collected additional data relating to soil properties (density, porosity, total organic carbon etc.) that will aid in the development of technical specifications for remediation. This data is presented within RSI Report Table 1f.*

4.3 ERM (2020b) – Human Health and Ecological Risk Assessment (HHERA)

The HHERA was developed to provide further assessment of potential risks where Tier 1 screening levels were exceeded. Site Specific Target Levels (SSTLs) were derived based on the results of the Tier 1 screening and updated CSM from the RSI (ERM 2020a). The specific objectives of the HHERA were as follows:

- To assess whether the on-site soil and groundwater impacts in the Western Area pose a risk to human health or ecological receptors under the proposed future land use scenario;
- To assess whether the impacts pose a risk to off-site human health or ecological receptors based on the current land use; and
- To develop Site-Specific Target Levels (SSTLs) for remedial works.

Based on the results of the Tier 1 screening and updated CSM from the RSI, the HHERA conducted further exposure assessment and derived SSTLs for:

- Direct contact or ingestion of impacted soils by future on-site intrusive maintenance workers (IMWs) or construction workers undertaking earthworks for the following Areas and chemicals of potential concern (COPCs):
  - AEC-3 - carcinogenic Polycyclic Aromatic Hydrocarbons (PAHs), Total Recoverable Hydrocarbons (TRH) C10-C34;
  - AEC-4 - carcinogenic PAHs, TRH C10-C34 and hexavalent chromium;
  - AEC-11 - lead; and
  - AEC-15 - TRH C10-C34;
- Inhalation of vapours by future on site workers in indoor or outdoor air for Areas and COPCs:
  - AEC-3 - benzene, naphthalene, and TRH C6-C10 (less BTEX);
  - AEC-4 - benzene, naphthalene, and TRH C6-C10 (less BTEX);
  - AEC-9 - benzene, and TRH C6-C10 (less BTEX);
  - AEC-10 - TRH C6-C10 (less BTEX); and
  - AEC-12 - TRH C6-C10 (less BTEX).

The RSI (ERM 2020) Tier 1 screening of groundwater along the boundary of the Western Area indicated that off-site migration of LNAPL or dissolved phase petroleum hydrocarbons was not occurring at levels that could potentially cause risk to the identified environmental/ecological receptors. As such, the exposure pathway was considered incomplete and no risk to the potential off-site receptors was identified from COPCs in groundwater. Similarly, screening for PFAS and metals from soil leachate and groundwater in the Western Area were not considered to represent a risk to off-site receptors. Overall, the Tier 1 assessment of dissolved phase groundwater impacts did not identify impacts in the Western Area that warranted further assessment or management related to potential risks to on-site and off-site receptors from groundwater migration.

It is noted that the following scenarios considered representative of potential risk were not further assessed in the HHERA as further risk assessment was not considered to change the existing conclusions and management considerations:

- Inhalation of dusts or potential asbestos fibres from soils containing asbestos during excavation by current and future on-site intrusive maintenance workers or construction workers undertaking earthworks; and
- Potential acute hazards to future on-site intrusive maintenance workers or construction workers undertaking earthworks from the pooling of hazardous ground gases associated with LNAPL and impacted soil/ groundwater.

In accordance with SSD approval for the Project, future on-site workers exposures during intrusive works and construction should be managed via contractor prepared health and safety documentation which incorporates safety procedures for management of asbestos and ground gases during excavation.

The potential for isolated acute hazards including aesthetics and ground gas hazards during intrusive works and/or in future buildings related to NAPL is complex and not likely to be refined from further risk assessment modelling. The RSI (ERM 2020) identified the presence of methane in soil vapour and/or concentrations of TRH C6-C10 and TRH C10-16 in exceedance of the CCME (2008) hazard screening level (1400 mg/kg and 5200 mg/kg, respectively) in AEC-2, AEC-3, AEC-4, AEC-5, AEC-9, AEC-10 and AEC-11.

Areas AEC-6, AEC-8, AEC-12, and AEC-15 have identified isolated areas with LNAPL. While the soil data did not have levels of TRH C6-C10 and TRH C10-16 in exceedance of the CCME (2008) hazard screening level, these areas are still conservatively identified for management of intrusive works for ground gas concerns. Where possible, additional lines of evidence (air monitoring data, soil validation data) may be used in the subsequent site validation process to further address the potential for this exposure pathway to exist post-remediation and require future management.

Where soil vapour monitoring wells were installed and available, a risk categorisation of site-specific of methane in soil gas was undertaken for methane and carbon dioxide concentrations in accordance with the NSW EPA ground gas guidance (NSW EPA 2019) for potential ground gas related risks in indoor air spaces. Of the areas with ground gas measurement, only AEC-3 was identified with a risk categorisation high enough (“low risk”) which, per the guidance, requires consideration of hazardous ground gases in future management and/or remediation decisions for the development of enclosed spaces. Given the data gap of no ground gas data for AEC-4, consideration of hazardous ground gases in future management and/or remediation decisions for the development of enclosed spaces is warranted.

While the on-site ecological receptors are considered to have environmental habitat of limited value under the current and future land use, the RSI (ERM, 2020) identified COPC concentrations in site soils exceeding Ecological Investigation Levels/ Ecological Screening Levels (EILs/ESLs) that are indicative of the need for consideration within future site management, particularly for design and planning of landscape for AEC-1, AEC-2, AEC-3, AEC-4, AEC-8, AEC-9 and AEC-10.

The human health risk assessment was conducted following the National Environmental Protection (Assessment of Site Contamination) Measure 1999, as updated 2013 (NEPM, 1999) to assess risks to potential future workers from direct soil contact exposure and vapour migration and to derive SSTLs. The risk assessment concluded that potential risks to off-site adjacent receptors were unlikely. The risk assessment identified potential soil direct contact risk and vapour intrusion risks as per Table 4-4. An updated assessment incorporating additional ESA works undertaken (post HHERA) is presented within Sections 5 and 6 of this RAP.

Table 4-4 – Risk Assessment Conclusions

Area	Soil Direct Contact Risk			Commercial Vapour Intrusion[1]	Asbestos	LNAPL Management[2]
	Commercial Worker	Construction Worker	Intrusive Maintenance Worker			
AEC-1	✓	✓	✓	✓	×	✓
AEC-2	✓	✓	✓	✓	✓	×
AEC-3	× ■ carcinogenic PAHs	✓	✓	× ■ benzene naphthalene	×	×

Area	Soil Direct Contact Risk			Commercial Vapour Intrusion[1]	Asbestos	LNAPL Management[2]
	Commercial Worker	Construction Worker	Intrusive Maintenance Worker			
				TRH C6-C10 less BTEX ■ TRH C8-12 (aliphatic)		
AEC-4	✗ ■ TRH C10-C34 ■ carcinogenic PAHs	✗ ■ hexavalent chromium	✓	✗ ■ Benzene ■ TRH C6-C10	✗	✗
AEC-5	✓	✓	✓	✓	✓	✗
AEC-6	✓	✓	✓	✓	✗	✗
AEC-7	✓	✓	✓	✓	✓	✓
AEC-8	✓	✓	✓	✓	✓	✗
AEC-9	✓	✓	✓	✗ ■ Naphthalene ■ TRH C8-C12 (aliphatic and aromatic) ■ TRH C10 – C16 (aromatic)	✓	✗
AEC-10	✓	✓	✓	✓	✓	✗
AEC-11	✓	✓	✓	✓	✓	✗
AEC-12	✗ ■ TRH C6-C16 ■ TRH C8-C12 Aromatic	✓	✓	✗ ■ TRH C6-C12 (Aliphatic) ■ TRH C8-C16 Aromatic ■ TRH C6-C10 (unspecified) ■ Benzene	✓	✗
AEC-13	✓	✓	✓	✓	✗	✓
AEC-14	✓	✓	✓	✓	✓	✓
AEC-15	✓	✓	✓	✓	✗	✗

✓ - Indicates potential risks are unlikely or within acceptable levels

✗ - Indicates a potential risk or need for remediation or management

1 – Potential vapour intrusion risks assume the presence of future buildings.

2 – Consideration of the management of LNAPL (i.e. acute hazards, aesthetics) is warranted separately to potential health risks.

4.4 ERM (2021a) – AEC-4 Supplementary ESA

ERM was commissioned by Viva Energy to undertake a Supplementary Environmental Site Assessment (ESA) for the portion of the Stage 2 Area, referred to as Area of Environmental Concern 4 (AEC-4) as part of the Clyde Western Area Remediation Project (Clyde WARP). AEC-4 is situated at the south-western extent of the Stage 2 Area.

The supplementary ESA scope aimed to achieve the following objectives for the AEC-4 area:

- Delineate the vertical extent of impacted soil material within AEC-4;
- Collect data to support acid sulfate soil assessment of the wider WARP area;
- Provide a comprehensive groundwater monitoring well network down-gradient of the site to investigate current conditions and enable future management and monitoring;
- Investigate the nature and extent of groundwater impacts associated with buried waste; and
- Determine if groundwater impacts pose a potential for risk to offsite receptors.

In order to achieve these objectives, the following scope of works was undertaken:

- Preparation of a Sampling, Analysis and Quality Plan (SAQP) for the works;
- Advancement of 20 soil bores converted to groundwater monitoring wells to a maximum depth of 6.5 m bgl, screened to target the shallow water bearing unit and an additional 2 up-gradient bores to confirm the depth of bedrock, lithology and transmissivity of deeper strata (10m bgl);
- representative soil samples were submitted for laboratory analysis for the following target Contaminants of Concern:
  - Total Recoverable Hydrocarbons (TRH) C6-C40 Fractions, including silica gel clean-up;
  - Benzene, Toluene, Ethylbenzene and Xylenes (BTEX);
  - Polycyclic Aromatic Hydrocarbons (PAH);
  - Chromium (trivalent and hexavalent chromium); and
  - Acid Sulfate soils field testing (pH, pH Fox) and Chromium Reducible Sulfur (CRS Suite).
- Development of new and existing wells using a submersible pump; and
- Gauging and sampling (using Hydrasleeve samplers) of new and existing monitoring wells within the vicinity of AEC-4.
- Submission of groundwater samples for laboratory analysis for the following target Contaminants of Concern:
  - TRH C6-C40 Fractions (pre and post silica gel clean-up);
  - BTEX;
  - PAH; and
  - Chromium (trivalent and hexavalent).
- Survey of new and existing monitoring wells.
- Hydraulic testing (rising head slug tests) were completed on 24 monitoring wells (21 new, 3 existing) monitoring wells to assess hydraulic conductivity values for the purposes of mass flux assessment if required;
- Collection of static water level data (compensated for barometric pressure) from three (3) monitoring wells across a period of 17 days to assess potential for tidal influence on groundwater within AEC-4 from the Duck River.

The findings of the AEC-4 Supplementary ESA in relation to the objectives are provided in Table 4-5 below.

Table 4-5 – Summary of Findings

Objective	Findings
Delineate the vertical extent of impacted soil material within AEC-4;	Buried waste thickness is inferred as follows: ■ Western Extent: between 1 – 1.2m bgl (MW12/03 and MW12/04); ■ Central mound Area: 4.2 - 4.5m bgl (MW20/13, MW20/07); and ■ Southern access road (boundary with Duck River): 1.2 – 3.5m bgl. Depth of visual observations of impacts identified (including NAPL) within the Buried waste area extended to depths of up to 6m. These impacts have been vertically delineated via soil analysis to below relevant SSTLs. The lateral extent of buried waste within AEC-4 is considered to be limited to Viva Energy's property boundary.
Collect data to support acid sulfate soil assessment of the wider WARP area;	ERM collected soil samples of natural material for assessment of the likelihood of Acid Sulfate Soils or Potential Acid Sulfate soils within the AEC-4 area which may require consideration during remediation works. Evidence of PASS was indicated by exceedances of the ASSMAC (1998) net acidity criteria (acidity and sulphur units) within samples collected at or below the water table. It is therefore likely that should excavation of such soils be required, or dewatering undertaken, that an acid sulfate management plan would be required to manage oxidisation and potential acidification of this material.
Provide a comprehensive groundwater monitoring well network down-gradient of the site to investigate current conditions and enable future management and monitoring;	A total of 20 new groundwater monitoring wells were installed as part of the Supplementary ESA, which included 10 down gradient wells to supplement the existing 2 down gradient wells. Down gradient monitoring well spacing of approximately 15m has been achieved and is suitable for future monitoring and longer term management of in-situ buried waste material.
Investigate the nature and extent of groundwater impacts associated with buried waste;	The following key observations are noted regarding groundwater results from the investigation: ■ No exceedances of SSTLs for current and future on-site receptors were reported for contaminants of concern in groundwater. ■ Reported exceedances were situated within the AEC-4 buried waste area and are directly associated with observation of LNAPL in the soil profile at these well locations noted during well installation. ■ No exceedances of assessment criteria for off-site receptors on the down gradient site boundary bordering Duck River, with a minor exceedance of recreational criteria for benzene and ecological criteria for PAHs noted on the western extent of the AEC-4 area.

Objective	Findings
Determine if groundwater impacts pose a potential for risk to offsite receptors.	Dissolved phase groundwater impacts are localised to within the AEC-4 Buried waste area. Dissolved phase groundwater impacts have been delineated to below adopted screening criteria via down gradient monitoring wells, with the exception of benzene exceeding recreational assessment criteria and PAHs exceeding ecological assessment criteria at MW20/03, situated on the western extent of the AEC-4 area adjacent an unlined storm water channel. A risk to offsite receptors at this location is considered unlikely based on the following lines of evidence: ■ direct exposure by recreational receptors to benzene in groundwater is not a feasible exposure pathway given no feasible access by recreational users to the storm water channel. The average groundwater discharge concentration for benzene from AEC-4 to the drainage channel could also be expected to be below recreational criteria given no benzene detections bordering the drainage channel in other wells to the south and to the north; ■ contribution of groundwater to overall flows within the drainage channel is considered negligible in the context of contributing flows from the 3 x 910mm concrete drainage pipes from public roadways to the north and would be expected to provide further dilution effect prior to discharge to the Duck River. ■ Ecological exceedances of PAHs are considered indicative of a near source impact (immobile LNAPL within the soil profile) rather than a down gradient plume of PAHs. The low solubility and high sorption properties of these PAHs restrict their potential to migrate in groundwater flow, as is evident with no detections reported down-gradient of other source areas. Considering this, the exceedances of PAHs at MW20/03 are not considered to indicate a risk to the down-gradient aquatic environment. ■ Light Non-Aqueous Phase Liquids (LNAPL) were also limited to the AEC-4 buried waste mound and therefore does not currently present a risk to off-site receptors. Ongoing stability of LNAPL and dissolved phase impacts is expected based on the following: ■ The significant time since deposition of waste in AEC-4 (greater than 40 years). The absence of LNAPL or dissolved phase concentrations in down gradient boundary wells suggest that the observed LNAPL is immobile. Ongoing contribution of contaminants to dissolved phase is also low given the weathered nature of the LNAPL source; ■ The residual nature of LNAPL source and presence of an asphalt cap over the majority of AEC-4 to limit infiltration do not provide sufficient driving head to allow significant LNAPL migration in the subsurface; ■ The viscous properties of the product (diesel oil/ lube oil mixture) observed across the buried waste area have a demonstrated tendency to bind to soil particles and these properties are anticipated to inhibit mobility of LNAPL through the soil matrix; ■ A high proportion of LNAPL mass has been observed to be buried at depths below the water table (phreatic zone) within laterally discontinuous zones of more porous materials (higher sand content) which results in restriction of available pore-space for migration of LNAPL; ■ No tidal connectivity with the Duck River limits the potential for migration of LNAPL or dissolved phase hydrocarbons to the Duck River.

The above findings support the existing CSM presented within the HHERA (ERM, 2020b), which identified potentially complete exposure pathways to on-site receptors associated with contaminated soils and LNAPL. Potentially complete exposure pathways are limited to:

- Indoor inhalation of vapours by future commercial/industrial workers (benzene, TRH C6-C10 (F1) fractions) from LNAPL and hydrocarbon impacted soil.
- Inhalation of dusts or potential asbestos fibres from ACM and fibrous asbestos and asbestos fines within soil during excavation by current and future on-site intrusive maintenance workers or construction workers undertaking earthworks.
- Direct contact or ingestion of impacted soils (TRH >C10-C16 (F2) Fraction, TRH >C16-C34 Fraction, carcinogenic PAHs, hexavalent chromium), by on-site intrusive maintenance workers or construction workers undertaking earthworks.
- Based on the observed presence of LNAPL within soil/ and groundwater within this AEC, there is potential for pooling of ground gases within future excavations undertaken by on-site intrusive maintenance or construction workers as well in enclosed air spaces in future development of buildings. The potential effects of LNAPL on future buried infrastructure and aesthetics (particularly odour generation) will require be consideration within future Long Term Environmental Management Plans for this AEC.

The above pathways require remediation and/or management for future commercial industrial land use. The findings of this investigation have been incorporated into the Remedial Strategy (Section 7) and Remedial Options Analysis (Section 8) of this Stage 2 RAP.

4.5 ERM (2021b) – Stage 2 Additional Environmental Site Assessment

As part of future redevelopment (subject to SSD-10459) incorporating the Stage 2 Area for commercial/industrial purposes, the Stage 2 Area is proposed to be subdivided into 13 Lots and a road corridor. It is understood that these lots will be subject to individual validation and assessment of suitability for the proposed commercial/industrial land use.

The overall objective of this Stage 2 ESA was to increase sample densities, spatial coverage and characterisation within the Stage 2 area, to facilitate assessment of site suitability for individual proposed lots. Sample locations were selected to refine the lateral and vertical extent of known Areas of Environmental Concern (AECs) and address data gaps identified during recent drainage decommissioning works.

In order to achieve these objectives, the following scope of works was undertaken:

- Preparation of a Sampling, Analysis and Quality Plan (SAQP) for the works;
- Logging, photographing and sampling of 97 test pits advanced within the Stage 2 area;
- Advancement of the test pits up to a target depth of 2 m below ground level to delineate any near-surface contamination such as buried waste, asbestos containing materials or hydrocarbon impacts or hydrocarbon impact at the level of groundwater intersection;
- Collection and laboratory analysis of up to two soil samples per location at 62 of the 97 test pits, with the remaining 35 test pits being utilised for collection of field data (observations and PID screening) unless impacts were noted;
- Analysis of soil samples for contaminants of potential concern as per the SAQP, including Total Recoverable Hydrocarbons (TRH) C6-C40 fractions, Benzene, Toluene, Ethylbenzene, Xylene and Naphthalene (BTEXN), Polycyclic Aromatic Hydrocarbons (PAHs), metals and asbestos;
- NEPM gravimetric sieving for Asbestos Containing Material (ACM) if the presence of buried waste of building materials was observed during test pitting or where asbestos analysis is

specified on the SAQP. Collection of a sub-sample of sieved material for Asbestos Fines and Fibrous Asbestos (AF+FA) quantification by the laboratory.

- Collection of field Quality Assurance and Quality Control (QAQC) samples, including field duplicates (inter- and intra-laboratory), trip spikes and blanks.

Laboratory results were screened against the relevant assessment criteria. Of the 150 samples analysed, 10 samples (from 7 test pit locations) reported concentrations of COPCs above the adopted assessment criteria. The following exceedances of the assessment criteria were noted:

- TRH C10-C16 fractions (following silica gel clean up) were reported above NEPM (1999) Management Limits at 5 locations (TP21/68, TP21/07, TP21/23, TP21/74 and TP21/79);
- TRH C16-C34 fractions (following silica gel clean up) were reported above NEPM (1999) Management Limits at 5 locations (TP21/68, TP21/07, TP21/11, TP21/74 and TP21/79);
- TRH C6-C10 fraction was reported above the NEPM (1999) Management Limits at one location (TP21/79);
- TRH C6-C10 less BTEX and three of the TRH CWG fractions (TRH C10-C12 Aliphatic, TRH C10-C12 Aromatic and TRH C12-C16 Aromatic) were reported above the Clyde WARP SSTL (Vapour Intrusion – Commercial) at one location (TP21/79); and
- Carcinogenic PAHs (reported as Benzo(a)pyrene TEQ) were reported exceeding the Clyde WARP SSTL (Vapour Intrusion – Commercial) at one location (TP21/07).

It is noted that lead was above the NEPM (1999) HIL D – Commercial/Industrial at one location (TP21/21), however the calculated 95% UCL of mean concentrations for all representative soil data from this proposed lot (Lot 63) was below the HIL D criteria.

4.6 ERM (2021c) Stage 2 Stockpile Characterisation

11,500m^3 of uncharacterised soil and demolition material is noted to be present in stockpiles across the Western Area which required characterisation to determine suitability for on-site re-use and remediation planning for Stage 2 works and future land-forming works.

The objectives of the stockpile characterisation works were to:

- Produce a stockpile register and site plan to inform future materials tracking and management.
- Characterise stockpiled materials with regards to potential suitability for re-use and backfill as part of the WARP.
- Establish a waste classification for off-site disposal for materials considered unsuitable for re-use.

ERM assessed 15 stockpiles of soil and demolition material stockpiles with a total volume of approximately 11,500 m^3. Of these, 12 are considered suitable for unrestricted placement and beneficial onsite reuse for continued commercial/industrial land use. The remaining three stockpiles have been characterised as follows:

- Stockpile SP29 – comprised of asbestos waste soil material generated during demolition works will be subject to offsite disposal (Special Waste – Asbestos);
- Stockpile SP30 – A fragment of bonded Asbestos Containing Material (ACM) was identified within this stockpile during inspection. This stockpile comprised gravel, concrete and brick demolition waste, and is unsuitable for validation as a soil via field and laboratory quantification. Furthermore, the mechanism for re-use and placement of such oversized material will require mechanical crushing of material, which is unsuitable where ACM is present due to the potential for liberation of fibres. On this basis, this stockpile is considered unsuitable and has been classified as Special Waste (Asbestos) for offsite disposal purposes.

- Stockpile SP37 – soil stockpile that was identified to contain one isolated fragment of ACM. Laboratory calculated quantification results were below the commercial/industrial assessment criteria and this material is therefore considered suitable for re-use on site, subject to validation of no visible asbestos at the final ground surface.

The location of stockpiles on the Stage 2 area are Shown on *Figure 4*. The stockpile register produced as part of these works is provided as *Appendix G*.

4.7 ERM (2021d) Stage 2 Drainage Decommissioning and Validation Report

To facilitate remediation and site redevelopment, above-ground refinery infrastructure had been previously demolished. However, sub-grade drainage infrastructure remained in-situ and was required to be decommissioned to meet project objectives.

The approach to completing the decommissioning and validation of the subsurface drainage network included the following:

- Review of previously completed drainage decontamination works undertaken and identified data gaps to be addressed as part of the future decommissioning works;
- Preparation of a detailed scope of works, to decontaminate and decommission the remaining Western Area sub-grade drainage infrastructure, along with an approach to obtain validation and verification data for drains previously cleaned and those proposed for cleaning; and
- Development of a Drainage Validation Sampling Analysis and Quality Plan (SAQP) based on the decommissioning methodology to specify the validation data to be collected as part of the works to ensure that the validation objectives are met. This document was reviewed and endorsed by the Site Auditor.

A summary of findings in relation to the key objectives of the drainage decommissioning works is provided below:

Table 4-6 – Stage 2 Drainage Decommissioning - Summary of Findings

Objective	Findings
Ensure the sub-grade drainage infrastructure:	
Is not an ongoing primary source of soil and groundwater impact or a preferential pathway for migration of contaminants	The remaining in-situ pipework within the Stage 2 Area has been cleaned and is generally free of gross residual hydrocarbons, including hydrocarbon impacted sludge and free-phase liquids. Some residual hydrocarbon sludges remained within identified pipe sections which were unable to be practically cleaned. The location of residual hydrocarbons within the drainage network have been identified for management during future excavation works within future Long Term Environmental Management Plans (LTEMPs) prepared for the Stage 2 Area. Some residual hydrocarbon impacted soils have been identified as requiring additional investigation and inclusion into the Stage 2 RAP. A data gap was identified at 8 compromised pipe locations where additional investigation is required to suitably characterise surrounding soils and where results are to be incorporated into the LTEMP or RAP, if required. Upon completion of cleaning, drainage pit junctions were backfilled with aggregate or stabilised sand to prevent lateral migration of residual sludges (where present) within the drainage network.
does not present an unacceptable future safety risk via accumulation of gases in sub grade void spaces	The potential for accumulation of hazardous ground gases in the drainage network has been assessed following removal of primary sources. Results indicated concentrations of hazardous ground gases (VOCs, LELs, methane, carbon dioxide and hydrogen sulphide) within the drainage network were below adopted screening levels with the exception of LEL% in one post cleaning upstream pit location (14-P6). Screening levels were based on

Objective	Findings
	published safety standards (NIOSH) and the Hazardous Ground Gas Guidance (NSW EPA, 2020b). It is considered that the potential for accumulation of hazardous ground gases within sub-grade void spaces at unacceptable levels is negligible noting that the post cleaning LEL% at the upstream pit slightly exceeded the adopted screening levels. Concentrations of VOCs, methane, carbon dioxide and hydrogen sulphide were all below the adopted assessment criteria. As such, risk of ground gases to human health are considered to be low.
is isolated from the wider Clyde Terminal network, such that future site operations will not contribute discharge to the Site's wastewater treatment plant	It is considered that isolation of drainage flows from the Stage 2 Area have been achieved from the surrounding network in Stage 1 and Stage 3 (both downstream to the east) as all pits have been backfilled. Pits servicing trunk mains within the Stage 1 and Stage 2 Areas have been backfilled with stabilised sand to plug flows to the Clyde wastewater treatment plant. Permanent isolation of trunk mains downstream of the Western Area (including Stage 2) was undertaken via draining of lines, excavation, air gapping and cement filling of these lines to adequately isolate flows from the WWTP.
cannot be recommissioned for use in future	The Stage 2 Drainage network is considered unserviceable and unable to be recommissioned for use in future following completion of backfilling activities. Furthermore, the drainage network has been permanently isolated from the wastewater treatment plant such that it is unable to be recommissioned in the future.

On the basis of the data collected, it is considered that the objectives of the Stage 2 Validation Works have been met.

Residual conditions will require ongoing management to mitigate against the following residual risks specific to the drainage decommissioning works:

- Release of residual sludge/ LNAPL to soil and/or groundwater during excavation of pipework or drainage infrastructure.
- Safety controls for workers undertaking removal of pipework or sludges to mitigate against hydrocarbon exposure via dermal contact/ ingestion and/or inhalation of vapours.
- Identification of known areas of residual hydrocarbons in soil which have potential for the presence of visible staining and/or generation of odours/ vapours during future excavation works.

The location of residual contamination within pipework and within backfill material surrounding pipes which requires remediation or management have been incorporated into the overall Site Characterisation and Conceptual Site Model presented in Sections 5 and 6 of this RAP.

4.8 ERM (2021e) – Quarter 4 (2020) Groundwater Monitoring Event

The Quarter 4 2020 Groundwater Monitoring Event represents the baseline understanding of groundwater conditions within the Western Area at the time of Detailed RAP preparation. The following conclusions were made regarding groundwater conditions within the Western Area:

- No adverse changes to groundwater conditions or potential harm to offsite receptors were identified to have occurred as a result of Stage 1 Remediation works, completed in late 2020.
- The direction of groundwater flow in the Western Area is generally consistent with previous GMEs and flows to the south east towards the bounding Duck River. Localised radial flow towards the south-west has been identified at the south-west portion of the Western Area (AEC-4) as a result of increased density of the available well network within this area following recent investigation;

- LNAPL observed within the monitoring well network is considered to be consistent in spatial extent with previous groundwater monitoring undertaken. Lateral delineation of LNAPL to within the site boundary has been achieved via gauging and sampling of down gradient wells;
- No exceedances of risk-based SSTLs were reported for on-site receptors in any groundwater monitoring wells sampled as part of the Q4 2020 GME;
- Evidence of stable groundwater conditions and natural attenuation processes continue to be identified as per previous monitoring events, including:
- No statistically significant increasing trends of key petroleum hydrocarbon contaminants of concern identified during the Q4 2020 GME;
- The presence of a high proportion of polar compounds in groundwater samples, as indicated by widespread detections of TRH C10-C40 fractions versus non-detect following silica gel clean-up analysis. Polar metabolites are formed via microbial degradation of petroleum hydrocarbon source areas;
- Potential for adverse changes in groundwater conditions (migration or increased contaminant concentrations) are considered to be low given the removal of primary sources from the site and that sources of groundwater impacts are limited to residual impacted soils and highly weathered and immobile LNAPL in the subsurface; and
- The nature and extent of LNAPL and dissolved phase hydrocarbon impacts are currently considered to be stable, well characterised in the context of the current land use and the monitoring well network is considered suitable to assess potential changes in environmental conditions as well as source/pathway/receptor linkages.

Groundwater monitoring undertaken as part of the Q4 2020 GME was focused on petroleum hydrocarbons and demonstration of stable to decreasing trends. However, the following was noted with regard to other COPCs during the Q4 2019 GME:

- Concentrations of heavy metals were reported within the Western Area exceeding adopted ecological screening criteria for copper, lead, mercury, nickel and zinc. The distribution of metals exceedances did not appear to be confined to a particular portion of the Western Area, and were considered likely to be related to regional background water quality, associated with imported fill materials across the camellia peninsula.
- Based on the groundwater dataset for PFAS in groundwater in the Western Area, ecological exceedances for PFAS (specifically PFOS) in individual wells were considered consistent with the findings of previous sampling events and were not considered to alter the existing findings of the CSM and mass flux assessment previously undertaken (ERM, 2018). Specifically:
- Recreational water quality criteria for PFOS + PFHxS were also exceeded in monitoring wells in the following areas of the Western Area:
  - Nearby Former AFFF foam storage Tank 24, (north of AEC-3);
- Ecological direct toxicity trigger values were exceeded for PFOS in the following areas of the Western Area:
  - At the up-gradient site boundary (AEC-1) and within AEC-3; and
  - MW12/23 on the southern site boundary.

4.9 Remediation Trials

ERM completed a series of field and lab-scale remediation trials for the Western Area between November 2019 to February 2020 to assess the feasibility and effectiveness of various soil remediation methods in targeted areas of the site. Biopiling and land farming trials were undertaken on soil material sourced from excavation of AEC-9, within the Stage 1 Area.

The objective of remedial trials was to assess the feasibility and effectiveness of various soil remediation methodologies from targeted areas of the site to inform development of the Remedial Options Analysis (ROA), Detailed RAP, and to assist Remediation Contractors in the scoping of the remediation execution.

Based on the shortlisted remedial technologies provided within the Conceptual RAP, ERM conducted trials and / or materials analysis to further assess the efficacy and applicability of the following remedial options:

- **Ex-situ Biopiling** – Excavation and treatment of 2 x 100 m^3 stockpiles.
- **Ex-situ Land farming** – Excavation and treatment of 2 x 100 m^3 and 3 x 10 m^3 stockpiles of material representing different soil types and petroleum hydrocarbon concentrations.

The following technologies were subject to laboratory scale trials of material excavated from AEC-4.

- **Ex-situ Stabilisation** – Laboratory based trials to inform potential for offsite disposal.
- **Ex-situ Thermal treatment** - Collection of laboratory parameters to inform potential energy and material handling requirements.

Air quality monitoring was undertaken during excavation of soils and turning of soils during landfarming. The results and outcomes of this modelling have been incorporated into the Air Emissions Verification Report for Stage 1 (ERM, 2020c) and for Stage 2. Air quality data collected from the remedial trial activities included the following:

- Monitoring conditions, including site operations, and prevailing weather during each event;
- Laboratory data for VOC emission characterisation: Concentration, variability, speciation and attenuation with distance from the excavation.

4.9.1 Biopiling and Land farming

Approximately 1200 m^3 of soil, concrete hard standing and subsurface infrastructure was excavated from the former Process West (Stage 1) area, within the footprint of the AEC-9 excavation, as shown on *Figure 7*.

Excavated material comprised approximately 600 m^3 of oversized material (concrete, subsurface infrastructure), 400 m^3 of contaminated fill materials and approximately 200 m^3 of predominantly clay material which was excluded from bio-remediation trials due to minor hydrocarbon impacts noted during excavation.

Soil material from the AEC-9 excavation was selected for biopiling and land farming trials as it represented lighter fraction (more volatile) TRH fractions at concentrations requiring remediation. A further 30 m^3 of soil material was excavated from the former Process East (Stage 3) area (AEC-10) for land farming trials, being representative of heavier fraction (less volatile) TRH fractions.

Stockpile ID	Source Area	Approximate Volume (m^3)	Treatment Methodology
SP1	Former Process West (TRH C6-<C15 Fractions)	100	Bio-piling with SVE system (no additives)
SP2	Former Process West (TRH C6-<C15 Fractions)	100	Bio-piling with SVE system (including 25 kg nitrogen fertiliser amendment (urea))
SP3	Former Process West (TRH C6-<C15 Fractions)	100	Land farming (including 25 kg nitrogen fertiliser amendment (urea))

Stockpile ID	Source Area	Approximate Volume (m^3)	Treatment Methodology
SP4	Former Process West (TRH C6-<C15 Fractions)	100	Land farming (including 25 kg nitrogen fertiliser amendment (urea)) and up to 20% mulch)
SP5	Former Process East (TRH C15-C40 Fractions)	10	Land farming (no additives)
SP6	Former Process East (TRH C15-C40 Fractions)	10	Land farming (including 5 kg nitrogen fertiliser amendment (urea))
SP7	Former Process East (TRH C15-C40 Fractions)	10	Land farming (including 5 kg nitrogen fertiliser amendment (urea) and composting with up to 20% mulch)

Soil treatment trials were conducted over an 8 week period, with weekly monitoring and sampling of stockpiled soils conducted to ensure maintenance of optimal conditions as per USA EPA for bioremediation. Soils subject to land farming trials were turned by an excavator on an approximately weekly basis to promote aerobic degradation. The biopiling SVE system was run continuously for the trial period.

A complete set of soil analytical results including trend plots for concentrations of TRH over time is provided in Appendix B. Key findings of the soil biopiling and land farming trials are summarised below:

- A reduction of TRH C6-C10 (less BTEX) concentrations to below SSTLs following soil handling, homogenisation and stockpiling activities.
- Volatile TRH fractions (C6-C16 Fractions) demonstrated decreasing trends throughout the trial, particularly with biopiling undertaken on SP1 and SP2.
- Heavier chain hydrocarbon concentrations were variable following an initial decrease. An increase in >C16 fractions was observed during the trial period in some cases. Such increases may be related to aerobic degradation products of petroleum hydrocarbons. This process can create anomalous results that indicate production of higher carbon length compounds, such as degradation products with much lower vapour (alcohols, phenols, ketones, carboxylic acids, and aldehydes). The addition of silica gel clean-up to the analysis of these samples indicated complete removal of these degradation by-products and a resultant decreasing trend throughout the final 4 weeks of the remediation trial period.
- Indigenous populations of hydrocarbon utilising bacteria were present in site soils. The ratios of nutrients (Nitrogen, phosphorus and carbon) were within acceptable ranges as per US EPA (US EPA 1994) guidance, with some minor addition of nitrogen fertiliser (urea) trialled within selected stockpiles to raise nitrogen levels.
- No discernible differences in hydrocarbon degradation rates were identified between stockpiles with nutrient or organic amendment over the eight week period of the trial.
- Reductions TRH >C16 fractions, increased bacterial populations and an increase in ratio of polar biodegradation metabolites over the course of the trial suggest that the process of biodegradation was occurring.
- Soils from both excavation areas were able to be treated to below the unrestricted on-site re-use criteria (i.e. TRH Management Limits).

4.9.2 Ex situ Stabilisation

The ex-situ stabilisation scope of works was conducted by EnviroPacific Services on behalf of ERM. The scope of works included:

- Excavation of 5 test pits targeted within the 'Southern Buried Waste' Area to enable stabilization trials of representative material classified in-situ as hazardous waste;
- Borehole logging and collection of a total of 20 bulk samples (including QA/QC) of representative impacted soil material;
- Laboratory analysis for up to 20 laboratory trial runs, including geotechnical testing for compressibility requirements on up to 6 samples;

Laboratory scale analysis included:

- Screening and homogenising material from site;
- Send baseline samples off for Waste Classification analysis to confirm what contaminants exceed CT1;
- Establish Optimal Moisture Content of main mix (for strength requirements) at a geotechnical lab;
- Use Optimal Moisture Content to create various mixes;
- Observe samples that are setting. Send these to lab for TCLP testing against contaminants that exceed CT1 values;
- For best performing mixes (lowest TCLPs) send these for UCS testing to confirm 7, 14 and 28 day strengths; and
- Fine tune the proposed mixes if required, based on the TCLP and UCS results received.

Sample ID	Fly Ash (%)	Powdered Activated Carbon (%)	Portland Cement (%)
RAW	0	0	0
1	0	0	10
2	0	4	10
3	0	8	10
4	5	2	10
5	5	4	10
6	0	0	15
7	0	4	15
8	5	2	15
9	5	4	15
10	0	0	20

Baseline analytical soil results identified that no contaminants had exceeded CT2, SCC2 and TCLP2 RSW waste classification. Following addition of additives to each of the mixes, reductions were observed in average total soil results for BTEX, Heavy Metals and TRH, while reductions in TCLP results were observed in Heavy Metals and TRH contaminates. This included a reduction in COPCs such as Lead, Nickel and TRH between C_{10}-C_{36}. Samples 3, 7 and 9 where the best performing mixtures, as these had the lowest total and leachable concentrations following treatment. It is noted

that these samples all contained higher percentages of powdered activated carbon added to the mix. The full stabilisation report is provided as *Appendix B*.

UCS results for these samples achieved strengths of approximately 1-1.5 MPa after 28 days.

These combined results suggest Solidification/Stabilisation immobilisation for treatment of the Buried Southern Waste material (AEC-4) to meet SIA requirements for waste reclassification and offsite disposal, is potentially possible.

4.9.3 Ex-Situ Thermal Treatment

Sampling and analysis of up to 10 samples of representative material was conducted (from stockpiled material excavated from test pits) for analysis for TRH, Total Organic Carbon, soil moisture and Total Calorific Value. Test pits were excavated from AEC-4 as this was considered the most feasible source of soil material which may be subject to thermal treatment (based on volumes and high TRH content).

- Total calorific value results ranged from 0.735 MJ/kg to 5.375 MJ/kg, indicating high variability in the potential energy generated during thermal treatment processes;
- Moisture content ranged from 15 – 53 %. Higher moisture content is expected from soils excavated below 2m BGL, below groundwater levels;
- Total organic carbon ranged from 1.4 – 22%;
- Soils excavated were heterogeneous in nature, containing foreign debris such as bricks, concrete and scrap metal, and also contain fine grained clay and materials.

The above information indicates that significant effort would be required in the homogenisation, screening and drying of soil material from AEC-4 prior to thermal soil treatment.

5 NATURE AND EXTENT OF IMPACTS

The location of soil, groundwater and soil vapour investigation locations completed within the Stage 2 Area are shown on *Figure 5*. Site plans showing the extent of soil and groundwater impacts exceeding relevant assessment criteria and distribution of Light Non-Aqueous Phase Liquids (LNAPL) observed are provided in the following figures:

- Figures 6A (soil 0-1m);
- Figure 6B (soil 1-2m);
- Figure 6C (soil 2-4m);
- Figure 6D (groundwater); and
- Figure 6E (soil vapour).

The complete dataset within the Stage 2 Area for soil, groundwater and soil vapour, screened against the relevant remediation criteria is provided as *Tables 1-3, Appendix A*.

The below sections summarise the nature and extent of impacts exceeding SSTLs from the consolidated dataset.

5.1 Soil

Concentrations of Contaminants of Concern within the Stage 2 Area were reported exceeding the relevant Tier 2 criteria for soil (Site Specific Target Levels (SSTLs)).

Table 5-1 – Soil SSTL Exceedances (Stage 2 Area)

Area of Environmental Concern (AEC)	Contaminant of Concern	Criteria Exceeded	Relevant Locations (depth in m BGL)
AEC -1	Asbestos (ACM> 7mm)	■ NEPM HSL-D (Asbestos)	■ TP19/01 (0.1)
AEC-3A	TRH C6-C10 less BTEX	■ WARP SSTL (Vapour Intrusion (commercial worker)	■ MW18/24 (1.2) ■ TP18/20 (0.45, 0.7, 1.2) ■
AEC-3B	Asbestos (ACM >7mm)	■ NEPM HSL-D (Asbestos)	■ TP19/32 (0.1)
AEC-3C	■ Carcinogenic PAHs (reported at benzo(a)pyrene TEQ); ■ TRH >C16-C34 Fraction	■ WARP SSTL - Direct Contact (Commercial worker, construction worker)	■ TP19/16 (0.8)
AEC-3D	TRH >C12-C16 Aromatic	■ WARP SSTL (Vapour Intrusion (commercial worker)	■ TP19/17 (0.5)
AEC-3E	■ TRH C6-C10 less BTEX ■ TRH >C10-C12 Aliphatic ■ TRH >C10-C12 Aromatic ■ TRH >C12-C16 Aromatic	■ WARP SSTL (Vapour Intrusion (commercial worker) ■ WARP SSTL - Direct Contact (Commercial worker, construction worker)	■ TP21/79 (0.2)

Area of Environmental Concern (AEC)	Contaminant of Concern	Criteria Exceeded	Relevant Locations (depth in m BGL)
AEC-4	**Vapour Intrusion** ■ Benzene ■ TRH> C6-C10 (F1) Fractions ■ TRH C6-C16 Aliphatic ■ TRH C7-C16 Aromatic **Inhalation – Asbestos** ■ Asbestos (ACM>7mm) ■ Asbestos (FA+AF <7mm) **Direct Contact –** ■ TRH >C10-C34 ■ Carcinogenic PAHs ■ hexavalent Chromium	■ WARP SSTL (Vapour Intrusion (commercial worker) ■ NEPM HSL-D (Asbestos) ■ WARP SSTL - Direct Contact (Commercial worker, construction worker)	■ TP18/27 (1.2, 1.8, 3.0) ■ TP19/19 (0.6) ■ SB5B (1.0) ■ TP19/77 (1.5, 4.0) ■ TP19/23 (1.5) ■ TP19/25 (1.3) ■ TP19/75 (1.5) ■ TP19/81 (1.0) ■ TP19/68 (1.0) ■ TP19/76 (1.0) ■ TP19/74 (1.5) ■ TP19/21 (2.0, 2.8) ■ TP19/74 (1.4) ■ TP19/76 (2.2) ■ MW12/01 (2.0) ■ TP19/83 (1.0) ■ TP19/84 (1.0, 2.0)
AEC-11 [1]	■ TRH >C10-C12 Aliphatic ■ TRH >C12-C16 Aliphatic	■ WARP SSTL (Vapour Intrusion (commercial worker) ■	■ HA19/04 (0.4) [1] ■ HA19/05 (0.5) [1] ■ HA19/09 (0.8) [1]
AEC-14A	■ TRH C6-C10 less BTEX ■ TRH >C10-C12 Aliphatic	■ WARP SSTL (Vapour Intrusion (commercial worker)	■ TP20/28 (1.55)
AEC-14B	■ TRH C6-C10 less BTEX ■ TRH >C12-C16 Aromatic ■ TRH >C10-C12 Aliphatic ■ TRH >C21-C35 Aromatic	■ WARP SSTL (Vapour Intrusion (commercial worker) ■ WARP SSTL - Direct Contact (Commercial worker)	■ TP20/29B_0.5 ■ TP20/29C_0.5 ■ TP20/30_0.5 ■ TP20/28 (1.55)

Notes: 1. Vapour intrusion risk for AEC-11 assessed via direct soil vapour measurement (SV19/06)

As identified in the HHERA, inhalation of dusts or potential asbestos fibres from isolated ACM in soils (MW11/14) was conservatively identified as a potential risk based on the presence of asbestos (which was not quantified). Further investigation and quantification in this area was undertaken (ERM, 2021b) and was reported to be compliant with commercial/ industrial (NEPM HSL-D) criteria (TP21/12).

5.2 Groundwater

LNAPL has been identified during previous groundwater monitoring events at the following monitoring wells located within the Stage 2 Area:

- 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.

Groundwater monitoring of nearby wells have demonstrated no down gradient migration of LNAPL from these isolated areas. Associated dissolved phase concentrations are limited in extent and are delineated to within the Stage 2 boundary.

Concentrations of COPCs in groundwater have been reported below adopted SSTLs for on-site human health. The following exceedances of off-site criteria for human health and ecological receptors have been reported in the groundwater monitoring dataset during groundwater monitoring events undertaken in the last 5 years (2016 – 2021):

- MW12/03 (AEC-3D), MW20/03 and MW20/13 (AEC-4): naphthalene exceeding offsite ecological criteria;
- MW20/01A, MW20/03, MW20/06, MW20/07, BH116, MW20/13 (AEC-4): PAHs including phenanthrene, fluoranthene, anthracene and benzo(a)pyrene;
- MW11/06: hexavalent chromium exceeding ecological criteria; and
- MW20/03 and MW20/13 (AEC-4): benzene exceeding offsite recreational (human health) criteria.

Within soil leachate samples collected of soils from within the buried waste mound within AEC-4, Naphthalene and zinc were identified to exceed the adopted ecological water criteria in ASLP samples collected. PFOS and TRH C10-C40 fractions were detected at concentrations exceeding the laboratory LOR in ASLP on soils but were less than the assessment criteria in groundwater.

Down gradient delineation of the above COPCs has been demonstrated through monitoring data to below relevant criteria in groundwater and therefore potential risks to offsite receptors (Duck River) have not been identified.

5.3 Soil Vapour

A total of 6 Soil vapour monitoring wells have been installed within the Stage 2 area, as shown on Figure 6E:

- AEC-2 (CDU Tank farm sludge): SV19/04
- AEC-3A (Former Laboratory Area): SV19/05
- AEC-3C (former contractor warehouse – PAH hotspot): SV19/10
- AEC-3D (former contractor warehouse): SV19/03
- AEC-5 (former Platformer 3 Area): SV19/09
- AEC-11 (Tank farm A3): SV19/06

Laboratory analytical results identified exceedances of the SSTLs for soil vapour:

- AEC-3D (SV19/03):
  - TRH >C8-C10 Aliphatic;
  - TRH >C10-C12 Aliphatic;

- Naphthalene;
- Methane (see below note)

- AEC-3A (SV19/05):
  - TRH >C6-C8 Aliphatic;
  - TRH >C8-C10 Aliphatic;
  - TRH >C8-C10 Aromatic;
  - Benzene;
  - Naphthalene; and
  - Methane (see below note)

Hazardous ground gas categorisation was undertaken for methane and carbon dioxide concentrations in accordance with the NSW EPA ground gas guidance (NSW EPA 2019[4]). Based on soil vapour monitoring undertaken, these gases in wells sampled across Stage 2 were generally categorised as having a "very low" safety risk in accordance with of the Ground Gas Guidance[5]. As such, consideration of hazardous ground gases in future management and/or remediation decisions for the future construction of buildings with enclosed spaces are not warranted in these areas.

Soil vapour monitoring wells SV19/03 and SV19/05 were categorised as having a "low" safety risk and has potential for formation of methane within future indoor air spaces. As such, consideration of hazardous ground gases in future management of the site will be required, should the source of methane (LNAPL) not be remediated in these areas. Given the inability to assess soil vapour and ground gases at AEC-4, where a similar prevalence of LNAPL and volatile COPCs have been noted, it is conservatively assumed that further assessment or management of ground gas risks to future buildings would be required.

5.4 Light Non Aqueous Phase Liquids (LNAPL)

Characterisation of Light Non Aqueous Phase Liquids (LNAPL) across the Stage 2 Area has been refined through the extensive investigation works outlined in Section 4. A LNAPL CSM (L-CSM) has been developed in accordance with the framework provided within CRC Care (2015)[6] and is provided as *Appendix F*.

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 in excess of these criteria may indicate potential for the formation of LNAPL.

The extent of LNAPL identified, including Management Limit exceedances is provided in Figures 6A-6C. The occurrence of measureable LNAPL in groundwater monitoring well network is shown on Figure 6D.

Where SSTLs are not exceeded, the occurrence of LNAPL (within the soil profile and or observed in shallow groundwater) or soil concentrations exceeding Management Limits on site does not constitute a human health risk. Ongoing management of residual LNAPL is required. The remedial strategy for LNAPL in Stage 2 is further detailed in Section 7.

[4] NSW Environment Protection Authority (2019). *Assessment and Management of Hazardous Ground Gases*. Contaminated Land Guidelines

[5] NSW Environment Protection Authority (2019). *Assessment and Management of Hazardous Ground Gases*. Contaminated Land Guidelines

[6] CRC Care (2015). A Practitioner's guide for the analysis, management and remediation of LNAPL. Technical Report No 34. CRC for Contamination Assessment and Remediation of the Environment, Adelaide, Australia

6 CONCEPTUAL SITE MODEL

On the basis of previous investigations discussed within Section 4, and nature and extent of impacts within Section 5, a summary of the Conceptual Site Model relevant to the Stage 2 Area is provided below.

6.1 Potential Sources and Contaminants of Concern

Primary sources of soil and groundwater impacts formerly included the refinery processing infrastructure which has been decommissioned / removed from the Stage 2 Area.

Potential sources and assessed contaminants of concern are summarised for each AEC in Table 8.

6.2 Migration Pathways

The identified potential migration pathways for COPCs in soil, groundwater and soil vapour are:

- Leaching of impacted soils from historical waste burial, compromised sections of the drainage network or historical surface spills to shallow groundwater or via runoff to the surface water drainage network;
- Lateral migration of contaminants in groundwater;
- Off-site groundwater migration and discharge to the neighbouring surface water bodies;
- Vapour intrusion of petroleum hydrocarbon contaminated groundwater or LNAPL to indoor environments; and
- Dust entrainment from impacted soils exposed during excavation.

6.3 Exposure Pathways

The following exposure pathways for on-site receptors were assessed in the Tier 2 screening (ERM 2020b):

- Inhalation of dusts or potential asbestos fibres from impacted soils during future excavation or landscaping works
- Direct contact or ingestion of impacted soils, groundwater or surface water drainage during intrusive maintenance works or sampling works.
- Inhalation of vapours by on site workers from hydrocarbon impacted soil, groundwater and/or LNAPL in indoor air.
- Potential acute hazards during intrusive works and/or in future buildings due to the generation and pooling of ground gases from LNAPL and impacted soil.

Additionally, the following exposure pathways for offsite receptors (specific to PFAS) were:

- Direct exposure to impacted surface water in the Duck and Parramatta Rivers; and
- Indirect human health exposure via consumption of PFAS-containing biota (bioaccumulation).

6.4 Receptors

The human receptors identified within the CSM that may be impacted by the identified COPCs in soil and groundwater include the following:

- Future on-site commercial workers in indoor settings, noting no slab on grade buildings exist on the Stage 2 Area;
- Off-site commercial workers in outdoors setting, noting that this exposure pathway is currently considered relevant only during remediation works;

- Current and future on-site intrusive maintenance workers or construction workers undertaking earthworks;
- Off-site recreational users of the Duck and Parramatta River Systems; and
- Recreational anglers who may consume seafood potentially impacted with PFAS caught in the Duck River / Parramatta River downstream from the site.

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

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. Potentially complete pathways are therefore currently considered managed. Future land users would not be subject to the same controls and therefore remediation/management of any potentially complete exposure pathways would be required.

Given the extensive coverage of the Western Area in concrete hardstand and limited available on-site habitat, on-site ecological receptors are considered to have limited value. Given the proposed slab-on–grade commercial/industrial future land use, this assessment will also apply under future development scenarios.

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.

6.5 Source Pathway Receptor Linkages

The assessment undertaken within the HHERA (ERM 2020a) outlined potential SPR linkages in the CSM based on Areas of Environmental Concern (AECs).

The Stage 2 Area comprises data points from AEC-1, AEC-2, AEC-3, AEC-4, AEC-5, AEC-8, AEC-11 and portions of AEC-7, AEC-13, AEC-14 and AEC-15.

Based on the tier 2 assessment undertaken in the HHERA (ERM, 2020b), and subsequent investigations outlined in Section 4, the below SPR linkages are relevant to the specific AECs within the Stage 2 Area and may constitute a risk to receptors:

- Indoor inhalation of vapours by future on site commercial workers from hydrocarbon impacted soil and LNAPL within the soil profile;
- Direct contact with contaminated soils by future on-site commercial workers and construction workers undertaking intrusive works;
- 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; and
- Potential acute hazards within future indoor settings where potential for hazardous ground gas accumulation from LNAPL which contains volatile COPCs exceeding SSTLs for vapour intrusion or has measured ground gas concentrations classed as CS4 or higher as per Hazardous Ground Gas Guidance[7] (NSW EPA, 2020)(AEC-3A, AEC-3D, AEC-4).

[7] NSW Environment Protection Authority (2020). *Assessment and Management of Hazardous Ground Gases*. Contaminated Land Guidelines

Residual soil and groundwater impacts and LNAPL which have been identified to not present a risk to human health or the environment but will require management (via a Long Term Environmental Management Plan) include the following:

- Identification of areas of aesthetic impact (staining, sheen, LNAPL) for appropriate waste management, odour management during future excavations;
- Identification of sections of pipework left in-situ containing residual hydrocarbons;
- Prevention of groundwater extraction on site;
- Implementation of a program of post-remediation groundwater monitoring;
- Unexpected finds.

Table 6-1 – Source-Pathway-Receptor Linkage Summary (Stage 2 Area)

The CSM presented below was developed within the ERM (2020) HHERA based on information collected during previous investigations summarised in Section 4.

Area Of Environmental Concern	Potential Sources/ Assessed COPCs	Remaining COPCs	Potentially Complete SPR Linkages	
			Human Health	Ecological
AEC-1 Old Administration Area	Primary source areas within AEC-1 included former administration buildings and the former substation (11) which has been decommissioned and demolished. Potential sources of contamination are considered to be limited to on-site burial of fill materials. CoPCs assessed included: ■ TRH C6-C40, Metals, PAH, Phenols, Asbestos (fill) ■ PFAS (groundwater only)	Soil ■ Asbestos (ACM)	■ Inhalation of dusts or potential asbestos fibres from isolated ACM impacted soils (TP19/01) during excavation by current and future on-site intrusive maintenance workers or construction workers undertaking earthworks.	■ No potentially complete SPR linkages to ecological receptors identified
AEC-2 Buried Waste Area 8 – CDU tank farm sludge	Primary sources within AEC-2 include buried waste materials associated within the CDU tank farm sludge that at the time of this RSI remain in-situ. CoPCs assessed included: ■ TRH C6-C40, BTEXN, Metals, PAH, Phenols.	Soil ■ LNAPL	■ No exceedances of tier 1 screening criteria are noted for this AEC; ■ Based on the observed presence of LNAPL within the soil profile at TP18/29 within this AEC, aesthetics (odour/staining encountered during future earthworks) and the potential effects of hydrocarbons on future buried infrastructure should be considered within the detailed RAP and/or future Long Term Environmental Management Plans.	■ No potentially complete SPR linkages to ecological receptors identified
AEC-3 Southern Contractor Area Including the following sub-areas	Potential historical sources of impacts which have been decommissioned / removed from AEC-3 included: ■ sample store and laboratory area (AEC-3A and 3B);	Soil ■ LNAPL ■ TRH C6-C10 (F1)	■ Inhalation of vapours from hydrocarbon impacted soil, and LNAPL within the soil profile by future on site commercial workers in indoor air (AEC-3A, AEC-3D, AEC-3E);	■ No potentially complete SPR linkages to ecological receptors identified

Area Of Environmental Concern	Potential Sources/ Assessed COPCs	Remaining COPCs	Potentially Complete SPR Linkages	
			Human Health	Ecological
refined based on SPR linkages: ■ AEC-3A (Former Laboratory Area) ■ AEC-3B (Former Laboratory Area – Asbestos impacts) ■ AEC-3C (Former Contactor Warehouse (PAH hotspot)) ■ AEC-3D (Former Contactor Warehouse) ■ AEC-3E (TRH hotspot TP21/79)	■ storage and handling of AFFF products around the former location of Tank 24 and the Former Fire Station area; ■ contractor warehouse (AEC-3D); ■ workshop area; ■ Epoxy resins Plant. Secondary sources include subsurface soils containing LNAPL and surface / surface materials potentially impacted with PFAS CoPCs assessed included: ■ TRH C6-C40, BTEXN, Metals, PAH, Phenols, VOC/SVOC, Asbestos Specific to the Epoxy resins plant area: ■ Epichlorohydrin ■ bisphenol-a (BPA) ■ SVOC, VOC. Specific to the Fire Station area: ■ PFAS	■ Asbestos (ACM) ■ Carcinogenic PAHs <u>Groundwater</u> ■ LNAPL <u>Soil Vapour</u> AEC-3D (SV19/03): ■ TRH >C8-C10 Aliphatic; ■ TRH >C10-C12 Aliphatic; ■ Naphthalene; ■ Methane (associated with LNAPL source) AEC-3A (SV19/05): ■ TRH >C6-C8 Aliphatic; ■ TRH >C8-C10 Aliphatic; ■ TRH >C8-C10 Aromatic; ■ Benzene; ■ Naphthalene; and ■ Methane (associated with LNAPL source)	■ Inhalation of dusts or potential asbestos fibres from isolated ACM in soils (AEC-3B - TP19/32) during excavation by current and future on-site intrusive maintenance workers or construction workers undertaking earthworks. ■ Direct contact or ingestion of soils impacted with carcinogenic PAHs (AEC-3C - TP19/16) or TRH C16-C34 fractions by on-site intrusive maintenance workers or construction workers undertaking earthworks. ■ Based on the observed presence of LNAPL within soil/ and groundwater wells screening LNAPL soil sources within AEC-3A and AEC-3D, soil vapour and ground gas assessment undertaken, elevated LEL/ methane readings in soil vapour there is potential for pooling of ground gases within future excavations. Infiltration of ground gases (methane) into future indoor air spaces is to be addressed via source removal of LNAPL. ■ The potential effects of hydrocarbons on future buried infrastructure and aesthetics should also be considered within the detailed RAP and/or future Long Term Environmental Management Plans.	

Area Of Environmental Concern	Potential Sources/ Assessed COPCs	Remaining COPCs	Potentially Complete SPR Linkages	
			Human Health	Ecological
AEC-4 Southern Buried Waste Area	Primary sources within AEC-4 include buried waste materials that at the time of this remain in-situ. CoPCs assessed included: ■ TRH C6-C40, BTEXN, Metals, PAH, Phenols, SVOC, pH (associated with acids), Dioxins, PFAS, Asbestos	<u>Soil</u> ■ LNAPL ■ TRH C6-C40 ■ Benzene ■ Asbestos (ACM and fibres within fill) ■ Metals (hexavalent chromium) ■ Carcinogenic PAHs ■ PFAS <u>Groundwater</u> ■ LNAPL	<u>Soil</u> ■ Indoor inhalation of vapours by future commercial/industrial workers (benzene, TRH C6-C10 (F1) fractions) from LNAPL and hydrocarbon impacted soil. ■ Inhalation of dusts or potential asbestos fibres from ACM and fibrous asbestos and asbestos fines within soil in soils during excavation by current and future on-site intrusive maintenance workers or construction workers undertaking earthworks. ■ Direct contact or ingestion of impacted soils (TRH >C10-C16 (F2) Fraction, TRH >C16-C34 Fraction, carcinogenic PAHs, hexavalent chromium), by on-site intrusive maintenance workers or construction workers undertaking earthworks. ■ Based on the observed presence of LNAPL within soil/ and groundwater within this AEC, there is potential for pooling of ground gases within future excavations undertaken by on-site intrusive maintenance or construction workers as well in enclosed air spaces in future development of buildings. The potential effects of LNAPL on future buried infrastructure and aesthetics (particularly odour generation) should also be considered within the detailed RAP and/or future Long Term Environmental Management Plans for this AEC. <u>Groundwater</u> ■ No potentially complete SPR linkages were identified for on-site or off-site human health receptors	No potentially complete SPR linkages to ecological receptors identified. ■ PAHs (including naphthalene, anthracene, benzo(a)pyrene, fluoranthene, phenanthrene) exceeding ecological criteria in groundwater have been identified within the northern portion of AEC-4 but have been laterally delineated to below assessment criteria within the Site. ■ PFAS (specifically PFOS) has been identified in soil and soil leachate samples within the which within the northern portion of AEC-4 and given high solubility may contribute to future offsite groundwater migration. Requires ongoing monitoring as part of the groundwater monitoring program.
AEC-5 Platformer 3	■ Primary sources areas within AEC-5 (platformer 3) have been decommissioned / removed.	<u>Groundwater</u> ■ LNAPL (MW11/17)	■ No exceedances of screening criteria are noted for this AEC; Based on the observed presence of LNAPL within shallow groundwater at MW11/17 within this AEC,	■ No potentially complete SPR linkages to ecological receptors identified

Area Of Environmental Concern	Potential Sources/ Assessed COPCs	Remaining COPCs	Potentially Complete SPR Linkages	
			Human Health	Ecological
	■ Secondary sources include subsurface soils/groundwater containing LNAPL CoPCs assessed included: ■ TRH C6-C40, BTEXN, Metals, PAH, Phenols		aesthetics (odour/staining encountered during future earthworks) and the potential effects of hydrocarbons on future buried infrastructure should be considered within the detailed RAP and/or future Long Term Environmental Management Plans.	
AEC-8 Tank farm J	■ Primary sources areas within AEC-8 included former fuel storage infrastructure, which has been decommissioned / removed. ■ Secondary sources include subsurface soils containing LNAPL CoPCs assessed included: ■ TRH C6-C40, BTEXN, PFAS	Soil ■ LNAPL	■ Based on the isolated presence of LNAPL within the soil profile at TP18/31 within this AEC, there is potential for pooling of ground gases within future excavations undertaken by on-site intrusive maintenance or construction workers. The potential effects of hydrocarbons on future buried infrastructure and aesthetics should also be considered within the detailed RAP and/or future Long Term Environmental Management Plans for this area.	■ No potentially complete SPR linkages to ecological receptors identified
AEC-11 Tank farms A1, A2, A3	■ Primary sources areas within AEC-11 included fuel storage infrastructure, which at the time of this RSI remain onsite. ■ Secondary sources include subsurface soils containing LNAPL and surface / surface materials potentially impacted with PFAS CoPCs assessed included: ■ TRH C6-C40, BTEXN, Metals, PCB, PFAS, Dioxins	Soil ■ LNAPL	■ Based on the observed presence of LNAPL within soil within this AEC, there is potential for pooling of ground gases within future excavations undertaken by on-site intrusive maintenance or construction workers. The potential effects of hydrocarbons on future buried infrastructure and aesthetics should also be considered within the detailed RAP and/or future Long Term Environmental Management Plans.	■ No potentially complete SPR linkages to ecological receptors identified.
AEC-13 Substation Areas and Transformer Yards	■ Primary sources areas within AEC-13 include former substation infrastructure, which has been decommissioned / removed. Substation areas	Nil	■ No potentially complete SPR linkages to human health receptors identified.	■ No potentially complete SPR linkages to ecological receptors identified.

Area Of Environmental Concern	Potential Sources/ Assessed COPCs	Remaining COPCs	Potentially Complete SPR Linkages	
			Human Health	Ecological
	assessed include substation and transformer footprints, as identified on Figure 6 of the RSI Report (ERM, 2020a). ■ Substations 9 and 23 were unable to be sampled due to their ongoing operation at the time of the investigation. CoPCs assessed included: ■ BTEXN, Metals, PCBs, Asbestos			
AEC-14 Subsurface drainage network Including the following sub-areas refined based on SPR linkages: ■ AEC-14A (Compromised Pipe 18D300-5) ■ AEC-14B (Compromised Pipes 15D100-4, 15D100-5)	■ Primary sources areas within AEC-14 include compromised or leaking subsurface drainage infrastructure, which contained hydrocarbon/oily water from product storage and handling areas. ■ Secondary sources include subsurface soils containing LNAPL and surface materials potentially impacted with PFAS CoPCs assessed included: ■ TRH C6-C40, BTEXN, Metals, PAH, Phenols, SVOC, pH (associated with acids), Dioxins, PFAS, Asbestos	<u>Soil</u> ■ LNAPL ■ TRH C6-C10 ■ TRH >C10-C12 (Aliphatic) ■ TRH >C12-C16 (Aromatic) ■ Carcinogenic PAHs	■ Indoor inhalation of vapours from volatile TRH fractions (C6-C16) by future on site commercial workers from hydrocarbon impacted soils at: ▪ AEC-14A (TP20/28) ▪ AEC-14B (TP20/29a, TP20/29b, TP20/29c, TP20/30, TP21/07) ■ Direct contact with contaminated soils (carcinogenic PAHs) by future on-site construction workers undertaking intrusive works: ▪ AEC14B (TP20/30, TP21/07) The presence of LNAPL and soils exceeding TRH management limits associated with the drainage network in Stage 2 as shown on Figures 6A-6C requires management under a LTEMP for aesthetic/ odour impacts identified during future works.	■ No potentially complete SPR linkages to ecological receptors identified.
AEC-15 General Site Areas (not covered within other AECs)	■ Primary sources areas within AEC-15 include a range of former processing and fuel storage infrastructure, which has been removed. ■ Secondary sources include subsurface soils containing LNAPL	<u>Soil</u> ■ LNAPL	■ No exceedances of screening criteria are noted for this AEC; The presence of LNAPL of management limit exceedances for TRH fractions as shown on Figures 6A-6C will require management under a LTEMP for aesthetic/ odour impacts potentially encountered during future excavation works.	■ No potentially complete SPR linkages to ecological receptors identified.

Area Of Environmental Concern	Potential Sources/ Assessed COPCs	Remaining COPCs	Potentially Complete SPR Linkages	
			Human Health	Ecological
	CoPCs assessed included: ■ BTEXN, TRH C6-C40, Metals, PAH, Phenols, Asbestos (fill)		As identified in the HHERA, inhalation of dusts or potential asbestos fibres from isolated ACM in soils (MW11/14) was conservatively identified as a potential risk based on the presence of asbestos (which was not quantified). Further investigation and quantification in this area was undertaken and it was subsequently found to be compliant with commercial/ industrial criteria (TP21/12).	

7 REMEDIATION STRATEGY

7.1 Overall objectives

The remediation objectives for the project, as defined within the Conceptual RAP (AECOM, 2019) are as follows:

- "Remediate the soil and manage groundwater within the appropriate parts of the Western Area , to enable the land to be used for commercial/ industrial purposes in the future, thereby reducing the risk of contamination from the land adversely affecting human health and the environment;
- Ensure any approved remediation process that is implemented adheres to all applicable regulatory requirements so as to limit or eliminate where possible adverse effects to human health or ecological receptors"

The remediation strategy for the Stage 2 Area is consistent with the above objectives and the strategy outlined within Section 12 of the Conceptual Remediation Action Plan (AECOM, 2019[8]), which states:

Where remediation is required, the focus of the works would be on:

- Addressing petroleum hydrocarbon impacts on shallow soil horizons;
- Addressing soil/sludge impacts in the drainage network and surrounds;
- Removing LNAPL trapped within shallow soils to the extent practicable[9]; and
- Ensuring short or long-term contamination risks to the environment are removed or mitigated.

The requirement to remove LNAPL is based on the level of potential human health risk for the proposed commercial/ industrial end use. Given the established stability and delineation of LNAPL and associated dissolved phase impacts to on-site environments, removal of LNAPL to reduce groundwater migration is not a key remediation driver. The proposed strategy, which focuses on excavation of soils for on-site treatment will appropriately remove LNAPL which drives risk to receptors to the extent practicable. Further information regarding LNAPL characterisation, stability and requirement for remediation is provided within *Appendix F*.

Timeframes for achievement of the above remediation objectives are driven by the potential divestment and redevelopment of the Stage 2 Area, in which progressive validation and the issuing of Site Audit Statements of portions of the Stage 2 Area will be completed throughout 2021.

7.2 Remediation Criteria

The HHERA derived risk-based Site Specific Target Levels (SSTLs) for soil, groundwater and soil vapour, based on the proposed future land use as a slab on grade commercial/industrial development were developed and summarised in Table D1 of Appendix D.

SSTLs were derived for contaminants of concern based on the results of the Tier 1 screening undertaken within the RSI Report (ERM 2020a). Where potentially complete source-pathway receptor linkages were identified in the CSM from the RSI, the HHERA further assessed and derived SSTLs for the following exposure pathways:

- Direct contact or ingestion of impacted soils by future on-site commercial workers, intrusive maintenance workers (IMWs)/ construction workers undertaking earthworks;
- Inhalation of vapours by future commercial workers in indoor air;

[8] AECOM (2018) Viva Energy Clyde Western Area Remediation Project. Appendix C: Conceptual Remedial Action Plan

[9] Removal of LNAPL 'to the extent practicable' is defined as whereby that residual risks are mitigated or able to be managed passively under a Long Term Environmental Management Plan (LTEMP)

SSTLs for TRH fractions were derived for specific aliphatic and aromatic hydrocarbons fractions. As certain remediation methods result in the breakdown of petroleum hydrocarbons that alters the fraction specific make-up (e.g. natural attenuation, bio-piling), the fraction specific SSTLs may be used in post-remediation validation.

The generation of polar compounds has been highlighted within AEC-9 Soils and the wider site through natural aerobic bio-degradation processes which have been occurring in-situ, and may cause false positives in TRH results. As such, TRH C10-C40 silica gel clean-up analysis should be utilised to remove degradation by-products for the assessment of stockpiles treated via bioremediation.

Trigger levels for future site management considerations include exceedances of the following guidance from the ASC NEPM:

- Exceedances of the NEPM HSL-D criteria for asbestos in soils at depths which will not be exposed at the ground surface under future commercial/industrial use;
- TRH Management Limits for LNAPL management. Management considerations include the potential for formation of observable LNAPL, acute hazards via pooling of ground gases within future excavations, aesthetics and the effects of petroleum hydrocarbons on future buried infrastructure.

7.3 Requirement for Remediation or Management

The primary driver for remediation within the Stage 2 Area is the potential for indoor inhalation of vapours by future on site commercial workers from hydrocarbon impacted soil and LNAPL. These exceedances are shown of Figures 6A (0-1m), 6B (1-2m) and 6C (2-4m). Potential for vapour intrusion risks from soils at depths greater than 4m were not identified through tier 1 screening and are therefore not requiring remediation.

Given the proposed future redevelopment as a commercial/industrial estate with limited access to soils afforded by concrete hardstand, isolated soil impacts may be subject to passive management controls under a LTEMP under the following circumstances:

- Asbestos in soils at depths >0.2m from the final finished surface level;
- Soils which exceed direct contact SSTLs;
- Residual LNAPL or soils with TRH fractions exceeding ‘TRH management limits’ which do not exceed relevant vapour intrusion SSTLs.

Based on the outcomes of the ERM (2020) RSI and HHERA summarised within Table 7-1, ERM considered the following CoPCs as requiring remediation or management within each AEC:

Table 7-1 – Contaminants of Concern Requiring Remediation and/or Management

AEC	CoPC Requiring Remediation	Management	Comments
AEC – 1: Old Administration Area	■ Asbestos (ACM)	Not Applicable	
AEC – 2: Buried Waste Area 8 – CDU tank farm sludge	No remediation Required	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	
AEC-3A: Former Laboratory	■ Benzene, ■ naphthalene,	■ Residual LNAPL/ Soil concentrations	Methane associated with LNAPL as

AEC	CoPC Requiring Remediation	Management	Comments
	■ TRH >C6-C10 (F1) Fractions, ■ methane	exceeding Management Limits for TRH	measured via previous soil vapour results
AEC-3B: Former Laboratory (ACM impacted Area)	■ Asbestos (ACM)	Not applicable	
AEC-3C: Former Contactor Warehouse (PAH hotspot)	No remediation required	■ Direct Contact - Carcinogenic PAHs ■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	■ Direct contact risk only – management under future slab
AEC-3D: Former Contactor Warehouse	■ TRH >C8-C12 (aliphatic) fractions; ■ Benzene; ■ Naphthalene ■ Methane	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	■ Methane and naphthalene associated with LNAPL within the soil profile as measured via previous soil vapour results
AEC-3E: TRH Hotspot (TP21/79)	■ TRH> C6-C10 (F1) Fractions; ■ TRH >C10-C12 Aliphatic Fractions	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	
AEC – 4: Southern Buried Waste Area	<u>Vapour Intrusion/ Ground Gas –</u> ■ Benzene ■ TRH> C6-C10 (F1) Fractions ■ Methane [1]	<u>Inhalation –</u> ■ Asbestos <u>Direct Contact –</u> ■ TRH >C10-C34 Fractions, ■ Carcinogenic PAHs, ■ hexavalent Chromium ■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH <u>Offsite ecological –</u> ■ Monitoring of groundwater for COPCs associated with in-situ material (BTEX, TRH, PAH, hexavalent chromium, PFAS)	■ Rationale for management of vapour intrusion risks vs remediation provided in Sections 8.2 and 8.3
AEC – 5: Platformer 3	No remediation required	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	
AEC – 8: Tank farm J	No remediation required	■ Residual LNAPL/ Soil concentrations exceeding	

AEC	CoPC Requiring Remediation	Management	Comments
		Management Limits for TRH	
AEC – 11: Tank farms A1, A2, A3	No remediation required	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	
AEC – 14: Subsurface drainage network	■ NA	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH ■ Management of Residual hydrocarbons within pipework post-decommissioning	Details of residual hydrocarbons associated with the subsurface drainage network are detailed within the Stage 2 Drainage Decommissioning Validation Report (ERM, 2021d)
AEC-14A: Compromised Pipe 18D300-5	■ TRH>C6-C10 (F1) Fractions	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	
AEC-14B: Compromised Pipes 15D100-4, 15D100-5	■ TRH>C6-C10 (F1) Fractions	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH ■ Direct Contact - Carcinogenic PAHs (TP21/07)	
AEC- 15	No remediation required	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	

Notes: 1. As per the HHERA, given the data gap of no ground gas data for AEC-4, consideration of hazardous ground gases in future management and/or remediation decisions for the development of enclosed spaces is warranted.

Methane concentrations presenting a risk are directly correlated with LNAPL sources which contain volatile COPCs exceeding SSTLs. Source removal of LNAPL and contaminated soils is proposed to be undertaken to remediate SSTL exceedances and remove LNAPL, which is the source of methane generation. Given the current ground gas classification as CS4 (low risk), levels and flow of methane following removal of soils and backfill of excavation with compacted material is not considered likely to constitute a risk which requires re-installation of ground gas wells for post-work monitoring.

7.4 Remediation Extent

The estimated extent of impacts requiring remediation are shown on *Figure 7*. Details of the vertical and lateral extent of remediation required are provided in Table 7-2 below.

Table 7-2 – Estimated remediation Extent

Excavation Area ID	Estimated Area (m^2)	Estimated Remediation Depth (m BGL)	Estimated In-Situ Soil Remediation Volume (m^3)	Assumptions
AEC-1	113	0.2	23	Volume and footprint reduced based on lateral delineation achieved around TP19/01
AEC-3A	1,583	2	3,166	Average 2 m excavation depth based on max depth of impacts at SB-MW18/24 of 2.2 m, shallower (to 0.5 m at TP18/20). LNAPL removal within shallow soils required to remove source of methane
AEC-3B	678	1	678	Excavation of fill material containing demolition waste (0.8 m BGL), based on TP19/32 and similar material observed across surface of area
AEC-3D	421	2	842	2 m excavation to remove source of vapour impacts (shallows soils and LNAPL trapped in soils to level of groundwater) based on PID readings at TP19/17 to 2 m within clay LNAPL removal required to remove source of methane
AEC-3E	1,400	1	1,400	Lateral extent subject to further refinement through data gap investigation
AEC-4	13,396	0.5	6,968	Assumes nominal upper 0.5 m of surface soils disturbed during future surface reforming and capping
AEC-14A	50	1.8	90	Assumes backfill sands to a width of 2 m will be excavated along alignment of pipe.
AEC-14B	192	1	192	Assumes backfill sands to a width of 2m will be excavated along alignment of pipe. Max depth of backfill to be excavated 1 m based on observed pipe depth of approximately 0.5 m.
TOTAL	**18,543**		**13,359**	

The estimated lateral extent of remediation has been defined based on:

- The distribution of investigation locations which have soil, groundwater or soil vapour samples exceeding SSTLs, to the extent of the nearest location with sample results below remediation SSTLs.

The estimated vertical extent of remediation has been based on the following lines of evidence:

- Depth of soil samples exceeding SSTLs and depth of underlying soil samples below SSTLs;
- Depth of fill material; and
- Average depth to groundwater (and associated overlying LNAPL within the 'vadose zone').

Exceedances of remediation SSTLs for groundwater and soil vapour for COPCs which were not present within soil samples suggests contamination associated with LNAPL within the vadose zone (AEC-3A and AEC-3C). Methane classification of CS4 (Low risk) as per NSW EPA (2020) hazardous Ground Gas Guidance associated with LNAPL degradation was also identified at these locations.

The estimated vertical extent of remediation is proposed to remediate contaminated fill material overlying natural clay material and remove residual LNAPL at or above the level of groundwater which is driving SSTL exceedances in soil vapour.

For the Stage 2 Area, where LNAPL or shallow soil impacts have been identified at concentrations below SSTLs for vapour risk, active remediation has not been proposed. This is due to the isolated nature of these exceedances and low potential for these areas of the site to act as an ongoing source of impact to groundwater. Detailed information relating to LNAPL encountered across the Stage 2 Area is provided in the LNAPL CSM, provided *Appendix F*.

Management of residual conditions, including aesthetically impacted areas (staining) with potential to generate odours during future excavation will be managed via the preparation and implementation of a Long Term Environmental Management Plan (LTEMP) for future site occupation (see Section 10.4).

7.5 Subsurface Drainage Infrastructure

As detailed within the Stage 2 Drainage Decommissioning Validation Report (ERM 2021d), the former subsurface drainage network remains in-situ. Residual conditions remaining following drainage decommissioning works which require management include:

- Release of residual sludge/ LNAPL to soil and/or groundwater during excavation of pipework or drainage infrastructure.
- Safety controls for workers undertaking removal of pipework or sludge to mitigate against hydrocarbon exposure via dermal contact/ ingestion and/or inhalation of vapours.
- Identification of known areas of residual hydrocarbons in soil which have potential for the presence of visible staining and/or generation of odours/ vapours during future excavation works.

The location of residual contamination within pipework and within backfill material surrounding pipes which requires remediation or management have been incorporated into the overall Site Characterisation and Conceptual Site Model presented in Sections 5 and 6 of this RAP.

8 REMEDIATION OPTIONS ANALYSIS

A Remediation Options Analysis (ROA) has been previously prepared within the following documents ahead of the preparation of this Detailed RAP for discussion and review by key project stakeholders, including the Site Auditor:

- ERM (2020d) Clyde Western Area Remediation Project – Remediation Options Analysis. June 2020.
- ERM (2021f) Clyde Western Area Remediation Project – Remediation Options Analysis (AEC-4).

ERM 2020d presented an ROA for all Stages of the project based on data collected up until June 2020. ERM (2021f) presented a refined understanding of remediation options specific to AEC-4 following completion of additional investigation work (ERM, 2021a).

The co-mingled nature of contaminants, sensitivity associated with proximity to receptors (Duck River and neighbouring commercial properties) and volumes of impacted soil requiring remediation warranted separate consideration of remedial and management options for AEC-4 to the remainder of the Stage 2 Area.

The following subsections provide a summary of information from these ROA documents with updates (as required) specific to the outcomes of additional assessments summarised in Section 4.

8.1 Options Assessment Process

As outlined within the CRC CARE (2018) Guideline on Performing Remediation Options Assessments the objective of this ROA is to provide the following:

- Establish clear and measurable remediation objectives and remediation criteria that will form the basis against which remediation options are assessed; and
- Select technology and management options, or combinations of options, that have the potential to reduce contaminant concentrations and apply management controls as necessary so that the remediation objectives are achieved and no unacceptable risk is posed by the contamination in the context of the proposed site use.

A list of remediation methods available for CoPCs requiring remediation has been generated and evaluated against relevant criteria (effectiveness, timeframes, health and safety, complexity, sustainability and cost). Assessment of remedial options has considered relevant sections of the following guidance:

- The Introduction to the National Remediation Framework, Rev 3 (CRC Care 2018);
- Guidelines for the assessment and remediation of site contamination (EPA July 2018);
- US Federal Remediation Technologies Roundtable (FRTR) Remediation Technologies Screening Matrix and Reference Guide, Version 4.0 (2007);
- Interstate Technology & Regulatory Council (ITRC's) Remediation Process Optimization: Identifying Opportunities for Enhanced and More Efficient Site Remediation (2004);
- Standard Guide for Development of Conceptual Site Models and Remediation Strategies for Light Non-Aqueous Phase Liquids Released to the Subsurface, ASTM International (2014); and
- Sustainable Remediation Forum (SuRF) ANZ; A Framework for Assessing the Sustainability of Soil and Groundwater Remediation (2010).

Effectiveness – The attributes which make the technology effective in dealing with the contaminant(s) in regard to the Conceptual Site Model. Balances the effectiveness (pros) against the limitations (cons) of the technology applied to specific site conditions.

Timeframes - The technologies timeframe for implementation and estimate to reach site goals with consideration to the stakeholder's expectations for completion, including any regulatory requirements for works to be completed.

Health and Safety – The extent of identified health and safety risks and potential mitigations required during the design, implementation, operation and validation of an adopted remedial solution. Consideration given to the practicality of any risk mitigations in relation to site specific land uses, permitting requirements and other site controls that may impact the suitability of any given approach.

Complexity – The relative complexity associated with the design, implementation, operation and validation of an approach. Where remedial solutions are identified to have high levels of complexity, additional consideration is given to the potential for increased timeframes and costs due to system failure / design requirements.

Sustainability- The nature and extent of potential environmental impact from the proposed remedial approach including energy usage, equipment requirements, aesthetics, potential for recycling / re-use for implementation and ongoing operation of remedial works and (where necessary) ongoing site management / monitoring.

Relative costs – The total costs associated with all stages of remedial works including potential ongoing management requirements.

The remedial alternatives also provide a demonstration for the Site Auditor that all relevant options have been appropriately considered, in compliance with referenced Australian guidance.

The Guidelines for the NSW Site Auditor Scheme (3rd edition) (NSW EPA 2017) refer to the hierarchy for site clean-up and/or management outlined in the NEPM (2013). This lists the following order of preference for soil remediation and management:

- On-site treatment of the contamination so that it is destroyed or the associated risk is reduced to an acceptable level; and
- Off-site treatment of excavated soil, so that the contamination is destroyed or the associated risk is reduced to an acceptable level, after which soil is returned to the site;

Or,

- If the above are not practicable;
  - Consolidation and isolation of the soil on site by containment with a properly designed barrier; and
  - Removal of contaminated material to an approved site or facility, followed, where necessary, by replacement with appropriate material;

Or:

  - Where the assessment indicates remediation would have no net environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy.
- The following sections summarise the assessment of remedial options in consideration of the established remedial criteria and NSW EPA hierarchy for site clean-up / management.

8.2 Technologies Overview

8.2.1 Stage 2 Areas (excluding AEC-4)

Technology	Matrix	Effectiveness ● Effective ● Limited ● Ineffective	Timeframe ● <1 year ● 1-5 Years ● >5 Years	Health & Safety ● Few concerns ● Mod concerns ● Many concerns	Complexity ● Low ● Moderate ● High	Sustainability ● Above Average ● Average ● Below Average	Relative Costs ● Low cost ● Mod Cost ● High Cost	Further Evaluation Summary ● ✓ Selected for further evaluation ● ●
<u>Monitored Natural Attenuation (Ongoing site management only)</u> ■ MNA is viewed as a site management approach and not a remedial technique. ■ MNA involves monitoring the natural biological and geo-chemical degradation (aerobic and to a lesser amount, anaerobic), volatilisation, dispersion, sorption, dilution of contaminants in the groundwater plume or soil column	Water	■ Effective in dealing with residual / degraded LNAPL contamination derived from the dissolution of LNAPL or the mass fluctuations from sorbed to dissolved phase petroleum. ■ Natural attenuation is likely ongoing to some degree and will reduce the concentrations of petroleum in the formation over time. ■ The plume must be stable or shrinking to consider, which has been demonstrated at the Clyde site.	■ Potential for protracted period of monitoring to be required. ■ Degradation of plume by natural weathering process can take a long time in comparison to more active technologies, however in this instance, the lack of active methods that are likely to be effective lessons the relevance of a longer timeframe	■ Few safety concerns, monitoring would be undertaken as per established standard site monitoring procedures / permitting requirements.	■ Low complexity in terms of ongoing monitoring, however establishment of an agreed remedial objective, and demonstrating that the objective has been met can be challenging.	■ No ongoing use of infrastructure, power generation required.	■ Low remedial costs, however ongoing monitoring costs are dependent on the nature and specific requirements of closure criteria / monitoring requirements.	√ Selected as preferred option in combination with other methods – Justification provided in Section 8.3.2 below
Land farming (ex-situ): ■ Typically suitable for soils contaminated with low-medium molecular weight hydrocarbons at concentrations closer to the site reuse criteria. Soils are excavated and stored above grade whilst monitoring for contaminant reductions. Some turning of soils may be required.	Soil	■ Proven, commonly employed method. ■ Can support natural attenuation processes already in action.	■ A longer process if LNAPL is present within soil matrix.	■ Potential safety concerns relating to release of vapours liberated during excavation and movement of soils.	■ Potential for emission control enclosure requirements for the excavation, handling and treatment of materials, however where remedial works are staged (reducing the risk of air emissions / odours) enclosures may not be required. ■ Low complexity in relation to establishment and implementation. ■ Longer timeframes required can introduce complications relating to site	■ Limited infrastructure / power generation required	■ Low cost	**X** Not selected as preferred method due to primary mechanism for removal of COPCs being the volatilisation of contaminants to the atmosphere. Regulatory acceptance for this approach may prevent turning of stockpiled material outside of an emissions control enclosure (ECE), the construction and operation of which is which is not suitable in terms of cost and timeframe for the scale of Stage 2 works.

Technology	Matrix	Effectiveness ● Effective ● Limited ● Ineffective	Timeframe ● <1 year ● 1-5 Years ● >5 Years	Health & Safety ● Few concerns ● Mod concerns ● Many concerns	Complexity ● Low ● Moderate ● High	Sustainability ● Above Average ● Average ● Below Average	Relative Costs ● Low cost ● Mod Cost ● High Cost	Further Evaluation Summary ● ✓ Selected for further evaluation ● ●
					management requirements etc.,			
Biopiling (ex-situ): ■ Designed to treat hydrocarbon impacted soil, and combines basic nutrient, pH and moisture conditioning with active extraction of air through soil piles. ■ Vapours extracted via carbon filtration media (SVE system) to emit clean air	Soil	■ Proven common method. ■ Enhances natural attenuation processes already in action.	■ Timeframes for treatment demonstrated to be <10 weeks based on remediation trials and Stage 1 remedial works ■ Higher contaminant loading will require a higher degree of conditioning and or extraction of air.	■ Turning is not required therefore disruption / safety risks through equipment movement onsite is minimised. ■ Potential safety concerns limited to release of vapours liberated during excavation and movement of soils.	■ Requires suitable existing bacterial populations to be present within soil matrix. ERM notes that this has been confirmed through initial sampling of materials within process area east and west ■ Low complexity in relation to establishment and implementation of remedial approach. ■ Potential for emission control enclosure requirements for the excavation, handling and treatment of materials, however where remedial works are staged (reducing the risk of air emissions / odours) enclosures may not be required.	■ Process requires operation of generators for air extraction resulting in moderate power consumption – however ERM notes that power consumption would be reduced as the need for air extraction and requirement for oxygen lessens during later stages of works.	■ Moderate costs associated with establishment of bio-piles, equipment required (generators) and power consumption. ■ Potential for emission control enclosures for the excavation, handling and treatment of materials, however where remedial works are staged (reducing the risk of air emissions / odours) enclosures may not be required.	✓ **Selected as preferred option for treatment of volatile petroleum hydrocarbons in soil – Justification provided in Section 8.2 below**
<u>Enhanced In-Situ Bio-Remediation</u> ■ Typically, injection of oxygen enhancing chemicals to support microbial biodegradation of hydrocarbons.	Soil	■ Proven common method. ■ Can support natural attenuation processes already in action. ■ Effective for low to medium contaminant loading.	■ May require multiple / long term treatment considering contaminant load.	■ Some concerns regarding storage / handling of chemical products. ■ Turning is not required therefore disruption / safety risks through equipment movement onsite is minimised.	■ Requires suitable existing bacterial populations to be present within soil matrix. ERM notes that this has been confirmed through initial sampling of materials within process area east and west ■ Low complexity in relation to establishment and implementation of remedial approach.	■ The chemicals break down during the oxygen producing process into Carbon dioxide and water. ■ Very little power usage is required and only during the injection phases.	■ Moderate costs associated with establishment of equipment required, chemicals and limited power consumption.	X **Timeframe for treatment unsuitable for redevelopment of the Stage 2 Area**
Immobilisation including Stabilisation (for off-site disposal) ■ Decreasing the mobility of contaminants by changing conditions such as pH, adding bonding agents,	Soil	■ Can be technically challenging to stabilise short chain hydrocarbons. ■ Application of amendments can significantly decrease the mobility, toxicity and bioavailability various	■ Relatively short timeframe for stabilisation to be undertaken (i.e. less than 90 days from initial treatment) however excavation, sorting and screening where required) can result in moderate timeframes for remediation being required.	■ Significant onsite equipment is required resulting in potential safety concerns associated with movement of machinery equipment within the Site.	■ Moderate complexity associated with screening and sorting of material to ensure contamination is suitably bound within the stabilising matrix.	■ Moderate costs associated with equipment and application of stabilisation matrix	■ The cost is highly dependent on the volume to be treated. There is a scale of efficiency associated with larger volumes undertaking treatment.	X **Not technically required.** **Soil material is classified as General Solid Waste should it require offsite disposal. Addition of**

Technology	Matrix	Effectiveness ● Effective ● Limited ● Ineffective	Timeframe ● <1 year ● 1-5 Years ● >5 Years	Health & Safety ● Few concerns ● Mod concerns ● Many concerns	Complexity ● Low ● Moderate ● High	Sustainability ● Above Average ● Average ● Below Average	Relative Costs ● Low cost ● Mod Cost ● High Cost	Further Evaluation Summary ● ✓ Selected for further evaluation ● ●
oxidising or reducing reactions.		contaminants in soil and groundwater. ■ Where contaminants are immobilised through potentially reversible reactions, a change in geochemical conditions in the subsurface could remobilise contaminants.		■ It is however the opinion of ERM that these considerations can be appropriately managed via onsite safety permitting requirements.	■ Extra handling of contaminated soils may trigger the requirement for additional emission or odour control,			**stabilisation agents would not provide any reduction in waste classification**
In-situ Soil Vapour Extraction ■ A process that extracts volatile contaminants from the unsaturated soils whilst promoting enhanced Bio-remediation by adding oxygen to the subsurface. Extracted vapours can be treated prior to discharge to the atmosphere if necessary	Soil	■ Will remove volatile organics in vapour phase from the soil with simple readily available equipment. ■ It complements air sparging and creates moderate site disturbance ■ It has very limited to no effect with groundwater contamination and creates moderate site disturbance.	■ Timeframes are dependent on the nature of underlying materials and potential back diffusion from contaminated groundwater. Due to the nature of impact at the Clyde Site, it is considered that remedial works would require up to 5 years for successful completion.	■ Soil vapour extraction may be disruptive to the site and will require consideration of existing site users. ■ Potential safety concerns associated with trenching and installation of infrastructure for ongoing operation / potential generation of explosive atmospheres within enclosures.	■ Moderate complexity associated with design, installation and ongoing operation / maintenance of system. ■ Extracted vapours may need treatment before releasing to atmosphere.	■ SVE has a moderate - high degree of power or fuel consumption to run over longer timeframes.	■ Moderate costs primarily associated with installation of required equipment, ongoing operation of equipment and monitoring	**X** Option not further assessed due to timeframe required for redevelopment of the Stage 2 Area
Multi-Phase Vacuum Extraction ■ The extraction of total fluids and soil vapour from recovery wells utilising a vacuum source. The effluent is then treated and disposed. The soil gas generated is treated and then vented to the atmosphere.	Soil and LNAPL	■ Contamination at the Site has identified to be present within shallow fill / and the LNAPL smear zone overlying groundwater (i.e. <1.5 m bgl). ■ Limited effectiveness at treating near-surface soil impacts ■ Under suitable circumstances, MPVE generates a larger radius of influence around each recovery well in comparison to traditional pumps or skimmers, thereby requiring less recovery wells. ■ Low LNAPL transmissivity and recovery conditions likely to affect LNAPL recoverability rates.	■ MPVE can be deployed as a mobile system utilising existing wells very quickly. ■ MPVE can achieve significant reduction in mass within a relatively short timeframe (i.e. 1 – 3 years)	■ MPVE may be disruptive to the site, especially when conducted as mobile events versus a permanent system and will require consideration of existing site users. ■ Potential safety concerns associated with trenching and installation of infrastructure for ongoing operation / potential generation of explosive atmospheres within enclosures.	■ Moderate complexity associated with design, installation and ongoing operation / maintenance of system. ■ Extracted vapours may need treatment before releasing to atmosphere.	■ MPVE has a high degree of power or fuel consumption to run. ■ Aesthetic issues include sight and noise from the machinery and vapour discharge. ■ Several waste streams are produced (soil vapour, NAPL and groundwater requiring treatment and disposal.	■ Moderate costs: Existing well network unsuitable for extraction purposes. Costs Primarily associated with the establishment of extraction wells, ongoing equipment costs and disposal of collected waste water.	**X** **Timeframe for establishment of injection wells and operations unsuitable for redevelopment of the Stage 2 Area**
In-situ Chemical Oxidation ■ Destroying organic contaminants in situ	Soil and Water	■ Proven common method that can work quickly. ■ Primarily used for moderate to high	■ In-situ chemical oxidation can achieve significant reduction in mass within a relatively short timeframe (i.e. 1 – 3 years)	■ Requires low to moderate land disturbances.	■ Design of approach requires consideration of back diffusion and other factors that	■ In-situ chemical oxidation requires a moderate amount of equipment /	■ Moderate costs	**X** **Application within excavation in**

Technology	Matrix	Effectiveness ● Effective ● Limited ● Ineffective	Timeframe ● <1 year ● 1-5 Years ● >5 Years	Health & Safety ● Few concerns ● Mod concerns ● Many concerns	Complexity ● Low ● Moderate ● High	Sustainability ● Above Average ● Average ● Below Average	Relative Costs ● Low cost ● Mod Cost ● High Cost	Further Evaluation Summary ● ✓ Selected for further evaluation ● ●
via application in trenches or excavations		dissolved phase contaminants. ■ Easy to obtain injection chemicals from multiple vendors. ■ Achieving contact of chemical oxidant with contaminant can be challenging within fine grained soils. ■ Where contaminant has diffused into aquifer matrix, matrix back-diffusion may lead to a long-term source that will require multiple chemical oxidant injections. ■ May require multiple treatments considering contaminant load.		■ Concerns regarding storage / handling of chemical products. ■	may impact the effectiveness of the approach. ■ Requires low to moderate land disturbances.	chemicals for implementation of remedial approach however has low power requirements.		**combination with other methods expensive for little net environmental benefit (enhancement of natural attenuation)**
Excavation and Off-site Disposal ■ Removal of contaminated soils for disposal at landfill	Soil	■ Offsite disposal of soil material will effectively remediate onsite contamination	■ Remediation can be undertaken within short timeframes	■ Health and safety concerns associated with the excavation, handling, transport and disposal of contaminated materials	■ Low complexity	■ Low sustainability due to due to the high volume of trucks movement and use of landfill resources. ■ Material unavailable for re-use for backfill to raise overall site levels	■ High costs due to trucking and waste levies. ■ Potential additional costs for import of material for offsite to replace removed soils	✓ **Option Selected for areas of asbestos impacts in soils as contaminants may not be removed via other methods.** **Project aims to re-use soils on site wherever possible. Option retained as a contingency measure for other remediation excavations.**
On-Site Management (Vapour barriers beneath buildings) ■ Physical Barriers (vapour barrier to prevent migration of contaminants into future buildings)	Soil	■ Effective in reducing exposure pathway to future land users ■ Source of contamination is not removed and remains an ongoing environmental liability requiring monitoring. ■ Potentially onerous management plan requirements will exist into the future on land title.	■ Implementation of approach can be undertaken within a short timeframe, however the approach will require additional negotiation with project stakeholders regarding future site management.	■ Health and safety concerns associated with onsite machinery / equipment. Can be managed under existing site safety and permitting requirements.	■ Design will require consideration of future land use planning requirements, geotechnical considerations and building design, all of which have not been finalised. ■	■ Limited infrastructure / power generation required	■ Moderate costs for implementation of approach, however ongoing monitoring will be required to demonstrate effectiveness ■ Groundwater monitoring requirements may extend longer than if source removal were conducted ■ Increased building design and construction costs to meet vapour mitigation specification.	X **Other remediation and on-site treatment options meet the remediation objectives and are accepted above site management by the Guidelines for the NSW Site Auditor Scheme (3rd edition) (NSW EPA 2017) outlined in the NEPM (2013).** **No removal of source introduces restrictions on future building design and**

Technology	Matrix	Effectiveness ● Effective ● Limited ● Ineffective	Timeframe ● <1 year ● 1-5 Years ● >5 Years	Health & Safety ● Few concerns ● Mod concerns ● Many concerns	Complexity ● Low ● Moderate ● High	Sustainability ● Above Average ● Average ● Below Average	Relative Costs ● Low cost ● Mod Cost ● High Cost	Further Evaluation Summary ● ✓ Selected for further evaluation ● ●
								future liability is not removed.
In-Situ Thermal Treatment ■ The injection of energy into the subsurface to mobilize and recover volatile and semi-volatile organic contaminants by producing heat. Requires active soil vapour recovery to collect subsurface emissions.	Soil and water	■ Destroys a broad range of hydrocarbons quickly and thoroughly ■ Calorific values of materials assessed within the ERM (2020) RSI indicate the material is significantly heterogeneous and therefore the effectiveness of the approach will vary depending on the composition of materials.	■ Remedial targets can be achieved within a relatively short timeframe, however project planning and equipment procurement can result in extensive lead times. ■ Due to the heterogeneous nature of materials and associated calorific values, timeframes may vary depending on underlying materials.	■ Health and Safety concerns due to site disturbance, high heat or voltage exist. ■ Requires significant infrastructure to be installed within the Site that will require safety planning. ■ Due to the presence of asbestos within the soil matrix, concerns relating to the release of asbestos fines / fibres during handling and treatment.	■ Due to asbestos within the soil matrix – where thermal is undertaken specific requirements relating to asbestos controls will be required.	■ High energy usage. ■ In-situ thermal requires significant infrastructure to be installed within the site and therefore High equipment costs	■ In-situ thermal treatment can be expensive to deploy and operate and typically requires vapour extraction to remove vapours produced	X **Complexity and up-front establishment costs are prohibitive to the use of this technology versus other options**
<u>Ex-Situ Thermal Treatment</u> ■ The excavation of soils and treatment with heat to enhance desorption of contaminants and strip volatiles more readily.	Soil	■ Destroys a broad range of hydrocarbons quickly and thoroughly ■ Ex-situ approach enables screening and sorting of material prior to treatment, however.	■ Thermal treatment may require a significant time frame and to be undertaken within an enclosure where concentrations of volatile contaminants pose a risk from air borne emissions / odour ■ Remedial targets can be achieved within a relatively short timeframe, however project planning and equipment procurement can result in extensive lead times.	■ Health and Safety concerns due to site disturbance, high heat or voltage exist.	■ Ex-situ screening, sorting and blending may require significant site infrastructure including emissions control enclosures and site management controls associated with air emissions, odour and surface water management.	■ Significant costs associated with enclosures for the treatment / handling of materials [prior to treatment. ■ High energy usage. ■ High equipment costs	■ High costs for establishment of plant relative to other methods which are more suited for COPC concentrations closer to the adopted remediation criterion	X **Complexity and up-front establishment costs are prohibitive to the use of this technology versus other options given relatively small volumes of soil to be treated**

8.2.2 AEC-4 (Southern Buried Waste) Area

The following table summarises the assessment of relevant remedial technologies for CoPCs within AEC -4, as assessed within the AEC-4 ROA report (ERM, 2021f).

Technology	Matrix	Effectiveness	Timeframe	Health & Safety	Complexity	Sustainability	Relative Costs	Relative Score and Evaluation
		● Effective ● Limited ● Ineffective	● <1 year ● 1-5 Years ● >5 Years	● Few concerns ● Mod concerns ● Many concerns	● Low ● Moderate ● High	● Above Average ● Average ● Below Average	● Low cost ● Mod Cost ● High Cost	● 1.0 -1.5 ● 1.5 – 2.5 ● 2.5 – 3.0
<u>Excavation and Off-site Disposal</u> ■ Removal of contaminated soils to the extent feasible with multiple options to treat or dispose of contaminants	**Soil**	■ Offsite disposal of soil material will effectively remediate onsite contamination. ■ Material to be disposed of to landfill licenced to receive Restricted Solid Waste/ Special Waste (asbestos)	■ Remediation can be undertaken within short timeframes.	■ Health and safety concerns associated with the excavation, handling, transport and disposal of contaminated materials. ■ NSW EPA position on air emissions/quality and related health effects. ■ AEC4 is positioned close to adjacent land users on the site boundary.	Moderate complexity of excavation due to the following site-specific considerations: ■ Excavations will be >3m deep and extend beyond the water table; ■ Dewatering, management of wastewater and Potential Acid Sulfate Soils in close proximity to the Duck River will be required; ■ Increased chance of environmental incidents and mobilisation of contaminants during works; ■ Excavations to be undertaken under asbestos conditions and may require the use of an Odour Control Enclosure (OCE) to manage contaminated materials.	■ Low sustainability due to due to the high volume of trucks movement and use of landfill resources.	■ Estimated total fee of approximately $32,000,000 for site establishment and remedial works including excavation and offsite disposal of waste at $640/m^3 ■ Due to the high volumes of material requiring disposal as restricted / hazardous waste, high costs due to trucking and waste levies. ■ Requirements for emissions control enclosures for excavation and handling areas.	**1.8** **√** **Option retained as a contingency measure for other remediation excavations.**
<u>In-situ Immobilisation including Stabilisation</u> ■ Physical and chemical form of various contaminants would strongly influence the selection of specific immobilisation approach. ■ Could include pH control, adding bonding agents, oxidising or reducing reactions.	**Soil**	■ Application of amendments can significantly decrease the mobility, toxicity and bioavailability various contaminants in soil and groundwater ■ Due to heterogeneous nature of fill materials consideration during design must consider mechanisms to ensure all contamination is effectively bound within stabilising matrix. ■ Where contaminants are immobilised through potentially reversible reactions, a change in geochemical conditions in the subsurface could remobilise contaminants. ■ Remediation trial data suggests solidification/stabilisation immobilisation for treatment of material from AEC-4 can be effective.	■ Relatively short timeframe for stabilisation to be undertaken (i.e. less than 90 days from initial treatment) however excavation, sorting and screening where required) can result in moderate timeframes for remediation being required.	■ Significant onsite equipment is required resulting in potential safety concerns associated with movement of machinery equipment within the Site. ■ It is however the opinion of ERM that these considerations can be appropriately managed via existing onsite safety permitting requirements. ■ NSW EPA position on air emissions/quality and related health effect if immobilisation completed as ex-situ method.	■ Based on the delineation and non-mobile nature of contamination within AEC-4 stabilisation may be overly complex for management of identified impact as mitigation of off mobilisation is not required. ■ Implementation of approach is considerate moderately complex due to the heterogeneous nature of subsurface fill materials. ■ Approach will require validation measures to demonstrate all contaminated materials have been bound within stabilising matrix. ■ Where material is proposed to be placed below the groundwater table, additional assessment may be required to assess potential long term leachability.	■ Limited infrastructure / power generation required	■ Estimated total fee of approximately $8,000,000 for site establishment and remedial works based on a treatment rate of $160/m^3 ■ Moderate costs for implementation of approach, however ongoing monitoring may be required to demonstrate effectiveness.	**1.6** **X** **Option no longer required on the basis of no identified risks to offsite receptors from soils leaching to groundwater.**

Technology	Matrix	Effectiveness	Timeframe	Health & Safety	Complexity	Sustainability	Relative Costs	Relative Score and Evaluation
		● Effective ● Limited ● Ineffective	● <1 year ● 1-5 Years ● >5 Years	● Few concerns ● Mod concerns ● Many concerns	● Low ● Moderate ● High	● Above Average ● Average ● Below Average	● Low cost ● Mod Cost ● High Cost	● 1.0 -1.5 ● 1.5 – 2.5 ● 2.5 – 3.0
<u>In-Situ Thermal Treatment</u> ■ The injection of energy into the subsurface to mobilize and recover volatile and semi-volatile organic contaminants	**Soil**	■ Destroys a broad range of hydrocarbons quickly and thoroughly ■ Calorific values of materials assessed within the ERM (2020) RSI indicate the material is significantly heterogeneous and therefore the effectiveness of the approach will vary (and may be unreliable) depending on the composition of materials. ■ Co-mingled asbestos will not be destroyed and will require ongoing management.	■ Remedial targets can be achieved within a relatively short timeframe, however project planning and equipment procurement can result in extensive lead times. ■ Due to the heterogeneous nature of materials and associated calorific values, timeframes may vary depending on underlying materials.	■ Health and Safety concerns due to site disturbance, high heat or voltage exist. ■ Requires significant infrastructure to be installed within the Site that will require safety planning. ■ Due to the presence of asbestos within the soil matrix, concerns relating to the release of asbestos fines / fibres during handling and treatment.	■ Significant design requirements for development of appropriate system.	■ High energy usage. ■ In-situ thermal requires significant infrastructure to be installed within the site and therefore High equipment costs	■ Estimated total fee of approximately $34,000,000 for site establishment and remedial works based on a treatment rate of approximately $650/m^3 ■ In-situ thermal treatment can be expensive to deploy and operate and typically requires vapour extraction to remove vapours produced	**2.5** **X** **Complexity and up-front establishment costs are prohibitive to the use of this technology versus other options** **Site uses remain limited given asbestos cannot be destroyed.**
<u>Ex-Situ Thermal Treatment</u> ■ Excavation of material and treatment either on-site or offsite to mobilize and recover volatile and semi-volatile organic contaminants. ■ Off-site thermal treatment would involve shipping / transport to a licenced treatment facility potentially interstate)	**Soil**	■ Destroys a broad range of hydrocarbons quickly and thoroughly ■ Ex-situ approach enables screening and sorting of material prior to treatment, however this may require a significant time frame and to be undertaken within an emission control enclosure where concentrations of volatile contaminants pose a risk from air borne emissions / odour. ■ ERM notes the presence of asbestos within primary remedial areas (AEC-4) that may impact the appropriateness of thermal treatment. Co-mingled asbestos will not be destroyed and will require ongoing management regardless of treated hydrocarbon contaminants. ■ Compromised geotechnical properties post thermal treatment.	■ Due to the heterogeneous nature of materials and associated calorific values, significant time may be required to sort / screen and blend materials prior to thermal treatment. ■ Remedial targets can be achieved within a relatively short timeframe, however project planning and equipment procurement can result in extensive lead times.	■ Health and Safety concerns due to site disturbance, high heat or voltage exist. ■ Due to the presence of asbestos within the soil matrix, concerns relating to the release of asbestos fines / fibres during handling and treatment. ■ NSW EPA position on air emissions/quality and related health effects.	■ Ex-situ screening, sorting and blending may require significant site infrastructure including emissions control enclosures and site management controls associated with air emissions, odour and surface water management. ■ Ex-situ on-site treatment via thermal also requires consideration of use/placement/management of treated soils that may not be geotechnically suitable. ■ The presence of asbestos in the fill materials will potentially inhibit thermal treatment options offsite.	■ Significant costs associated with enclosures for the treatment / handling of materials [prior to treatment. ■ High energy usage. ■ High equipment costs	■ Onsite - Estimated total fee of approximately $27,500,000 for site establishment and remedial works based on a treatment rate of approximately $520/m^3 ■ Off-Site - Estimated total fee of approximately $36,500,000 for site establishment and remedial works based on a treatment rate of approximately $725/m^3	**2.5** **X** **Complexity and up-front establishment costs are prohibitive to the use of this technology versus other options.** **Site uses remain limited given asbestos cannot be destroyed.**

Technology	Matrix	Effectiveness	Timeframe	Health & Safety	Complexity	Sustainability	Relative Costs	Relative Score and Evaluation
		● Effective ● Limited ● Ineffective	● <1 year ● 1-5 Years ● >5 Years	● Few concerns ● Mod concerns ● Many concerns	● Low ● Moderate ● High	● Above Average ● Average ● Below Average	● Low cost ● Mod Cost ● High Cost	● 1.0 -1.5 ● 1.5 – 2.5 ● 2.5 – 3.0
<u>Engineered Capping Layer and Ongoing Management</u> ■ Remediation would involve retaining impacted materials in-situ and construction of a constructed / engineered capping layer with no requirement for a liner at the base of waste material. ■ Engineered capping layer to restrict potential direct contact with contaminated soils ■ Capped materials would be managed under Site / Environmental Management Plans including requirements for ongoing monitoring, trigger / action levels to prevent future offsite impacts.	**Soil**	■ Investigations within the site have indicated that contamination within AEC-4 is delineated, non-mobile and is unlikely to pose a risk of harm to adjacent ecological receptors through migration in groundwater. ■ Construction of a capping layer would mitigate the potential for contact for onsite workers through reducing the potential for incidental contact, as well as prevent surface water infiltration from mobilising contaminants/LNAPL in groundwater. ■ Following construction of the capping layer, land use planning for the Site should consider uses such as car parking or slab on grade building structures where services are not located to minimise the potential for damage to the constructed capping layer. The implementation of ongoing controls (including management of potential vapour intrusion risks) will provide further mitigation of risk to identified receptors. ■ Occurrence of PFAS in low concentrations in soils and leachate within buried waste area supports the adoption of on-site containment and reduction of surface infiltration for protection of off-site receptors, as recommended by the PFAS NEMP (HEPA, 2020).	■ Remedial / site management works can be undertaken within a short timeframe, however negotiation with DPIE / council and future land holders may be required to confirm ongoing management requirements are appropriate.	■ Where material is retained –in-situ there are low health and safety concerns as materials handling will be minimised. ■ Health and safety concerns to future site users will be managed under an ongoing site management plan.	■ Low complexity associated with implementation, however strategy will require ongoing monitoring plans to be developed with defined trigger levels, action items etc. ■ Ongoing groundwater monitoring may be required to ensure potential changes to groundwater conditions (and potential mobilisation of contamination) are identified as soon as practicable ■ All management plans will require approval by NSW EPA accredited auditor and DPIE. ■ Restrictions on the use of the land will be required to ensure the long-term integrity of the capping layer and potential vapour intrusion risks are mitigated.	■ Limited resources required	■ Estimated total fee of approximately $1,500,000 for site establishment and construction of an engineered capping layer based on a capping rate of $110/m^2 (cost do not include land forming or other site preparation works) ■ Strategy will require ongoing monitoring plans to be developed and implemented with defined trigger levels, action items etc. All management plans will require endorsement by NSW EPA accredited auditor and DPIE	**1.3** √ **Option selected as preferred option for AEC-4 on balance of evaluation parameters.** **Further rationale for selection of this method is provided in Section 8.3.4.**

Note: Estimated remediation costings are preliminary only and do not include consulting fees, consultation with stakeholders, additional required approvals / permits, land forming / additional civil works.

8.3 Preferred Remediation Strategy

Based on the screening completed above, the following remedial technologies have been selected for use and are considered technically, logistically and economically feasible, i.e. implementable, to address soil and LNAPL impacts in the identified source areas. Given the selected approach (source removal) it is anticipated that a high degree of success will be achieved.

The above remediation methodologies are consistent with the shortlisted remediation methodologies outlined within the Conceptual RAP and EIS (AECOM, 2019).

Based on this analysis, preferred remediation strategies for individual AEC's are provided below:

Table 8-1 – Preferred Remediation Strategy

AEC	Contaminants of Concern Requiring Remediation	Contaminants of Concern Requiring Management	Preferred Remediation Method
AEC – 1: Old Administration Area	■ Asbestos (ACM)	Not Applicable	**Excavation and offsite disposal**
AEC – 2: Buried Waste Area 8 – CDU tank farm sludge	No remediation Required	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	**On-site management (LTEMP)**
AEC-3A: Former Laboratory	■ Benzene, ■ naphthalene, ■ TRH >C6-C10 (F1) Fractions, ■ Methane (from LNAPL)	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	**Excavation/ on-site biopiling for re-use.**
AEC-3B: Former Laboratory (ACM impacted Area)	■ Asbestos (ACM)	Not applicable	**Excavation and offsite disposal**
AEC-3C: Former Contactor Warehouse (PAH hotspot)	No remediation required	■ Direct Contact - Carcinogenic PAHs ■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	**On-site management (LTEMP)**
AEC-3D: Former Contactor Warehouse	■ TRH >C8-C12 (aliphatic) fractions; ■ Benzene; ■ Naphthalene ■ Methane (from LNAPL)	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	**Excavation/ on-site biopiling for re-use.**
AEC-3E: TRH Hotspot (TP21/79)	■ TRH> C6-C10 (F1) Fractions; ■ TRH >C10-C12 Aliphatic Fractions	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	**Excavation/ on-site biopiling for re-use.**
AEC – 4: Southern Buried Waste Area	<u>Vapour Intrusion/ Ground Gas –</u> ■ Benzene	<u>Inhalation –</u> ■ Asbestos <u>Direct Contact –</u> ■ TRH >C10-C34 Fractions,	■ **On-site management (under engineered cap)**

AEC	Contaminants of Concern Requiring Remediation	Contaminants of Concern Requiring Management	Preferred Remediation Method
	■ TRH> C6-C10 (F1) Fractions ■ Methane [1]	■ Carcinogenic PAHs, ■ hexavalent Chromium ■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH Offsite ecological – Monitoring of groundwater for COPCs associated with in-situ soil material (BTEX, TRH C6-C40, PAH, hexavalent chromium, PFAS)	■ **LTEMP to restrict the construction of buildings, monitoring of groundwater conditions**
AEC – 5: Platformer 3	No remediation required	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	**On-site management (LTEMP)**
AEC – 8: Tank farm J	No remediation required	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	**On-site management (LTEMP)**
AEC – 11: Tank farms A1, A2, A3	No remediation required	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	**On-site management (LTEMP)**
AEC – 14: Subsurface drainage network	■ NA	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH ■ Management of Residual hydrocarbons within pipework post-decommissioning	**On-site management (LTEMP)**
AEC-14A: Compromised Pipe 18D300-5	■ TRH>C6-C10 (F1) Fractions	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	**Excavation/ on-site biopiling for re-use.**
AEC-14B: Compromised Pipes 15D100-4, 15D100-5	■ TRH>C6-C10 (F1) Fractions	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH ■ Direct Contact - Carcinogenic PAHs (TP21/07)	**Excavation/ on-site biopiling for re-use** **On-site management (LTEMP) for direct contact exceedances post remediation (as required)**
AEC- 15	No remediation required	■ Residual LNAPL/ Soil concentrations exceeding Management Limits for TRH	**On-site management (LTEMP)**

Notes: 1. As per the HHERA, given the data gap of no ground gas data for AEC-4, consideration of hazardous ground gases in future management and/or remediation decisions for the development of enclosed spaces is warranted.

8.3.1 Excavation and On-site Bioremediation (via biopiling) and On-Site Beneficial Re-use

This approach involves the selective excavation of hydrocarbon impacted soil and placement within managed bio-piles.

Biopiling is designed to treat primarily volatile hydrocarbon impacted soil and combines basic nutrient, pH and moisture conditioning with active extraction of air through the bio-pile. The addition of organic materials (manure, compost, straw, and husk) and fertilisers may also be considered to promote bacterial activity and increase available pore space which in turn increases contaminant to air contact. The addition of organic material can be considered as a more effective method in the treatment of non-volatile hydrocarbon impacted soil (TPH C15+) than without organic amendment. Typically, hydrocarbons with a higher molecular weight are more resistant to degradation, and require greater bioremediation effort, due to reduced volatilisation and high stability.

Biopiles are constructed via placement of soil in 1 m layers with solid and perforated pipe being laid prior to the next layer being placed. The solid pipe will extend approximately 1.0 – 1.5 m into the stockpile where it is attached to the perforated pipe (ag-line or similar). The piping is connected to a vacuum extraction system which extracts air (and soil vapour) from the stockpile (via a powered blower unit). This process strips (direct volatilisation) contaminants away from the soil and encourages aerobic degradation of contaminants by increasing DO levels.

An activated carbon vessel attached to the extraction system allows extracted air to be treated to remove hydrocarbon contaminants prior to discharge to the atmosphere. Turning is not undertaken with these systems, due to air being forced through the soil via the extraction system.

Biopiles will be covered with an impermeable cover to contain potential air emissions, odours, along with retaining soil moisture and temperature to encourage biodegradation.

Following completion of bio-piling, the material would be re-used within the Western Area during future site redevelopment or disposed offsite to a suitably licensed receiving facility if unable to be treated to the re-use criteria outlined in Section 12.5.

Based on the results of remediation trials and full-scale treatment of AEC-9 soils (as per the Stage 1 RAP), it is considered that soil treatment via bio-piling will be effective in reduction of volatile COPCs to below the site re-use criteria.

8.3.2 Monitored Natural Attenuation (under LTEMP)

Previous groundwater monitoring undertaken has indicated stable to decreasing concentrations of TRH and BTEX has occurred within groundwater over time within monitoring wells across the Western Area. Following source removal (residual LNAPL and residual soil contamination), dissolved phase TRH concentrations are expected to show a continual reduction. Given the current assessment that hydrocarbon concentrations are stable to decreasing, it is expected that the remediation works proposed will enhance the current natural attenuation processes.

Risks to human health and ecological receptors have not been identified based on groundwater data. As such, the requirement for active remedial approaches for groundwater is not considered warranted.

A program of groundwater monitoring will be undertaken both during remediation (as detailed within the Groundwater Monitoring and Management Plan) and post remediation (as specified within the LTEMP).

Assessment of groundwater conditions would involve a risk-based evaluation, including fate and transport considerations and groundwater flux. This approach would be aimed at demonstration of stable groundwater conditions post remediation and that residual groundwater impacts continue to not present a risk to the ecological values of the Duck River.

Contingency actions that would be considered if areas of residual LNAPL (post-remediation) pose an unacceptable risk to the environment are provided in Section 13.

8.3.3 Excavation and Off-Site Disposal

Excavation and off-site disposal has been selected for AECs where Asbestos Containing Materials have been identified exceeding commercial/industrial land-use criteria (NEPM HSL-D).

As asbestos cannot be destroyed via other remediation methods, and volumes of asbestos impacted soils are relatively small, off-site disposal has been nominated for AEC-1 and AEC-3B.

Based on the preferred approach for beneficial re-use of soils, the offsite disposal of excavated soils to a suitably licensed landfill is considered unlikely to be required for hydrocarbon impacted areas.

Soils would be considered for offsite disposal as a contingency action under the following scenarios:

- Unexpected high levels of contamination are identified which are unable to be treated via biopiling; or
- Unexpected finds of different contaminant types are identified above remediation criteria and cannot be treated via biopiling or managed onsite (i.e. asbestos or metals).

Contingency planning for the remediation is further detailed within *Section 13* of this report.

8.3.4 Onsite Management (with construction of engineered cap)

The preferred strategy for AEC-4 is an Engineered Capping Layer and Ongoing Management. This preferred approach has been selected based on the following key considerations:

- The preferred remedial / site management strategy presented below is based on the objective that the desired end use is Commercial/Industrial.
- Results from investigation works and the updated CSM indicate that contamination within AEC-4 is appropriately laterally delineated to within the Site Boundary, non-mobile and does not pose a risk of harm to adjacent offsite receptors (the Duck River).
- The contaminated materials at AEC-4 have been in place for greater than 40 years, providing confidence that they will not present any significant risks in future;
- LNAPL within groundwater has been identified to be degrading, immobile, insoluble and not migrating offsite and therefore suitable for ongoing management.
- Thermal treatment of soils is considered unsuitable due to the presence of asbestos (bonded / fibrous);

The current CSM for the AEC-4 area has not identified risks to on-site or off-site receptors from groundwater. The construction of an engineered cap for AEC-4 has been proposed primarily to mitigate potential direct contact risks to future on-site workers. However, given the proximity of off-site receptors, the design and construction of the cap will provide additional confidence in ongoing stability of LNAPL and groundwater impacts into the future by limiting potential for infiltration at the ground surface and therefore reducing potential contaminant mass flux in groundwater.

The added benefits of the preferred remedial strategy include the following factors:

- Construction of an engineered cap and implementation of subsequent onsite management controls would mitigate the identified potential direct contact risk to future onsite workers;
- Containment of impacted fill materials within the existing in-situ location mitigates potential air quality issues and other environmental risks associated with handling of material during excavation and / or other remedial approaches. This is of particular note given the location of AEC-4 close to neighbouring commercial properties and adjacent the Duck River;

- Onsite management is a more sustainable approach to “aggressive” remedial approaches such as thermal treatment and meets the principles of waste minimisation and sustainable development;
- A reduction in the volume of material requiring offsite disposal of soils is preferable from a sustainability, cost and safety perspective as offsite disposal of materials will involve significant truck movements of contaminated waste materials including asbestos impacted soils;
- The construction of an engineered and managed capping layer, further reduces the potential for future infiltration of surface waters and mobilisation of LNAPL, dissolved phase groundwater contamination from changes to groundwater levels / conditions; and
- The implementation of an LTEMP will be effective in monitoring groundwater conditions following implementation of the capping solution, and managing residual ground conditions that have the potential to result in exposure scenarios related to direct contact, vapour intrusion or and/or asbestos inhalation.

Importantly, due to the presence of soils which present a potential vapour intrusion risk to future commercial/industrial workers or potential for generation and accumulation of hazardous ground gases in indoor air environments, and to protect the long-term integrity of the capped surface, the LTEMP will restrict the construction of buildings and service trenches within the capped area.

No requirement for monitoring of methane within AEC-4 has currently been presented. This is considered appropriate based on the risk profile of future site uses, which are proposed to be limited to open air storage/ car parking by the LTEMP. Furthermore, no mechanism for ground gas migration into any future indoor spaces or subsurface structures nearby the AEC-4 area exists given services will not be installed through the AEC-4 cap.

NSW hazardous ground gas guidance does not provide a requirement to monitor capped areas in open air settings. Isolated LNAPL pockets in relatively impermeable soils (clay) are unlikely to provide sufficient flow in the sub-surface to significantly accumulate gases beneath an installed cap. Given the riparian zone adjacent to the Duck River will be left intact and unsealed, this also provides an opportunity for passive venting to unoccupied open air space should any minor gas accumulation occur.

Asbestos impacted soils identified during previous investigations within the ‘Former Security Access Road’ at depth ranges of 1.0 to 2.2m BGL are proposed to remain in-situ and subject to on-site management under a LTEMP. The installation of capping within this area of the Site is not proposed on the following basis:

- This area was excluded from the approved WARP Project Area within the EIS (AECOM, 2019a) on the basis of biodiversity assessments to result in no direct removal of remnant native vegetation within the riparian corridor. As such, active remediation works cannot be undertaken;
- Given the location of this area within the ‘Riparian Setback Zone’, occupation and ground disturbance works are unlikely as part of future site redevelopment. The ‘Riparian Setback Zone’ is defined within the Survey Plans for SSD 10459 (provided as Appendix E).

In accordance with the NSW Environment Protection Authority (2017). Guidelines for the NSW Site Auditor Scheme (3rd edition), the LTEMP for the AEC-4 area must include a notification mechanism to ensure that the capped area is protected from any unintentional or controlled disturbance that could breach the integrity of the physical barrier.

Upon Site Auditor endorsement of LTEMP(s), all requirements are legally enforceable via existing Development Consent Condition B10(a) and (b) of the State Significant Development 9302, as issued under Section 4.38 of the Environmental Planning and Assessment Act 1979 (the ‘EP&A Act’). This condition is 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

As per condition B10 (b), Parramatta Council will be requested to add a notation under section 10.7(5) of the *EP&A Act* that the property is subject to this LTEMP.

8.3.5 On-Site Management (under LTEMP)

Given the proposed future redevelopment as a commercial/industrial estate with limited access to soils afforded by the covering of the future site in concrete hardstand, isolated soil impacts may be subject to passive management controls under a LTEMP for the broader Stage 2 Area under the following circumstances:

- Asbestos in soils at depths >0.2m from the final finished surface level;
- Soils which exceed direct contact SSTLs;
- Residual LNAPL or soils with TRH fractions exceeding 'TRH management limits' which do not exceed relevant vapour intrusion SSTLs.

The benefits of the on-site management strategy include the following factors:

- Potential human health risks (direct contact and inhalation) can be managed simply through existing proposed site development design (hardstand coverage to prevent access to soils);
- Biopiling is typically slower at reducing concentrations of heavy chain TRH fractions (C16 – C40) and PAHs than volatile TRHs;
- Onsite management is a more sustainable and cost effective approach to management of stable and degraded isolated areas of LNAPL;
- In-situ management of soils impacted with degraded, non-volatile LNAPL mitigates potential air quality issues (predominantly odour generation), and other environmental risks associated with handling of material during excavation and / or other remedial approaches;
- Onsite management is a more sustainable approach to "aggressive" remedial approaches such as thermal treatment and meets the principles of waste minimisation and sustainable development;
- A reduction in the volume of material requiring offsite disposal of soils is preferable from a sustainability, cost and safety perspective as offsite disposal of materials will involve significant truck movements of contaminated waste materials including asbestos impacted soils;

Further details on the LTEMP are provided within Section 10.4.

9 REMEDIATION WORKS OVERVIEW

The Stage 2 Remediation Scope of Work will include the completion of the following tasks to achieve the stated remediation objectives.

- Task 1 – Preparation Works
- Task 2 – Removal of redundant infrastructure and waste
- Task 3 – Remediation
- Task 4 – Land forming
- Task 5 – Completion of works and demobilisation

The proposed site layout for implementation of remediation works is provided on *Figure 9*.

9.1 Task 1 – Preparation Works

Preparation works will include the following scope of works to be undertaken by the Remediation Contractor(s) within their respective work areas:

- installation of fencing and exclusion zones;
- establishment of site amenities offices, parking and footpath demarcation;
- installation of decontamination equipment and wheel wash;
- erosion and sediment controls;
- service location for live services and utilities;
- isolation and de-energisation of underground utilities;
- data gap test pitting and sampling (as per Section 12.3.3 of this RAP);
- breakout of hardstand and surface reinforcements in excavation areas (with separation of recoverable materials such as concrete, asphalt and metal); and
- relocation of validated stockpiles on site (as required) to create space for biopiling and stockpiling of soils generated during remediation.

9.2 Task 2 – Removal of Redundant Infrastructure and Waste

This task will include:

- removal of stockpiled waste materials from the Stage 2 Area unsuitable for re-use, including Stockpile SP29 and Stockpile SP30 (rationale as outlined in Section 4.6); and
- excavation of subsurface structures such as drains, pits, interceptors, footings or pipework (if required to be removed to access soils for remediation).

9.3 Task 3 - Remediation

Includes the following activities, which have been divided based on preferred remediation approaches outlined in Section 8.3:

- excavation and offsite disposal (asbestos areas);
- excavation and on-site biopiling (hydrocarbon areas); and
- engineered cap construction.

9.3.1 Task 3.1 - Excavation and Offsite Disposal (Asbestos Areas)

This will include:

- targeted excavation of asbestos contaminated soil material for offsite disposal from remediation areas AEC-1, AEC-3B; and
- odour, emission controls and monitoring (as required by the Air Emissions Verification Report and/or agreed EPL570 licence variation).

9.3.2 Task 3.2 - Excavation and On-Site Bioremediation

This will include:

- Targeted excavation of hydrocarbon contaminated soil material from remediation areas AEC3A, AEC-3C, AEC-3E, AEC-14A, AEC-14B.
- Dewatering of excavations disposal of wastewater (as required).
- Odour, emission controls and monitoring (required by the Air Emissions Verification Report and/or agreed EPL570 licence conditions).
- Segregation of excavated soils suitable for re-use from visibly contaminated soils requiring treatment.
- Transport of excavated soil materials from excavation areas to the designated ‘Soil screening and Segregation Area’ as shown on Figure 9.
- Soil sampling of stockpiled materials (as outlined in Section 12.5.1 to determine requirement for biopiling or on-site re-use).
- Screening of soil material to separate oversized recyclable material (such as concrete, bricks) and homogenise soils for biopiling to a maximum particle size of 50mm (where treatment is required).
- Loading of contaminated soil material into trucks for transport to the designated soil treatment area OR loading of soil material deemed suitable for re-use to the surplus soils stockpiling area.
- Materials tracking (on-site or off-site).
- Validation of remedial excavation surfaces (walls and floors).
- Survey of completed excavation surfaces and sample locations.
- Formation of biopiles, including the following sub-tasks:
  - formation of bio-piles within previously constructed Soil Treatment Pad;
  - setup of Soil Vapour Extraction (SVE) System, including pipework and leachate collection systems (as required); and
  - covering of biopiles.
- Ongoing treatment and monitoring of soils to maintain soils within acceptable parameters for aerobic degradation of petroleum hydrocarbon COPCs. Ongoing soil treatment may be conducted concurrently with remediation tasks 4 and 5.

9.3.3 Task 3.3 - Engineered Cap Construction (AEC-4)

The final detailed design for the AEC-4 cap is required to be undertaken prior to commencement of works on site. The final specification for landform, surface drainage, type of barrier layer to be used, geotechnical requirements and handstand finish will be included within this detailed design. The scope of works to be executed on site is anticipated to involve the following tasks:

- Removal of existing asphalt hardstand capping across the AEC-4 remediation Area for offsite disposal or recycling.
- Re-working and grading of soil material as required to achieve desired landform (nominally within upper 0.5m of the soil profile across the area to be disturbed).
- Waste classification sampling and off-site disposal of surplus materials (as required) to achieve final landform.
- Construction of a capping layer to the specification of final detailed design to manage direct contact with impacted soils and minimise infiltration of precipitation.
- Importation, placement and compaction of appropriate backfill material for capping and final pavement design (as required).
- Reinstatement of hardstand covering (as specified in detailed design).
- Survey of relative levels throughout works.
- Reinstatement of groundwater monitoring wells (as required by the Groundwater Monitoring Program (GWMP)).
- Implementation of odour, emission controls and monitoring (required by the Air Emissions Verification Report and/or agreed EPL570 licence conditions).
- Materials tracking (on-site or off-site).

9.4 Task 4 - Land forming

Given the approval of SSD 10459 for the subdivision and development of the Central Sydney Industrial Estate project, which covers grading and levelling of the site post-remediation to meet the desired final landform, land forming associated with remediation works for Stage 2 will involve the following tasks:

- importation of Virgin Excavated Natural Material (VENM) or other permissible imported material as per the SSD (see section 12.5) to backfill remedial excavations (as required);
- placement and re-use of on-site validated materials; and
- grading and compaction of imported or validated material from on-site.

9.5 Task 5 – Completion Works and Demobilisation

This will include the demobilisation of plant, equipment and personnel associated with the remediation works from the Site.

9.6 Stage 2 Remediation Methodology

This section provides a brief overview of remediation and related processes that will be undertaken as part of the Stage 2 remediation.

9.6.1 Hydrocarbon Excavations – AEC-3A, AEC-3C, AEC-3E, AEC-14A, AEC-14B;

9.6.1.1 Excavation and Screening

The excavation and material screening process for remediation areas targeting hydrocarbon impacted soils for biopiling involves the following stages:

- breaking up and removing concrete hardstand, separate stockpiling of this material for crushing and re-use during site redevelopment works;
- removal of subgrade drainage pipework and other infrastructure to access contaminated soils;
- excavation will take place to the required depth and will nominally be undertaken by a single bucket excavator;
- temporary stockpiling in small stockpiles piles adjacent to the excavation;
- materials to be segregated based on field screening undertaken by the validation consultant:
  - Materials with potential for re-use: <100 ppm headspace screening with PID; and
  - Materials for biopiling: >100 ppm and/or containing visible LNAPL.
- segregated material will be loaded into trucks, at which point the material will be transported to the soil screening area for separate stockpiling as ‘Materials with potential for re-use’ or ‘Materials for biopiling’;
- ‘Materials with potential for re-use’ will be sampled for suitability for re-use on site in accordance with the validation strategy in Section 12.3.
- ‘Materials for biopiling’ will be subject to screening to homogenise soil materials and allow sufficient surface areas for placement in biopiles;

Upon validation, excavations will be progressively backfilled with Virgin Excavated Natural Material (VENM) or other suitably validated and approved material, with restoration of the surface to the local grade. It is anticipated that the active phase of excavations will occur over an approximately eight week period, with excavation rates being variable given the nature and extent of each AEC.

9.6.1.2 Biopiling Construction

Biopiling will take place in the biopile treatment area, formerly known as Tank Farm A1, as shown on Figure 9. This decommissioned tank farm covers an area of approximately 150 m x 75 m (~ 1.125 ha). Whilst internal tank infrastructure and pipework has been removed, the perimeter bunding has been retained. Tank farm A1 was utilised for biopiling during Stage 1 works and was prepared with a 300-400 mm thick compacted clay pad across the lateral extent of the former tank farm.

With the exception of the soil vapour extraction system, which would run continuously, biopiling operations would only occur during approved operating hours for the Project. A suitably qualified Remediation Contractor will be responsible for the design, construction and operation of the biopiles. The design specifications for biopiles will be provided by the Remediation Contractor within their detailed work method statements prior to commencement of remediation works.

Remediation Contractor work method statements will incorporate the below minimum requirements for construction:

- Confirmation of treatment requirement at the excavation face, conducted by the Validation Consultant (as per procedure outlined in Section 12.3).
- Inclusion of a leachate collection system, which utilises the existing clay base beneath the proposed footprint of the biopiles. A shallow trench may be excavated surrounding the biopile and lined with impermeable sheeting to capture and channel any leachate generated by the biopile through the addition of moisture. An indicative biopile construction schematic is provided as Figure 9-1.
- Excavated soil would be transported to the biopile treatment area by truck. On arrival, the soil would be loaded directly onto the prepared biopiling pad. Odorous material would be covered on an as required basis during the construction of biopiles;
- Amendment to moisture or pH would be applied (as indicated by monitoring),
- Biopiles would be constructed and operated in general accordance with the USEPA (2017) guidance, which outlines the following specification:
  - Soils will be laid in windrows with 1:1 battered sides;
  - soil will be placed in 1 m layers with solid and perforated pipe being laid prior to the next layer being placed. Total height should not exceed 3 m.
  - The solid pipe will extend into the centre of the stockpile where it attaches to the perforated poly pipe and is adjoined to a piping manifold;
  - The piping is connected externally to a Soil Vapour Extraction system which extracts air (and soil vapour) from the stockpile (via a powered blower unit) into an air/water separator with ‘drop out’ tank for removal of moisture;
  - The drop-out tank will be pumped out as required, disposed offsite as waste or reapplied into stockpiles as moisture amendment.
  - The SVE system will be attached to vessels of granular activated carbon filter media, to treat contaminated air and remove odours prior to emission via an exhaust stack. A ‘lead’ and ‘lag’ - vessel will be installed in a continuous circuit such that if breakthrough of contaminants occur through the lead vessel, it is captured via the lag vessel prior to emission.
  - A ‘carbon bed breakthrough procedure’ is to be developed and implemented by the contractor to ensure timely change-out of filter media prior to breakthrough and release of VOCs at the discharge point from the SVE system.
- Biopiles will be covered with an impermeable cover to contain potential air emissions and odours from the stockpile, prevent creation of leachate via rainfall, along with retaining soil moisture and temperature to encourage biodegradation.

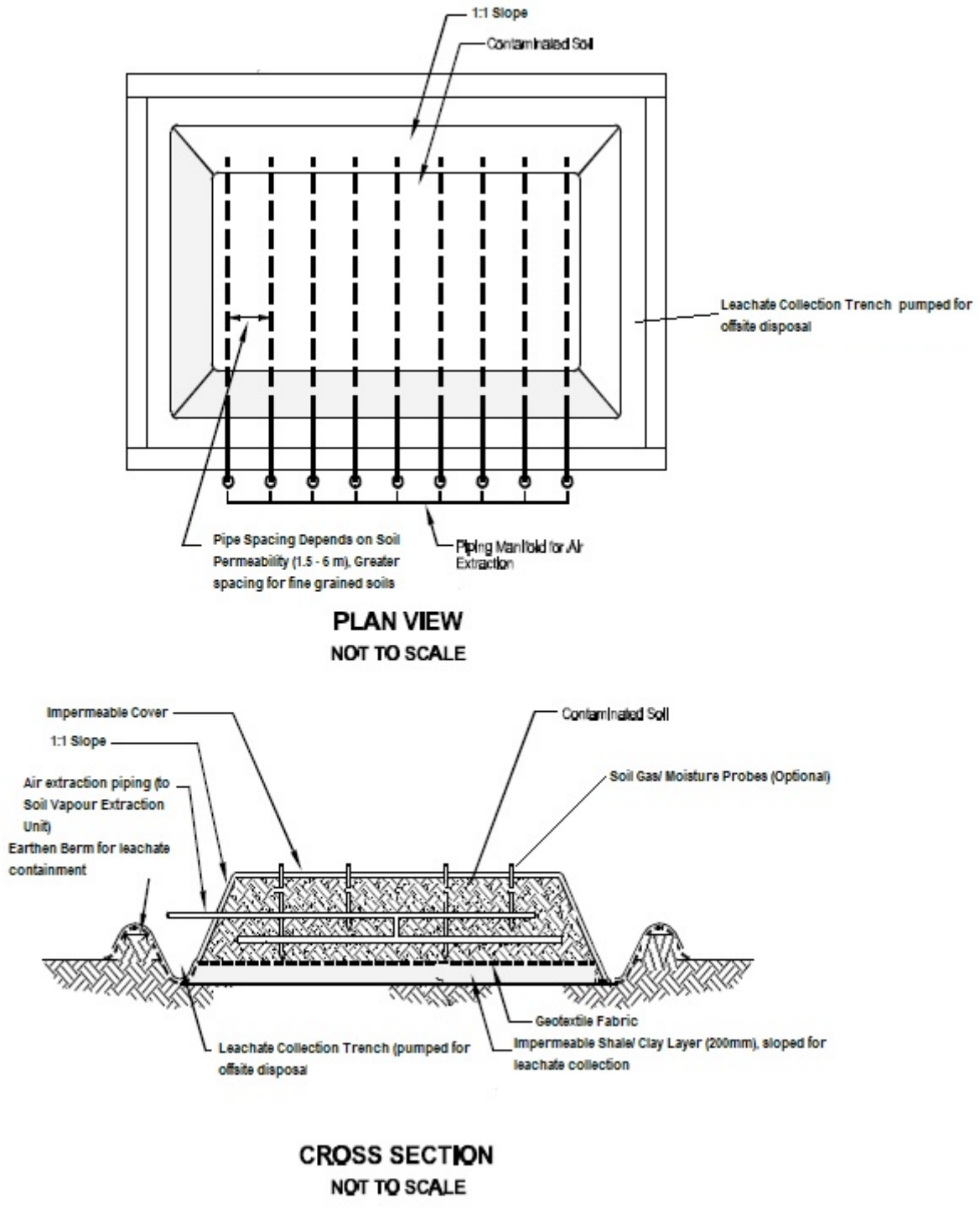


Figure 9-1 – Biopile Construction Schematic (adapted from USEPA (2017))

9.6.1.3 Biopile Operation and Monitoring

- Monitoring of contaminant concentrations in soils will be performed ‘in-line’ with a PID to assess inlet VOC concentrations from each biopile, which are indicative of treatment progress as well as to determine contaminant loading on carbon filtration media to estimate breakthrough time. In-line monitoring data would be collected daily for the first week of operation and then at least weekly in accordance with the monitoring frequencies outlined within the Stage 2 AEVR. An example of stabilised VOC inlet concentrations from Stage 1 biopiling works is shown below in Figure 9-2;

- The stabilisation of VOC inlet concentrations will provide a trigger for soil validation sampling to be undertaken by the validation consultant (as per Section 12.3) until remediation criteria are met. Validation sampling will assess BTEXN, TRH C6-C40 Fractions (following Silica gel cleanup) for all stockpiles and PAH concentrations (as required based on source area, see section 12.3). If necessary, data on nutrient ratios (Carbon: Nitrogen: Phosphorus), bacterial populations, pH and moisture content will be collected. It is noted that concentrations of key nutrients and hydrocarbon utilising bacteria were within optimal ranges without amendment during remedial trials described in Section 4.9.1.
- Continuous operation of the SVE system would be maintained to promote biological degradation of hydrocarbon contamination. The SVE system would be fitted with a granular activated carbon (GAC) based exhaust emission control system to minimise the release of volatile organic compounds (VOCs) to atmosphere;
- A program of PID monitoring of inlet, outlet, lead and lag vessels for VOC concentrations will be required to be undertaken by the Remediation Contractor throughout operation of biopiles as specified within the AEVR and Contractor's Carbon bed breakthrough system. The monitoring frequency must be of sufficient frequency that breakthrough limits at biopile SVE system outlets do not exceed 10 ppm limits undetected.
- The lifespan of carbon filter media will be dictated by contaminant loading and projected carbon capacity (influenced by flow rate, VOC concentration, operating capacity of carbon bed system), SVE systems must be set up with the ability to monitor the following parameters:
  - VOC concentrations: at inlet (pre-filter), between lead and lag vessels and at outlet;
  - Flow rate (at inlet to system);
  - Pressure (at inlet to system);
- The upper limit of Total VOC emissions at the SVE discharge outlet has been established as 10 ppm within the AEVR. Conservatively, exceedances of this criteria between lead and lag vessels should result in filter media change-out. The SVE system would be shut down temporarily to change out filter media prior to re-operation and confirmation of clean emissions.
- Once treatment is complete and the material validated, the biopile would either remain in the biopile treatment area, or alternatively be moved to an agreed area on site, prior to appropriate reuse within the Stage 2 Area during future site redevelopment works.

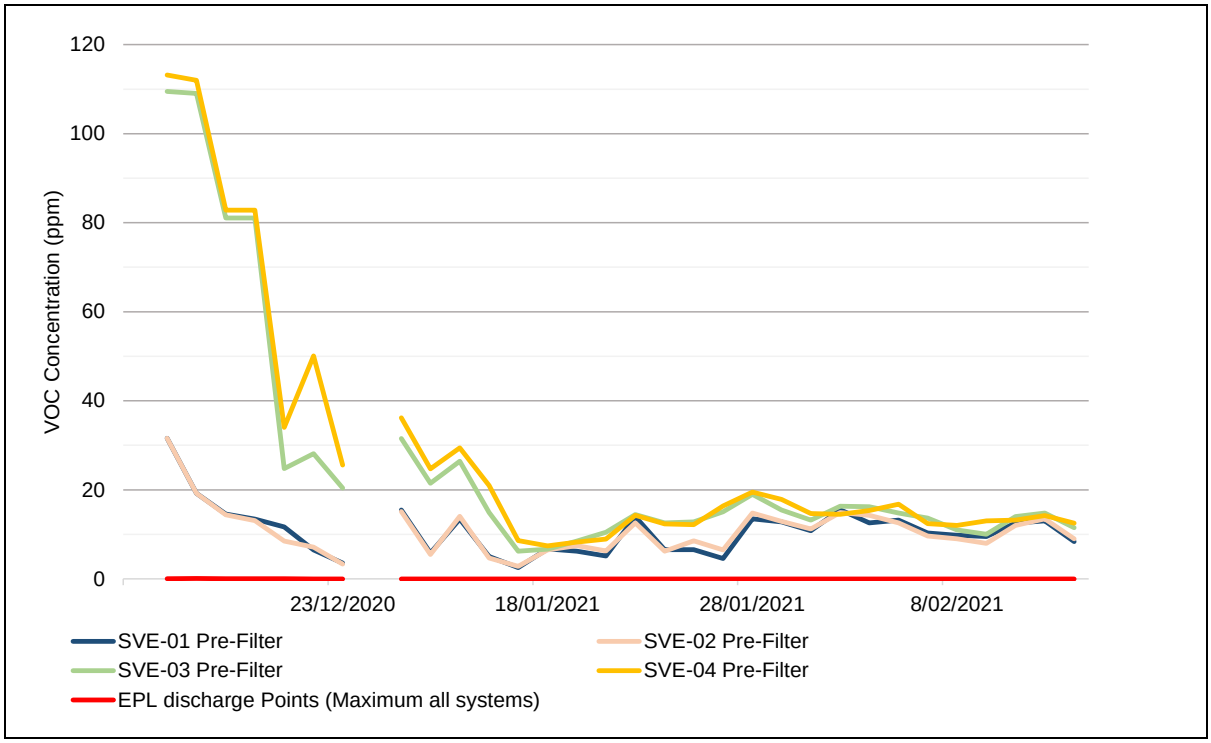


Figure 9-2 – Stage 1 Biopiles - Summary of SVE inlet and EPL discharge monitoring results

9.6.2 Asbestos Excavations

9.6.2.1 Safework NSW Requirements

Asbestos identified within soils to be remediated within AEC-1 and AEC-3B has been identified as 'bonded' or 'non-friable'. In accordance with Safework NSW, the following minimum requirements apply to the works:

- Safework NSW are to be notified of asbestos removal work to be undertaken a minimum of 5 calendar days prior to commencement.
- Asbestos removal works are to be undertaken by a contractor holding a valid Class B Asbestos Removal Licence.

While the presence of degraded ACM and free fibres within fill materials has been identified at AEC-4, friable asbestos has not been identified at the depth of proposed disturbance for capping installation (<0.5 m). This requirement is to be reviewed by the contractor executing the works following completion of detailed capping design.

Should friable asbestos be identified during works, works will be required to be undertaken under friable asbestos conditions, which requires a Class A asbestos removal licence and the presence of a Licenced Asbestos Assessor (LAA) to conduct air monitoring and issue clearances prior to removal of asbestos controls.

9.6.2.2 Establishment of Environmental and Health and Safety Controls

In addition to the relevant environmental controls outlined within the Section 10, Stage 2 REMP (and all associated sub plans), the following minimum controls are to be implemented prior to undertaking excavation works within asbestos areas:

- Revision of contractor Health and Safety Plan and/or Asbestos Management Plan (as required).
- Establishment of a barricaded exclusion zone, signage, personnel and equipment decontamination supplies/facilities and personal protective equipment.
- Establishment of dust controls (ie water cart or hose).
- Establishment of perimeter air monitoring, conducted by a Competent Person or Licenced Asbestos Assessor to verify the effectiveness of asbestos controls.

9.6.2.3 Asbestos Excavation Works

The following will be undertaken during excavation works in asbestos excavations:

- Carefully excavate impacted materials using appropriate equipment (e.g. excavators / backhoes), from the AEC-1 and AEC-3B Areas. Works are to be conducted in accordance with the approved management plans detailed within Section 1.10 with particular emphasis on dust mitigation.
- The validation consultant shall observe the excavation and excavated materials for indicators of unexpected finds including visual (staining, discolouration) and olfactory (odours). If indicators of potential contamination that are inconsistent with identified ACM impacts are observed, the Unexpected Finds Protocol (UFP) detailed within *Appendix C* shall be implemented.
- Where practicable, to reduce the area of disturbed material, the number of areas subject to excavation works at any one time should be minimised.
- Materials would be excavated and placed in temporary covered stockpiles (to eliminate dust/airborne particles) or placed directly into a truck for transport to an approved / suitably licensed offsite disposal location.

9.6.2.4 Temporary Stockpiling and Waste Classification

As offsite disposal of excavated ACM containing soils is required, it will be placed within a temporary stockpile in the vicinity of the excavation area for additional assessment for waste classification purposes or classified in-situ based on the existing dataset.

Where classification of materials is required to be undertaken prior to disposal, samples will be collected either in-situ or from stockpiled materials to determine the requirements for offsite disposal. Specific sampling densities and stockpile validation processes are documented within Section 12.3 and in accordance with the NSW EPA Waste Classification guidelines[10].

Where waste materials are not temporarily stockpiled on hardstand, following removal of stockpiled impacted materials, the footprint of the stockpile location may require validation to verify no cross contamination has occurred as per Section 12.3.7.

The results of collected waste classification and stockpile footprint validation samples are to be collated and provided for inclusion into the final site validation report.

[10] *NSW EPA (2014) Waste Classification Guidelines: Part 1: Classifying Waste*

9.6.3 Engineered Capping Construction (AEC-4)

The construction of an engineered cap for AEC-4 has been proposed primarily to mitigate potential direct contact risks to future on-site workers.

The current CSM for the AEC-4 area has not identified risks to on-site or off-site receptors from groundwater. Based on the current CSM (as presented in Section 6), no risks to human health and ecological receptors from dissolved phase groundwater concentrations have been identified in AEC-4. However, given the proximity of off-site receptors, the design and construction of the cap will provide additional confidence in ongoing stability of LNAPL and groundwater impacts which have been identified as being confined to the AEC4 buried waste mound into the future.

The existing asphalt hardstanding across the AEC-4 buried waste mound (as shown on Figure 8) provides a level of physical separation and impermeability, however is in variable condition with unsealed sides and visible cracking throughout. As such, removal of the existing hardstand surface and construction on an engineered cap is proposed to achieve the following remedial objectives for future receptors:

- **Physical Separation:** Reduce potential for inadvertent direct contact with contaminated soils or disturbance of asbestos in soils by future on-site workers conducting excavations;
- **Infiltration Reduction:** Reduce potential for surface water infiltration at the ground surface, therefore reducing potential contaminant mass flux and LNAPL in groundwater from the buried waste area;

The proposed extent of the AEC-4 area which will be subject to capping construction is shown on *Figure 8*.

Within the former security access road (as shown on Figure 8), in-situ management of identified impacted soils without physical separation is proposed given the nature of potential exposure risks (asbestos only) and the presence of established trees which cannot be damaged or removed within the Riparian Corridor.

A ‘Detailed Capping Design’ document will be prepared by the Remediation Contractor or a specialist Engineering Consultant separately to this RAP prior to the commencement of works. The Detailed Capping Design will address these specific objectives, the minimum requirements outlined within the following sub-sections, along with consideration of geotechnical suitability and final landform for future land-use.

9.6.3.1 Capping/ Barrier Layer Requirements

Requirements for installation of a barrier layer over impacted fill materials are based on the relevant portions of the following guidance documents:

- Guidelines for the Assessment of On-Site Containment of Contaminated Soil (ANZECC, 1999).
- Environmental Guidelines – Solid Waste Landfills Second Edition, 2016. Part B: Minimum Standards for Landfills (NSW EPA, 2016).

Considering contaminants of concern and potential future exposure pathways in soils (direct contact, inhalation) in conjunction with those which may be managed within AEC-4 (vapour intrusion, potential ground gases from LNAPL), containment of impacted fill by physical covering/separation is considered appropriate mitigation of potential future contact or exposure to contaminated soils.

Physical Separation

The minimum typical requirements for physical separation include:

- Permanent hardstand such as concrete ground slab or asphalt surfaced pavement;
- A thickness of soil that is unlikely to be inadvertently penetrated by future site users. A minimum soil cover thickness of 0.2 m is nominated, underlain by a 'marker layer' in areas of exposed impacted soil.

Minimum soil cover of 0.2m has been nominated based on requirement to physical separation alone, when a marker layer is used. Final separation distances are expected to be thicker within the AEC-4 Buried Waste Mound Area based on final pavement design (subgrade and hardstanding) and the requirement for relative impermeability (as discussed below).

The marker layer serves as a visual signal to those disturbing the capping layer of the presence of contaminated material at depth. The marker layer shall consist of a distinctly bright coloured knitted HDPE or geofabric of density >300 g/m3. The marker layer should be of a distinctive bright colour such that future workers who conduct excavations will be alerted to conditions as documented in the LTEMP prior to breaching this layer.

Infiltration Reduction

The preferred option for physical separation and infiltration reduction is via placement of a "barrier layer" of validated soil, VENM, compacted engineered fill or liner that is sufficiently impermeable to mitigate surface water recharge/ infiltration within the AEC-4 Buried waste mound Area. This barrier layer provides a buffer and further reduces the potential of water infiltration should joins and cracks in pavement allow some degree of water ingress. This layer provides a significant buffer to maintenance worker exposure to deeper soils.

The minimum typical requirements for infiltration reduction are as outlined in the NSW EPA (2016). It is noted these guidelines are designed for capping of solid waste landfills and are conservative, given the current CSM has demonstrated stability of groundwater conditions. However, this robust framework in combination with surface pavement provides sufficient contingency against pavement faults and cracking into the future. Requirements to be met for infiltration reduction within the Detailed Cap Design are provided below"

- For a barrier layer, capping material must:
  - have an in-situ saturated permeability of less than 10^{-9} m/s, high plasticity with no particles greater than 50 mm dimension, as indicated by particle size distribution analysis conducted at source of imported material;
  - be designed with a final minimum ground surface slope of 1% to minimise potential for pooling on the surface of the capped area during rainfall events[11];
  - be overlain by hardstand pavement and subgrade being geotechnically suitable for vehicle traffic and use as a carpark without compromising the future cap integrity;
- Where alternative capping systems are preferred, such as liners or membranes, average infiltration rates must not exceed 5% of annual rainfall[12] (calculated as 48 mm/ year). Such systems may include protection layers to prevent penetration of liner material.

[11] Current landform of AEC-4 is considered to meet this requirement.

[12] 966 mm per annum average rainfall, as measured at Parramatta North (Masons Drive) 3.2 km from site http://www.bom.gov.au/jsp/ncc/cdio/weatherData/av?p_nccObsCode=139&p_display_type=dataFile&p_startYear=&p_c=&p_stn_num=066124

9.6.3.2 Extent of Capped Area

The proposed lateral extent of the AEC-4 area which will be subject to capping construction is shown on Figure 8.

Final relative levels (RLs) of the cap will be confirmed within the detailed capping layer design, noting that final RLs may be raised slightly from existing ground surface to accommodate cap and pavement construction while minimising the lateral extent of capped footprint and volume of existing soil requiring off-site disposal.

The volumes of soil requiring remediation (6,968 m3 as outlined within Section 7.4) within AEC-4 provides a conservative allowance for 0.5 m of surface material to be cut or re-worked across the entire AEC-4 footprint.

9.6.4 Stockpiling of Surplus Materials

Surplus materials generated during remediation works which are deemed suitable for re-use on site should be stored within the soil screening/segregation areas, as shown on *Figure 9.*

These areas will be used to store treated/validated soils that have been characterised as suitable for reuse on site (as required). The area may also store uncontaminated surplus materials such as VENM, as well as supplementary uncontaminated materials (e.g. sand, gravel, organic matter) that may be used in remediation and/or biopiling processes.

To reduce potential for erosion impacts, silt fences are to be installed around stockpile areas. Erosion and sediment control requirements (developed in accordance with *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004)) will be outlined in full within the Soil and Water Management Plan.

9.7 Waste Management

The framework for Waste Management during the Stage 2 Remediation works will be outlined within the Waste Management Plan, which forms a sub-plan to the REMP.

Specific details regarding management, tracking and disposal of wastes will be provided within the Remediation Contractor's 'Waste Management Method Statement'.

9.7.1 Solid Waste

Based on the remediation methods proposed, it is anticipated that the following solid waste streams may be generated throughout Stage 2 Remediation Works and require off-site disposal to a licenced waste facility:

- Special Waste (Asbestos):
  - from asbestos excavations AEC-1 and AEC-3B;
  - existing stockpiles of waste soils (SP29) and demolition waste (SP30) which are unsuitable for re-use during site redevelopment, classified as Special Waste;
  - surplus material from AEC-4 capping works that are unsuitable for reuse onsite; and
  - unexpected finds of asbestos containing materials;
- excavated pipework and subsurface infrastructure from remediation excavations;
- waste soils from hydrocarbon excavations (contingency only);

9.7.2 Wastewater Management

Waste water associated with remediation activities may be generated via:

- impacted surface water runoff from contact with contaminated soils;
- leachate from remediation technologies; and
- impacted groundwater infiltrating into excavations.

The site drainage network within the Stage 2 Area has been decommissioned and isolated from the Clyde Terminal Wastewater Treatment Plant (WWTP) and access from the Stage 2 area to the WWTP is no longer possible. As such, wastewater generated from the above sources will be disposed offsite.

Based on the Stage 1 remediation works completed in 2020, the following observations and key learnings were made in relation to wastewater management:

- Surface water was diverted away from contaminated soils, with any surface water in the base of impacted excavations mixed in-situ with dry soil materials to aid with moisture conditioning prior to biopiling;
- Leachate was not generated from biopiles;
- Groundwater ingress into the excavations was observed to be minor, and did not require dewatering

Groundwater within the Western Area is present at depths generally between 1 – 3 m bgl. Remediation works may require excavation of soils to a maximum depth of 2 m bgl in AEC-3A and 3D and will be less than 2 m bgl in other excavations completed across the Western Area.

Excavations proposed to extend below the water table may require management of groundwater which will be limited to excavations of depths greater than 1 m bgl. Although there has been identified low potential for infiltration based on impermeable clay lithology, these excavations represent some potential for groundwater ingress and include the following areas:

- AEC-3A (Former Laboratory Area) – proposed remediation depth of 2 m bgl;
- AEC-3D (Former Contractor Warehouse) - proposed remediation depth of 2 m bgl; and
- AEC-14A – proposed remediation depth of 1.8 m bgl.

Based on the low transmissivity within the clay lithology and observations of little water ingress being observed during previous works undertaken in during the Stage 1 Remediation, groundwater ingress into excavations is expected to be minor and is unlikely to require dewatering of significant volumes to safely complete works. In the event that significant volumes of wastewater are accumulated in excavations, a contingency plan has been prepared as outlined in Section 13.1.4.

Despite low potential to generate leachate from biopiling operations, a leachate collection system is proposed to be incorporated in the event that moisture addition is required to effectively treat the biopiled material. It is noted that significant volumes of leachate are unlikely to be generated from biopiling operations associated with Stage 2 due to the following controls and conditions:

- Covering of biopiles in impermeable sheeting which limits potential leachate generation via infiltration from rainfall events; and
- Existing soil is expected to be within optimal moisture ranges without the need for significant moisture amendment. Soils are unlikely to be saturated following excavation and blending and as such would not provide a source of leachate once placed in the biopiling area.

9.8 Indicative Remediation Schedule

Detailed programming of the Stage 2 remediation works is still in progress and will be subject to Remediation Contractor input upon appointment. However, an indicative program has been prepared for the purpose of contextualising the approximate duration of respective tasks as shown in Table 9-1.

Table 9-1 – Indicative Program for works within Stage 2 area

Task		Week of Program																				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Task 1	Preparation Works – 3 weeks																					
Task 2	Removal of Waste																					
Task 3	Remediation (Excavation Phase) – 8 weeks ▪ Task 3.1: Excavation and Offsite Disposal (asbestos areas) ▪ Task 3.2: Excavation/ soil screening/ conditioning, biopile construction																					
	Task 3.2 – Biopile operation – 10 Weeks from completion of excavation. Can commence mid-excavation program																					
	Task 3.3 - Engineered Cap Construction [1] (AEC-4 Capping Installation) – 6 Weeks																					
Task 4	Land forming – backfill excavations																					
Task 5	Completion/ Demobilisation																					

Notes: 1. Engineered cap construction may be staged separately to other Task 3 remediation works due to requirement for detailed design preparation and approval.

10 ENVIRONMENTAL MANAGEMENT AND CONTROLS

In order to undertake the detailed scope above, works will be implemented in accordance with the Remediation Environmental Management Plan (REMP) and sub-plans which address the SSD 9302 Conditions of Consent for the Project. The REMP will include revision of the following sub-plans which were prepared and approved for Stage 1 of the WARP:

- Soil and Water Management Plan (SWMP)
- Groundwater Monitoring and Management Plan (GMMP)
- Air Quality and Odour Management Plan (AQMP)
- Waste Management Plan (WMP)
- Traffic Management Plan (TMP)

The REMP and associated sub-plans provide a framework for environmental management on the project across all stages of the remediation to ensure compliance with relevant legislative and other requirements.

To enable sufficient flexibility with regard to contractor specific execution of each Stage of the Remediation Works, additional detailed documentation will be provided by the Remediation Contractor for Stage 2 as per Table 10-1. Mitigation measures and items to be addressed by these plans are specified within the REMP sub plans as below:

Table 10-1 – REMP Contractor Documentation Requirements

Document Name	Timing	Relevant REMP Sub Plan and Reference
Acid Sulfate Soils management plan	Two weeks prior to commencement of preparation works, where required	SWMP (SWMP2), GMMP (GMMP3).
Asbestos management plan	Two weeks prior to commencement of preparation works	SWMP (SWMP3)
Progressive erosion and sediment control plans	Two weeks prior to commencement of preparation works	SWMP (SWMP4)
Groundwater Management Method Statement	Two weeks prior to commencement of preparation works	SWMP (SWMP5) GMMP (GMMP4)
Surface water management work method statement	Two weeks prior to commencement of preparation works	SWMP (SWMP6)
Remediation Contractor Work Method Statement – including Biopile design and detailed operation methodology	Two weeks prior to commencement of remediation works for each stage, where required	N/A – as per requirements of this Detailed RAP (Section 9.5.1)

Document Name	Timing	Relevant REMP Sub Plan and Reference
Wastewater management method statement	Two weeks prior to commencement of remediation works for each stage	SWMP (SWMP12)
Waste Management Method Statement	Two weeks prior to commencement of preparation works	WMP (WM16)
Air Quality Management Method statement	Two weeks prior to commencement of remediation works for each stage	AQMP (AQMP3)
Reactive Air Quality Management Program	Two weeks prior to commencement of remediation works for each stage, where required	AQMP (AQMP5, AQMP6, AQMP7)
Occupational Health and Safety Plans and Work Method Statements	Two weeks prior to commencement of preparation works	REMP (HuH-A, HuH-B)
Flood Emergency Response Plan	Two weeks prior to commencement of preparation works	REMP (FL-A)
Traffic Management Method Statement	Two weeks prior to commencement of preparation works	TMP (TMP-16)

Characterisation of the potential for acid sulfate soils generation within the Stage 2 Area is discussed in Section 3.4. According to the City of Parramatta Council Local Environment Plan Maps, ASS Risk ratings of Class 4 are applicable to the majority of the Stage 2 Area. A small area of Class 2 is situated to the south-eastern extent of Stage 2.

Based on the presence of excavation areas only within zones classified as Class 4 Acid Sulfate Soils, no proposed disturbance to PASS identified below the level of fill within AEC-4 and no significant lowering of the water table, it is considered that the scope of remedial works does not currently warrant the preparation of an Acid Sulfate Soils Management Plan (ASSMP).

Should alternative remedial approaches be required as per the contingency plan outlined in Section 13, the requirement for an ASSMP should be re-visited.

10.1 Hours of Operation

In accordance with the consent conditions for SSD 9302, hours of operation for Stage 2 Remediation are as per Table 10-2.

Table 10-2 – Hours of Work

Activity	Day	Time
Preparation works, remediation works and demobilisation	Monday – Friday Saturday	7 am to 6 pm 8 am to 5 pm

Works outside of the hours above may be undertaken in the following circumstances:

- works that are inaudible at the nearest sensitive receivers;
- works agreed to in writing by the Planning Secretary;
- for the delivery of materials or equipment required outside these hours by the NSW Police Force or other authorities for safety reasons; or
- where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

10.2 Site Management (Operational Phase)

10.2.1 Monitoring

Monitoring requirements will be confirmed within the Stage 2 REMP (and associated sub-plans and is expected to comprise the below tasks.

- **Groundwater monitoring:** A program of groundwater monitoring will be undertaken by the Validation Consultant both during remediation and post remediation. This program will include gauging for changes in water levels and LNAPL and sampling of wells nearby to the key hydrocarbon remediation excavations to assess potential for adverse changes in conditions. Specific details regarding groundwater monitoring to be undertaken will be detailed within the Groundwater Management Program, which forms part of the *Groundwater Monitoring and Management Plan*.
- **Excavation water monitoring:** sampling of excavation water quality will be undertaken by the Validation Consultant prior to offsite disposal of waters to determine suitability for receiving wastewater facility for offsite treatment and disposal. Specific details relating to remediation phase monitoring are to be outlined in the *Soil and Water Management Plan* and has been summarised in Section 9.6.2 of this RAP.
- **Air, Dust and odour monitoring:** Air, Dust and odour monitoring will be performed by the Validation Consultant to assess the effectiveness of the implemented management measures and the potential need for increased air quality management measures. The frequency, location and type of air, dust and odour monitoring to be undertaken during the project will be detailed within the Stage 2 AEVR, *Air Quality Management Plan, and the Environment Protection Licence (EPL570)*;
- **Occupational Hygiene Monitoring:** The specific requirements for occupational hygiene monitoring for workers involved in remediation activities will be specified within the *Remediation Contractor's Health, Safety and Environment (HSE) Plan*;
- **Biopile/ SVE System Monitoring and inspection:** A visual assessment of the biopiling area will be performed by the Remediation Contractor on a minimum weekly basis to inspect environmental controls including but not limited to bunding, covers over stockpiles, correct functionality of the SVE system. Monitoring of SVE system emissions (at pre-filter, between lead and lag vessels and at the outlet) to inform the change-out of filter media is outlined in Section 9.5.3 and detailed within the Stage 2 AEVR;
- **Soil treatment progress monitoring**: Monitoring will be performed by the Validation Consultant to assess the progress of biological treatment. The stabilisation of VOC inlet concentrations will provide a trigger for soil validation sampling to be undertaken by the validation consultant (as per Section 12.3) until remediation criteria are met. Upon completion of treatment works, a final validation sampling event will be performed to demonstrate that soils are acceptable for re-use on-site under a commercial/ industrial land use scenario.
- **Biopile Validation Sampling**: will assess concentrations of BTEXN, TRH C6-C40 Fractions (following Silica gel cleanup) for all stockpiles and PAH concentrations (as required based on

source area, see section 12.3). If necessary, nutrient ratios (Carbon: Nitrogen: Phosphorus), bacterial populations, pH and moisture content will be collected.

10.3 Equipment Decontamination and Wheel Wash

Equipment may come into contact with impacted soils during excavation and transport from the excavation to stockpiling or biopiling areas. As such, a wheel wash will be operated by the Remediation Contractor throughout remediation works.

The REMP will include the requirement for the Remediation Contractor to develop a work method statement and methodology for wheel wash operations and outline decontamination procedures to reduce the inadvertent spreading of contaminated soil residues from excavation equipment and trucks both on- and off-site and across validated areas.

10.4 Long Term Environmental Management Plan (LTEMP)

Following completion of the remediation works in accordance with this Detailed RAP, preparation and implementation of a LTEMP is required to manage residual contaminated soil and/or groundwater impacts remaining after active remediation is undertaken.

It is understood that the future development plans for the Stage 2 Area (as detailed within SSD 10459) involve subdivision into 13 separate lots plus a road reserve (see Figure 10). It is understood that the level of management restriction each lot will be subject to may vary and that there is potential for separate future tenure of individual lots. With that being the case, separate LTEMPs may be prepared for each lot or series of lots to accompany Site Audit Statements.

The LTEMP for the Stage 2 Area will be required to document the following management restrictions associated with residual impacts to be managed in-situ:

- restrictions on the use of groundwater;
- restrictions on the type of land-uses and activities to be undertaken;
  - slab on-grade commercial/ industrial premises;
  - no basement construction;
  - no building construction on AEC-4 capped area
- ensuring that barrier layers and capping remain in place (at AEC-4);
- identification of areas subject to in-situ passive management for residual hydrocarbon impacts which do not present a risk to human health or the environment, but require awareness for execution of future excavation work and potential impacts on buried infrastructure including:
  - potential for generation of odours;
  - awareness of the presence of aesthetically impacted soil materials, including visible staining and LNAPL presence.
- task-specific WHS measures to mitigate exposure risks to workers and the environment during subsurface works (construction workers or future intrusive maintenance workers);
- ongoing groundwater monitoring requirements (as per the GWMP) to demonstrate residual dissolved phase petroleum hydrocarbon impacts continue to be stable to decreasing trends for petroleum hydrocarbons and do not represent a risk to receptors following completion of soil remediation works; and
- an unexpected finds procedure for the management of unexpected contamination identified during future redevelopment or excavation works.

The LTEMP(s) would be written in accordance with relevant development consent conditions and the NSW EPA (2020) *Consultants Reporting on Contaminated Land* Guidance and the *Guidelines for the NSW Site Auditor Scheme* (3rd edition) and will be provided to the Auditor for approval. The implementation of the LTEMP is anticipated to be a requirement for the issue of a Site Audit Statement, along with a site validation report.

10.5 Groundwater Monitoring

10.5.1 Monitoring Well Replacement

The planned soil remediation works may result in removal of existing groundwater monitoring wells in excavation or capping areas. Where possible, all efforts will be made to maintain the integrity of the existing monitoring well network to facilitate the completion of groundwater monitoring during and at completion of remediation works.

The monitoring wells that will be lost during the soil remediation works were installed over several historical investigations. As the hydrogeological and contaminant characterisation data from these wells has been incorporated into the CSM and are well understood, replacement of all monitoring wells following completion of excavation and development works will not be considered necessary.

The focus for post-remediation monitoring will be the monitoring of wells in down gradient areas to assess groundwater flux and boundary conditions. The boundary monitoring well network is not expected to be physically affected by earthworks undertaken throughout the Project.

10.5.2 Post Remediation Groundwater Monitoring

Previous groundwater monitoring undertaken has indicated stable to decreasing concentrations of TRH and BTEX in groundwater over time within monitoring wells in the Western Area. Based on the Current CSM (as presented in Section 6), no risks to human health and ecological receptors from dissolved phase groundwater concentrations have been identified in the Stage 2 Area.

Assessment of groundwater conditions post-remediation would involve a risk-based evaluation, taking into account LTEMP requirements, which includes fate and transport considerations and groundwater flux (as required). This approach would be aimed at demonstration of stable groundwater conditions post remediation and that residual groundwater impacts do not present a risk to the ecological values of the Duck River.

Given the current assessment that hydrocarbon concentrations are stable to decreasing, it is expected that the remediation works proposed will enhance the current natural attenuation processes.

Ongoing monitoring will be the responsibility of Viva Energy, with specific details provided within a revised Groundwater Monitoring and Management Plan (GMMP) and associated groundwater monitoring program specific for the Stage 2 works. The requirement to provide access for ongoing monitoring following completion of remediation would be outlined within the LTEMP.

11 STAKEHOLDER ENGAGEMENT

In accordance with the SSD development consent (Condition B48), "*consultation with the community will be undertaken regularly throughout the Project including consultation with the nearby sensitive receivers, relevant regulatory authorities and other interested stakeholders",* The Clyde Terminal webpage will continue to provide contact information, such as the 24 hour community (including complaints) hotline and information on how to provide comments or feedback.

The local Camellia Peninsula would be informed of the Project including projected timelines and potential impacts from planned works.

Prior to the commencement of works (where required by the Development Consent) and during the works, the following information may be included in the communication, as required and where relevant:

- key details of when the relevant work activities are planned to commence;
- the stages of works planned;
- anticipated traffic, noise, and/or other potential impacts to public amenity;
- exclusion zones or road closures (where required);
- days and hours of work;
- the nature of the work to be carried out;
- the method of the work to be carried out (where relevant);
- who to contact (phone, postal address, e-mail address to make a complaint, provide feedback or seek information.

The frequency of communication will be based on the requirements of the Development Consent, the Project Management Plan and the schedule of planned works.

Ongoing consultation with government agencies such as NSW DPIE, NSW EPA and the Council would likely occur in the form of written communications, meetings, review of documents and other approvals (if required).

11.1 Regulatory Stakeholders

The key regulatory stakeholders during the execution phase of the Remediation project primarily include the NSW EPA, NSW DPIE, Safework NSW and the City of Parramatta Council.

Viva Energy has engaged in ongoing consultation with these stakeholders at various stages of the Clyde Terminal operation and more recently during the Clyde Terminal Conversion Project and the SSD Approval process for the Project. Regulatory stakeholders have been consulted via review and comment on the following documents prior to remediation commencement:

- public consultation of the EIS (AECOM, 2019a), including preparation of a Response to Submissions Report (AECOM, 2019c);
- review, comment and approval of key documentation for Stage 1 of the WARP, including RAP, AEVR, REMP, GWMP and LTEMP (as required).
- site meetings, project update meetings during and following the execution of Stage 1 works;
- site meetings and briefings on remedial approach to be adopted for Stage 2 RAP and AEVR; and
- review, comment and approval of this Detailed RAP, REMP and associated sub-plans and AEVR.

As such, during the remediation period, continued engagement and update will occur to ensure the regulators are kept abreast of the program of works, milestones and reporting requirements agreed in the SSD Conditions of Consent.

In addition, Viva Energy has engaged Andrew Kohlrusch from GHD Australia to be the NSW EPA-accredited Site Auditor for the Project. Andrew will provide independent review of key site activities including implementation of this Detailed RAP.

12 VALIDATION SAMPLING ANALYSIS AND QUALITY PLAN (SAQP)

12.1 Validation Objectives

The objective of validation is to demonstrate remediation objectives have been achieved:

- removal of potential human health risks (and liabilities) to future owners of the Stage 2 Area to the extent practicable[13];
- demonstration that the land is suitable for ongoing commercial/industrial land use; and
- demonstration that residual impacts can be adequately managed via implementation of an appropriate LTEMP to mitigate risks to potential receptors.

The following sections document the Data Quality Objectives (DQOs) and methodology for validation following completion of remediation works.

12.2 Data Quality Objectives

The Data Quality Objectives (DQOs) for this validation SAQP have been developed in accordance with the ASC NEPM (NEPC, 2013) and the Australian Standard AS4482.1 Guide to the Sampling and Investigation of Potentially Contaminated Soil. Part 1: Non-volatile and semi volatile Compounds.

The DQO process is outlined in the following sequential manner:

- Step 1 – State the Problem.
- Step 2 – Identify the Decision Statement.
- Step 3 – Identify Inputs into the Decision.
- Step 4 – Define the Study Boundaries.
- Step 5 – Develop the Decision Rule.
- Step 6 – Specify the Limits of Decision Error.
- Step 7 – Optimise the Design for Obtaining Data.

12.2.1 Step 1 – State the Problem

As outlined in Section 7.3, previous investigations in the Stage 2 Area have identified soil and groundwater contamination exceeding risk based Site Specific Target Levels (SSTLs) as a result of the historical land-use as a refinery.

The remediation objectives for the project are outlined in Section 7.1 and restated below for convenience:

- to remediate the soil and manage groundwater within the appropriate parts of the Western Area, to enable the land to be used for commercial/ industrial purposes in the future, thereby reducing the risk of contamination from the land adversely affecting human health and the environment; and
- to ensure any approved remediation process that is implemented adheres to all applicable regulatory requirements so as to limit or eliminate (where possible) adverse effects to human health or ecological receptors."

To demonstrate completion of site remediation works to achieve these objectives, site validation will need to be undertaken in accordance with this Detailed RAP to the satisfaction of the appointed NSW EPA accredited Site Auditor.

[13] 'To the extent practicable' is defined as whereby that residual risks are mitigated or able to be managed passively under a Long Term Environmental Management Plan (LTEMP)

As such, the following will require validation to demonstrate the successful implementation of remediation works:

- soils from data gap test pits surrounding the TP21/79 hotspot;
- soils from the walls and floors of excavation areas;
- stockpiled soil materials originating from remediation excavations to confirm suitability for on-site re-use (before or following bio-remediation);
- the footprint of temporary stockpiles, where applicable based on the validation strategy presented in Section 12.3.1;
- imported fill materials (excluding construction and landscaping materials); and
- construction of the AEC-4 cap has been completed and documented in accordance with the detailed design requirements.

12.2.2 Step 2 – Identify the Decisions

Based on the remediation objectives, the following decisions must be made:

- What is the lateral extent of the AEC-3E hotspot which requires remediation?
- Has sufficient soil sampling been conducted in the proposed road area?
- Have remediation excavations removed contaminated soil and LNAPL to the extent practicable to remove potential risks to human health and the environment?
- Is excavated soil material suitable for on-site re-use, or does it require further treatment (via biopiling) or off-site disposal?
- Is imported fill material suitable for use in the Stage 2 Area?
- Has the AEC-4 cap been constructed in accordance with the design requirements?

The proposed site assessment criteria which underpin decisions relating to the above items are presented in Section 12.5.

12.2.3 Step 3 – Identify Information Inputs

The inputs to make the above decisions include:

- Results from previous soil, groundwater and soil vapour sampling during previous investigations and risk assessment undertaken within the HHERA (ERM, 2020b).
- Field observations, air monitoring data and analytical data collected during Remediation Trials and the Stage 1 remedial works.
- Field observations made during remediation works for odours, LNAPL, sheens, discolouration, asbestos and other indicators of potential contamination.
- Air monitoring data collected during remediation works (VOC concentrations, ground gases (LEL, methane, CO_2)) to support the conclusion that there is negligible potential for pooling of ground gases during future excavation works.
- Field screening of soil material during excavation works for volatile organic compounds.
- Characterisation of contaminant conditions via visual screening and sampling of soil from excavations and stockpiled material and subsequent field testing and/or laboratory analysis of selected samples.
- Assessment criteria summarised in Section 12.5.

- Confirmation of acceptable data quality by assessment of data quality assurance / quality control by comparison against Data Quality Indicators (DQI).

Sampling and analysis methods: Field procedures and data collection will be consistent with all relevant guidelines made or approved by the NSW EPA. Field data will be recorded in accordance with ERM Standard Operating Procedures.

12.2.4 Step 4 – Define the Study Boundaries

Study area:

The Stage 2 Area is approximately 28 ha in size, and comprises of the former Utilities, Movements and Buried Waste Area.

The extent of the Stage 2 Area is defined in Section 2 of this report and is as shown on Figure 2. The lateral extent of remediation excavations required is shown on Figure 7. The vertical extent of remediation is outlined within Section 7.4.

Temporal limits: The study comprises validation activities to be completed as part of the Stage 2 Detailed RAP scope of works, anticipated to be completed throughout Quarter 3 and 4 of 2021.

Constraints within the study boundaries are considered limited to the location and extent of sub-grade footings and associated concrete and footings, which will not be removed as part of excavation works. The presence of established vegetation within the Riparian corridor represent a constraint to capping works in AEC-4.

12.2.5 Step 5 – Develop the Decision Rules

The decision rules are outlined as follows.

Decision	Decision Rules
What is the lateral extent of remediation required at the AEC-3E hotspot?	■ If concentrations of contaminants of concern in soil from delineation test pits 5 m from the location of TP21/79 location are reported equal to or below the adopted assessment criteria (Section 12.5), the answer is <10 m x 10m (100 m^2). ■ If concentrations of contaminants of concern in soil from delineation test pits 5 m from the location of TP21/79 location appear to be contaminated by hydrocarbons (field screening >100 ppm), an additional test pit will be advanced 5 m farther than the TP21/79 location until relatively un-impacted soils are encountered and a sample is collected that contains reported concentrations of contaminants of concern in soil equal to or below the adopted assessment criteria. The location of the nearest test pit with soil concentrations < Vapour Intrusion SSTLs from the TP21/79 location will inform the hotspot dimensions requiring remediation.
Has sufficient soil sampling been conducted to validate the proposed road area?	■ If final validation sample density of the proposed road is evenly distributed at a nominal 20 m spacing or less the answer is ‘yes’.
Have remediation excavations been completed successfully and to the extent practicable?	■ If concentrations of contaminants of concern in soil are reported equal to or below the adopted assessment criteria (Section 12.5) in samples collected from the base and walls of the remediation excavations, the answer is ‘Yes’. ■ If concentrations of contaminants of concern are reported above the adopted assessment criteria in soil samples collected from the base and walls of the remediation excavations and do not meet the criteria following statistical analysis (as outlined below), the answer is ‘No’. Further excavation to remove impacted soils and validation sampling would be required

Decision	Decision Rules
	■ Statistical analysis of data sets of chemical CoPC concentrations will be used as inputs, consistent with guidance in the NEPM (NEPC, 2013). The analysis shall include: ▪ 95% upper confidence limit (UCL) of the arithmetic mean concentration of each analyte shall be less than or equal to the criterion. ▪ The maximum concentration of each analyte shall be less than or equal to 250% of the criterion. ▪ The standard deviation of each analyte shall be less than 50% of the criterion. ▪ If any of these are exceeded then the answer to the decision is 'No'. ■ If LNAPL is present at the base of the excavation, further excavation (to the extent practicable) to remove impacted soils and validation sampling would be required. 'The extent practicable' in this context is defined as the point at which no net environmental benefit is achieved by further excavation work; Statistical analysis will only be completed on a data set that is representative of materials within that 'lot' boundary, and should not be used for asbestos.
Is soil material excavated from AEC-3a, AEC-3d, AEC-3e, AEC-14a and AEC-14b (Hydrocarbon AECs) suitable for on-site re-use, or does it require further treatment (via biopiling) or off-site disposal?	■ 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 12.5), the material is suitable for on-site re-use. ■ If concentrations of contaminants of concern are reported above the adopted re-use criteria and does not meet the statistical criteria below, the material is unsuitable for on-site re-use, and will require on-site treatment and re-sampling to confirm suitability or off-site disposal. ■ Statistical analysis of data sets of chemical CoPC analyte concentrations will be used as inputs, consistent with guidance in the NEPM (NEPC, 2013). The analysis shall include: ▪ 95% upper confidence limit (UCL) of the arithmetic mean concentration of each analyte shall be less than or equal to the criterion. ▪ The maximum concentration of each analyte shall be less than or equal to 250% of the criterion. ▪ The standard deviation of each analyte shall be less than 50% of the criterion. ■ If any of these are exceeded then the answer to the decision is 'No'.
Are building material stockpiles suitable for on-site re-use?	■ If the stockpile does not contain soil material or Asbestos Containing Materials; or ■ If the stockpile contains soil greater than trace levels (ie 5%) and concentrations of COPCs are below the on-site re-use criteria, then the answer is 'yes'
Has the AEC-4 cap been constructed in accordance with the design requirements?	If the capping layer is constructed in accordance with the Detailed Capping Design (as demonstrated by the lines of evidence specified in 12.3.11, the answer is 'yes'.
Is imported fill material suitable for its intended purpose?	Imported material will need to be assessed against criteria for VENM or ENM in accordance with the NSW EPA (2014) Waste Classification Guidelines: Part 1: Classifying Waste (for VENM) or the NSW EPA (2014) Excavated Natural Material Order 2014. Imported material will require inspection for the presence of foreign material or other indicators of contamination

Specifying the action level:

The adopted assessment criteria have been sourced from the HHERA (ERM 2020b) and guidelines made or approved under the CLM Act which includes the ASC NEPM and where alternative sources

have been utilised, appropriate justification has been provided. Assessment criteria are provided in Table D.1 of Appendix D and discussed in Section 12.5.

Data Acceptance limits:

The suitability of analytical data will be assessed based on acceptable limits for field and laboratory QA/QC samples outlined in relevant guidelines made or endorsed under the CLM Act which includes the ASC NEPM. In the event that acceptable limits are not met by laboratory analyses, the field observations relating to the nature of the samples will be reviewed and if no obvious source for the non-conformance is identified, such as an error in sampling, preservation of sample/s or heterogeneity of sample/s, liaison with the laboratories will be undertaken in an effort to identify the issue that had given rise to the non-conformance.

If the data is deemed to be unsuitable, additional analyses may be undertaken on the original sample/s, on duplicate samples or on other samples, if required to meet the objectives of the assessment. If no explanation for the non-conformance is identified, the concentrations for the affected samples will be considered as an estimate.

Appropriateness of LOR:

Comparison of the laboratory Limit of Reporting (LOR) to the assessment criteria will be undertaken to confirm that the laboratory LORs are less than the assessment criteria, any exceptions to this will be appropriately discussed and agreed with the Site Auditor.

12.2.6 Step 6 – Specify Limits on Decision Errors

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.

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 sites zoning (IN3 – Heavy Industrial).

12.2.7 Step 7 - Optimise the Design for Obtaining Data

The DQOs have been developed based on a review of existing data and discussions with relevant project stakeholders, including Viva Energy and the Site Auditor. If data gathered during the assessment indicates that the objectives of the assessment programme are not being met, the sampling design (including sampling pattern, type of samples and analytes) will be adjusted accordingly using feedback (where necessary) from project stakeholders. In the event that the findings of the investigation identify issues which require delineation or further investigation these will be delineated to the extent practicable, the scope of which is subject to approval from Viva Energy.

12.3 Validation Methodology

12.3.1 Validation Strategy

As outlined in Section 7.3, the driver for remediation is:

- the potential for indoor inhalation of vapours by future on site commercial workers from hydrocarbon impacted soil and LNAPL within several hot spots (AEC-3a, AEC-3d, AEC-3e, AEC-14a and AEC-14b) which present a risk to future on-site receptors;
- the potential for ACM in soils which present a risk to future site users at two identified hotspots (AEC 1 and AEC 3b); and
- the potential for contaminants within AEC-4 to pose a risk to human health and the environment.

The selected remedial approach will involve the following:

Remediation Area (s)	Approach
AEC-3A, AEC-3D, AEC-3E, AEC-14A and AEC-14B	Excavation of impacted soils (fill and clay) and residual LNAPL. Soil material will be treated via biopiling for beneficial re-use within future site redevelopment.
AEC-1 and AEC-3B	Excavation of soils impacted with ACM and disposal of excavated soil off-site.
AEC-4	In-situ management beneath an engineered capping layer

Based on the remediation approach presented, the following conditions are expected at completion of excavation works:

Remediation Area (s)	Expected Conditions on Completion of Remediation
AEC-3A, AEC-3D, AEC-3E, AEC-14A and AEC-14B	■ excavation to the required Relative Level (RL) exposing underlying natural clay material (not impacted with visible LNAPL) on base; ■ where residual LNAPL cannot practically be removed via excavation, this impacted soil material must be sampled to facilitate further risk assessment[14]; ■ backfill of remedial excavation with imported fill material (certified as VENM or ENM) or suitable validated material from the Western Area; and ■ characterisation of excavated materials for re-use, on-site treatment (via biopiling) or offsite disposal.
AEC-1 and AEC-3B	■ excavation of the fill material exposing underlying natural clay material (not impacted with visible ACM) on base; ■ backfill of remedial excavation with imported fill material (certified as VENM or ENM); and ■ classification of excavated materials in accordance with the NEW EPA (2014) Waste Classification Guidelines for offsite disposal.

[14] Applies to AEC-3A and 3D, where LNAPL is associated with a known vapour risk and is proposed to be excavated. Sampling of residual LNAPL within soils provides contingency for a further assessment of risk to be undertaken for any remaining soils which are unable to be physically excavated. Circumstances would include the presence of large subsurface structures preventing access to impacted soils or if excavations extended to a significant depth, to the depth of residual contaminated material no longer presents a risk to human health or the environment.

Remediation Area (s)	Expected Conditions on Completion of Remediation
AEC-4	■ Completed capping layer present over the AEC-4 area to effectively mitigate direct contact risks and minimise potential infiltration which may mobilise contaminants in groundwater.

The table below summarises the methodology to be adopted for the validation strategy.

Table 12-1 – Stage 2 Validation Strategy

Area / Material	Remediation Approach	Validation Approach	Required Analysis	Sampling density
Hydrocarbon Remediation Excavations: ■ AEC-3a, ■ AEC-3d, ■ AEC-3e, ■ AEC-14a; ■ AEC-14b	Complete excavation of impacted soil materials and potential LNAPL (where present)	Visual assessment of excavation surface on a systematic basis for the presence of LNAPL or soils with PID headspace screening results >100 ppm. The presence of LNAPL and/ or PID screening result >100 ppm should be used to guide further excavation to the extent practicable. Validation sampling from final excavation walls and floor surfaces.	■ BTEXN, ■ TRH C6-C40, ■ Carcinogenic PAHs (as B(a)P TEQ) And If field headspace screening with PID>100ppm and/or reported concentrations > SSTLs: ■ TRH Speciation (CWG fractions) If TRH C10-C40 fractions exceed NEPM TRH Management Limits then the silica gel clean-up analysis will be used to confirm the result	**Walls** ■ 1 sample per 10 lineal metres or 1 sample form each wall if excavation wall <10 m. ■ Additional sampling at the same frequency to be conducted for each material type present **Base** ■ 10 x 10 m off-set grid (herringbone) pattern
Stockpiled Excavated Soil Materials from Hydrocarbon Excavations: ■ AEC-3a, ■ AEC-3d, ■ AEC-3e, ■ AEC-14a; ■ AEC-14b	Biopiling to treat soil materials for on-site beneficial re-use	Visual assessment of soil for the presence of LNAPL. Sampling of stockpiled soil to determine suitability for beneficial re-use or if further treatment is required.	As above.	■ 0-250 m^3 – 1 sample per 25 m^3 (minimum 3 per stockpile) ■ 250-2500 m^3 10 samples (minimum number for calculation of 95% UCL); and ■ >2500 m^3 – 1 sample per 250 m^3
Asbestos Remediation Excavations: ■ AEC-1; ■ AEC-3b	Complete excavation of ACM hotspot	■ Visual assessment of excavation surface and walls on a systematic basis for the presence of ACM by a competent person.	■ Confirmatory laboratory analysis (asbestos ID) of suspected ACM (if identified) If potential for asbestos fines identified:	**Walls** ■ 1 sample per 10 lineal metres or 1 sample from each wall if excavation wall <10 m

Area / Material	Remediation Approach	Validation Approach	Required Analysis	Sampling density
		■ Field sieving (to 7 mm) of 10 L samples for gravimetric assessment and calculation of %w/w of ACM. ■ Documentation of condition of ACM. ■ Based on the existing dataset, asbestos is expected to be present in the form of bonded ACM. Should ACM be identified as degraded with potential for AF/FA, collection of a 500 g sample of sieved soil material will be required for quantification of asbestos fines.	■ Laboratory quantification for asbestos fines/ Fibrous Asbestos (%w/w).	(targeted at fill material) **<u>Base</u>** ■ 10 x 10 m off-set grid (herringbone) pattern
Stockpiled Excavated Soil Materials from AEC-1 and AEC-3b	Off-Site disposal of excavated materials	Classification of soil in accordance with the NSW EPA (2014) Waste Classification Guidelines: Part 1: Classifying Waste and disposal to an appropriately licenced facility.	Use of existing in-situ data, plus the following: ■ BTEXN, ■ TRH C6-C40, VOC, PAHs, Phenols, Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg, Cr6+), ■ PCBs, ■ OCPs, ■ OPPs.	■ 0-250 m^3 – 1 sample per 25 m^3 (minimum 3 per stockpile) ■ 250-2500 m^3 10 samples (minimum number for calculation of 95% UCL); and ■ >2500 m^3 – 1 sample per 250 m^3
Temporary stockpile footprint (if not conducted on hardstand)	Over-excavation of stockpiled materials once removed.	■ Should a stockpile be placed on the footprint of a planned remediation to be undertaken at later stages of the Project, separate validation for residual stockpile impacts is not considered warranted.	■ As per COPC of previously stockpiled material	■ 10 x 10 m off-set grid (herringbone) pattern
Capping layer at AEC-4	Construction of an engineered cap to achieve the following:	■ Verification that capping layer construction has been completed in accordance with	As detailed within Groundwater Monitoring Program.	As detailed within Groundwater Monitoring Program.

Area / Material	Remediation Approach	Validation Approach	Required Analysis	Sampling density
	■ **Physical Separation:** Reduce potential for inadvertent direct contact with contaminated soils or disturbance of asbestos in soils by future on-site workers conducting excavations; ■ **Infiltration Reduction:** Reduce potential for surface water infiltration at the ground surface, therefore reducing potential contaminant mass flux and LNAPL in groundwater from the buried waste area;	the detailed design. ▪ Review of contractor quality documentation (ITP/ ITRs) ▪ Photographic evidence and inspection confirming installation of marker layers/liners as per Detailed design ▪ Pre works comparison with Final surveyed RLs of completed capped surface to verify cap construction thickness ▪ Geotechnical reports or testing certificates confirming compliance with Detailed design specification for permeability, material type and compaction. ■ Groundwater monitoring at boundary locations to confirm continuation of no unacceptable impacts to off-site receptors (as detailed within Groundwater Monitoring Program).		
Imported Materials	-	Classified as VENM, ENM as defined under the Protection of the Environment Operations (POEO) Act 1997.	As required.	As required
Additional sampling along alignment of proposed roadway	-	Collection of additional samples to confirm suitability for proposed land use and/or LTEMP requirements	■ BTEXN; ■ TRH C6-C40, ■ PAHs (50% of samples), ■ Metals (50% of samples); If building or demolition material noted within fill:	2 samples at each of 4 additional sample locations to reduce spatial gaps in the data.

Area / Material	Remediation Approach	Validation Approach	Required Analysis	Sampling density
			■ field sieving for gravimetric quantification of ACM; and ■ AF + FA quantification (%w/w)	
Additional delineation sampling around TP21/79 (AEC-3E)	-	Collection of additional samples to refine remediation area AEC-3E.	■ BTEXN, TRH C6-C40. ■ Carcinogenic PAHs (as B(a)P TEQ) and if PID>100 ppm and/or reported concentrations > SSTLs or management limits then the following additional analysis will be required ■ TRH C10-C40 after silica gel clean-up ■ TRH Speciation (CWG fractions)	2 samples at each of 4 additional sample locations to delineate impacts at AEC-3e.
Waste	-	If off-site disposal of excavated materials is required, this will be undertaken in accordance with the NSW EPA (2014) Waste Classification Guidelines: Part 1: Classifying Waste.	As required	■ 0-250 m^3 – 1 sample per 25 m^3 (minimum 3 per stockpile) ■ 250-2500 m^3 10 samples (minimum number for calculation of 95% UCL); and ■ >2500 m^3 – 1 sample per 250 m^3
All excavated and placed impacted materials, imported materials, and waste	-	Material Tracking Register, as outlined in Section 12.3.8.	-	-

12.3.2 Soil Sampling Methodology

Validation sampling of soil materials is expected to be undertaken in accordance with Table 12-1 above. The general methodology for collection of soil samples is outlined below:

- soil will be logged by an appropriately trained and experienced scientist/engineer (the validation consultant) to record the following information: soil/rock type, colour, grain size, sorting, angularity, inclusions, moisture condition, structure, visual signs of contamination (including the presence of staining and fragments of fibre cement sheeting) in general accordance with AS 1726;
- suitable Personal Protective Equipment (PPE), including fresh disposable nitrile gloves, will be used during sampling and equipment decontamination;
- a duplicate of each soil sample will be placed in a sealed snap-lock bag and will be screened using a PID fitted with a 10.6 eV lamp, calibrated at the beginning of each working day. Where the presence of volatile contaminants or other impact is suspected, additional laboratory analysis may be undertaken;
- representative soil samples will be collected (to the extent practicable) in accordance with techniques described in Australian Standard AS4482 (Part 2 – Volatile Substances) to maintain the representativeness and integrity of the samples. The samples will be placed in pre-treated, laboratory-supplied sample containers. The containers will be filled, where practicable, to minimise headspace before being sealed and appropriately labelled. Labels will include the following information:
  - unique sample identification number;
  - project number/name; and
  - date of collection.
- Soil samples will be collected for field screening at depth intervals of 0.5m or changes in lithology;
- If field sieving for gravimetric quantification of ACM is required, the method outlined in the 2013 NEPM will be used. A 10 L bucket will be sieved in the field using a 7 mm sieve. Any ACM remaining on the sieve after the soil sample has passed through will be collected and sent to the laboratory for weighing and identification. ACM percentages by sample weight (%w/w) will be calculated as per the 2013 NEPM method using a soil density of 1.8, which is considered appropriate for the soil type at the site.
- field QA/QC samples will be collected in accordance with the methodology specified in *Section 12.4* and include intra-laboratory duplicates, inter-laboratory duplicates, trip spikes and trip blanks and rinsate blanks (only where non-disposable sampling equipment is used);
- sample containers will be sealed and immediately placed in a cooler on ice to minimise potential degradation of organic compounds; and
- any non-disposable sampling equipment required to be utilised for sampling will be decontaminated between sampling locations by initially removing any residual soil with a stiff brush, followed by washing the equipment with a 2% Decon 90/potable water solution to reduce the potential for cross contamination between sampling locations.

12.3.3 Data Gaps Works

12.3.3.1 Future Roadway Area Additional Characterisation

Four additional site characterisation samples locations will be collected to confirm or update the current conceptual site model for this area which is elongated and crosses several AECs. A minimum of two samples will be collected of fill and natural clay materials from test pits advanced by an excavator to a maximum target depth of 2.0 m bgl as per the soil sampling methodology outlined in Section 12.3.2 to achieve vertical delineation. Samples will be selected for analysis based on visual and olfactory indicators of contamination. Samples will collected using a gloved hand from the middle of the excavator bucket.

At several depths within each test pit, soils will placed in a zip lock bag and screened in the field for head space vapours.

Any assessment criteria exceedances will be managed as unexpected finds (see Section 13.2).

A summary of proposed additional investigation locations and rationale is provided in Table 12-2 below and shown on *Figure 12*.

Table 12-2 – Future Road - Data Gaps Investigation Summary

Test Pit ID	Proposed Depth (m)	Minimum sample numbers	Proposed Laboratory Analysis	Rationale
TP21/98	2.0m (or depth of vertical delineation)	2 (1 Fill, 1 natural clay)	■ TRH C6-C40 Fractions, BTEXN (all samples) ■ PAH/ 8 metals (fill samples) ■ Asbestos %w/w (if demolition waste materials encountered)	Increased spatial coverage of elongated proposed road alignment
TP21/99	2.0m (or depth of vertical delineation)	2 (1 Fill, 1 natural clay)	■ TRH C6-C40 Fractions, BTEXN (all samples) ■ PAH/ 8 metals (fill samples) ■ Asbestos %w/w (if demolition waste materials encountered)	Increased spatial coverage of elongated proposed road alignment
TP21/100	2.0m (or depth of vertical delineation)	2 (1 Fill, 1 natural clay)	■ TRH C6-C40 Fractions, BTEXN (all samples) ■ PAH/ 8 metals (fill samples) ■ Asbestos %w/w (if demolition waste materials encountered)	Increased spatial coverage of elongated proposed road alignment
TP21/101	2.0m (or depth of vertical delineation)	2 (1 Fill, 1 natural clay)	■ TRH C6-C40 Fractions, BTEXN (all samples) ■ PAH/ 8 metals (fill samples)	Increased spatial coverage of elongated

Test Pit ID	Proposed Depth (m)	Minimum sample numbers	Proposed Laboratory Analysis	Rationale
			■ Asbestos %w/w (if demolition waste materials encountered)	proposed road alignment

Notes: QA/QC methodology to be undertaken as per Section 12.4 of the RAP

12.3.3.2 AEC-3E Delineation

Four additional site characterisation samples will be collected to delineate impacts identified at TP21/79 (AEC-3e). Two samples will be collected from each of four test pits advanced 5 m in 4 directions from where TP21/79 was located. Test pits are to be advanced by an excavator to a maximum target depth of 2.0 m bgl. Samples will be selected for analysis based on visual and olfactory indicators of contamination. Samples will be collected using a gloved hand from the middle of the excavator bucket.

At several depths within each test pit, soils will placed in a zip lock bag and screened in the field for head space vapours. If soils appear contaminated with hydrocarbons, then another test pit will be excavated 5 m beyond the previous test pit until soils appear to be free of significant hydrocarbon contamination (i.e. PID readings <100 ppm).

A summary of proposed additional investigation location and rationale is provided in Table 12-3 below and shown on *Figure 12*.

Table 12-3 – AEC-3E Delineation Test Pitting Works Summary

Test Pit ID	Proposed Depth (m)	Minimum sample numbers	Proposed Laboratory Analysis	Rationale
TP21/102	2.0 m (or depth of vertical delineation as indicated by field screening/ observations)	2 (1 Fill, 1 natural clay)	■ TRH C6-C40 Fractions, BTEXN (all samples) ■ TRH CWG Fractions (if volatile impacts suspected)	Lateral delineation of AEC-3E excavation extent (north)
TP21/103	2.0 m (or depth of vertical delineation as indicated by field screening/ observations)	2 (1 Fill, 1 natural clay)	■ TRH C6-C40 Fractions, BTEXN (all samples) ■ TRH CWG Fractions (if volatile impacts suspected)	Lateral delineation of AEC-3E excavation extent (east)
TP21/104	2.0 m (or depth of vertical delineation as indicated by field	2 (1 Fill, 1 natural clay)	■ TRH C6-C40 Fractions, BTEXN (all samples) ■ TRH CWG Fractions (if	Lateral delineation of AEC-3E excavation extent (south)

Test Pit ID	Proposed Depth (m)	Minimum sample numbers	Proposed Laboratory Analysis	Rationale
	screening/ observations)		volatile impacts suspected)	
TP21/105	2.0 m (or depth of vertical delineation as indicated by field screening/ observations)	2 (1 Fill, 1 natural clay)	■ TRH C6-C40 Fractions, BTEXN (all samples) ■ TRH CWG Fractions (if volatile impacts suspected)	Lateral delinetation of AEC-3E excavation extent (west)

Notes: QA/QC methodology to be undertaken as per Section 12.4 of the RAP

12.3.4 Excavated Material Characterisation for Re-Use

Materials at the soil screening and segregation area are to be segregated based on field screening undertaken by the validation consultant as below:

- Materials with potential for re-use: <100 ppm headspace screening with PID; and
- Materials for biopiling: >100 ppm and/or containing visible LNAPL.

'Cleaner materials' will be sampled for suitability for re-use on site in accordance with the below protocol:

- Samples will be collected from stockpiles at the rate of 1 sample per 25 m^3 for stockpiles 0-250 m^3 (with a minimum of 3 per stockpile), 10 samples for stockpiles 250-2500 m^3, and 1 sample per 250 m^3 for stockpiles greater than 2500 m^3. Discrete sampling locations within the stockpile will be selected such that the samples collected will be representative of the stockpile as a whole. Where stockpiled material is heterogeneous, additional discrete samples may be collected. Composite samples will not be collected due to the potential for loss of volatile contaminants during sample splitting and homogenising;
- an excavator bucket will be used preferentially to remove portions of soil from the stockpile. Representative soil samples will be collected directly from the centre of the excavator bucket. To the extent practicable, collection of samples from the exterior 500 mm of the stockpile will be avoided due to the higher risk of weathering and grain size grading errors and potential for loss of volatile contaminants. No non-disposable sampling equipment is expected to be required where an excavator bucket is used to obtain samples;
- samples of stockpiled material may be collected by hand (i.e. not using additional sampling equipment) or via a clean sampling trowel/shovel where logistical or safety constraints prevent the use of an excavator for sample collection. Where samples are not collected using an excavator, samples are to be collected from a minimum depth of 0.5 m below the surface of the stockpile;

12.3.5 Soil Stockpile Re-use Following Treatment

Biopiling will be undertaken to treat some soil materials for on-site beneficial re-use. Initial sampling should be undertaken to determine the requirement for biopiling for less impacted materials (typically clays), as described in section 12.3.4 above.

To facilitate rapid decision-making during works execution, excavated soil material requiring biopiling is to be determined via field headspace screening results >100 ppm or where LNAPL is present.

Once biopiling of soils has commenced, inlet concentrations of VOC, as measured at the pre-filter port of the SVE system will be used to determine timing for validation sampling. This timing will be based on observed stabilisation of VOC concentrations for a period of 3 weeks.

Stockpiled soil materials within biopiles will be sampled in general consistency with the protocol outlined in Section 12.3.4, noting that sampling may be preferentially undertaken with a hand auger or shovel so as not to damage stockpile covering of biopiling plumbing with a mechanical excavator.

Assessment of stockpile suitability for re-use will be based on the following:

- Visual assessment of soil for the presence of LNAPL; and
- Laboratory analytical results of stockpiled soil to determine suitability for beneficial re-use or of further treatment is required.

Stockpile sampling will again be undertaken for soils following treatment in accordance with the soil sampling methodology outlined in Sections 12.3.2.

12.3.6 Excavation Validation

Once excavation has been completed to the required extent of remediation or to the extent practicable to remove LNAPL or ACM, soil samples will be collected from the walls and floors of the excavation and the ground surface underlying former stockpile locations.

Where possible, samples will be collected from the walls and floors of all excavation areas at a rate of:

- 1/100 m^2 from floors of excavations.
- 1/10 linear metres of excavation walls or 1 sample from each wall if the excavation wall is less than 10 m in length.

GPS co-ordinates (Map Grid of Australia (MGA), Zone 56) and relative locations of samples within the excavation will be accurately recorded on field sheets.

The completed extent of excavation and validation sample locations will be surveyed by a registered surveyor to demonstrate final excavation levels (m AHD).

12.3.7 Stockpile Footprint Validation

Where stockpiles of contaminated soil material are temporarily stored on unsealed ground within the Stage 2 Area, validation samples of the footprint of contaminated stockpiles should be undertaken to verify no residual impacts remain.

Surface soil samples will be collected at a rate of 1 sample per 100 m^2 and analysed for COPCs consistent with previously stockpiled material.

Where biopiled material is validated as being treated to below adopted remediation criteria, validation of stockpile footprints is not considered to be required.

12.3.8 Material Tracking

A Material Tracking Register will be maintained by the validation consultant on-Site which will provide information regarding the source, characteristics, destination and quantities of material placed within containment locations, disposed off-Site or imported to the Stage 2 Area for backfilling purposes.

The contractor's nominated site representative will collate required materials tracking information for material imported to site and material taken off-site as waste to the Validation Consultant for incorporation into subsequent validation reporting.

12.3.9 Assessment of Ground Gas Accumulation Potential

As previously undertaken as part of Stage 1 Validation works, multiple lines of evidence including air monitoring data collected from excavation works in areas of highest risk of ground gas accumulation (i.e. those being remediated for the presence of hydrocarbons containing volatile fractions) will be used as supporting lines of evidence in combination with the information presented in the existing LNAPL CSM relating to age and characteristics of areas of LNAPL to be managed in-situ.

This information will be collated and presented within the relevant validation report(s) to establish requirements (if any) for management of acute hazards from ground gases during future intrusive works.

12.3.10 Assessment of AEC-4 Capping Layer

The capping layer will require verification that it has been constructed in accordance with a future Detailed Design, prepared by a specialist contractor or engineer.

Validation of the completion of the capping works in accordance with the Detailed Design will be achieved through review of the following lines of evidence:

- Completed contractor Quality Packages, including Inspection Test Plans (ITPs) and association Inspection Test Reports (ITR) verifying compliance with aspects of the detailed design and installation of manufactured products as per installation requirements;
- Pre- and post survey levels to verify thickness and final slope of capped surface;
- Photographic evidence of placement of marker layers/liner material;
- Geotechnical specifications of capping material or liners used;
- Geotechnical reports (permeability, material type (PSD) and compaction).

As previously stated, The significant time since deposition of waste in AEC-4 (greater than 40 years) and the absence of LNAPL or dissolved phase concentrations which present a risk in down gradient boundary wells suggest that the observed LNAPL with AEC-4 is immobile. The potential for ongoing contribution of contaminants to dissolved phase is also low given the weathered nature of the LNAPL source. Potential for mobilisation of these impacts are expected to be further reduced through installation of a capping layer to reduce infiltration.

The ongoing environmental performance of the AEC-4 cap will be monitored by collection of groundwater data from groundwater wells surrounding the capped area. This groundwater monitoring will be outlined in a revised Groundwater Management Program (GWMP), which will form part of the LTEMP for the AEC-4 area.

Key performance indicators include:

- Continued reporting of concentrations of contaminants of concern continue which do not pose unacceptable risk to offsite receptors and demonstrate stable to decreasing trends (where a sufficient dataset is available); and
- No down gradient migration of LNAPL, as indicated by the detection of LNAPL within wells at the down-gradient site boundary.

12.4 Quality Assurance / Quality Control

The field and laboratory quality assurance and quality control (QA/QC) plan to be adopted for the investigation has been designed to achieve pre-determined DQI that will demonstrate that the precision, accuracy, representativeness, completeness, comparability and sensitivity of the dataset meet the objectives of the investigation.

The specific QA/QC for the field and laboratory components of the investigation have been developed based on NEPC (2013).

12.4.1 Field QA/QC

The field quality assurance procedures to be adopted and the field quality control samples to be collected during the investigation and the corresponding acceptable control limits are presented below.

Table 12-4 – Field Data Quality Indicators (DQIs)

Data Type	Comments and Acceptable Control Limits
Field personnel	■ Use appropriately trained field personnel. ■ All soil asbestos validation to be conducted by a competent person (as defined in Schedule B2 of the NEPM)
Field data collection	■ Site conditions and sample locations properly described. ■ Information to be recorded in field notes. Field notes are appropriately completed and summarised in the report on the investigation.
Sample handling (storage and transport)	■ Soil samples will be collected into the sample jars and bags supplied by the selected analytical laboratory. ■ The filled jars will be stored on ice in a chilled, insulated container until received by the analysing laboratory. ■ Sample numbers, dates, preservation and analytical requirements will be recorded on Chain of Custody (COC) documentation, which will also be delivered to the analytical laboratory. ■ All samples are required to be documented as received by the laboratory chilled and intact.
Calibration of Field Equipment	■ The PID will be calibrated with isobutylene gas at 100 ppm at the commencement of each day of sampling and if necessary during the day in accordance with the procedure provided by the supplier. ■ Calibration records will be kept for inclusion in the report on the investigation.
Field duplicates (intra-laboratory and inter-laboratory)	■ Intra-laboratory duplicates will be collected and analysed at a rate of 1 in every 20 primary samples, with a minimum of 1 sample for each matrix type. ■ Inter-laboratory duplicates will be collected and analysed at a rate of 1 in every 20 primary samples, with a minimum of 1 sample for each matrix type. ■ The duplicate samples will be obtained from locations suspected of being contaminated and analysed for the key CoPCs. ■ Duplicated samples will be labelled so as to conceal, from the laboratory, the relationship of the primary sample to the secondary sample. ■ RPDs to be less than 30% for inorganic and organic analyses where the results of one or both values are greater than 10 times the limit of reporting. Where both values are less than 10 times the LOR RPDs of less than 100% are acceptable.
Rinsate Blanks	■ Rinsate blank samples (from an item of re-usable sampling equipment) will be collected and analysed at a rate of one per day of sampling. ■ Concentrations of analytes to be less than the laboratory limits of reporting. ■ Rinsate blank samples will not be required when sampling for asbestos containing material or asbestos fines.
Trip spikes	■ Laboratory prepared trip spikes will be used and analysed at a rate of one per batch for the soil investigation for BTEXN analysis. ■ Recovery of analytes in trip spikes to be within the range of 70-130%. ■ Trip spike samples will not be required when sampling for asbestos containing material or asbestos fines.
Trip Blanks	■ Laboratory prepared trip blanks will be carried as storage blanks within sample coolers and analysed at a rate of one per batch for the soil investigation for BTEXN and TRH C6-C10 analysis. ■ Concentrations of analytes to be less than the laboratory limits of reporting. ■ Trip blank samples will not be required when sampling for asbestos containing material or asbestos fines.

12.4.2 Laboratory QA/QC

The laboratory quality assurance procedures to be adopted and the internal laboratory QC samples to be analysed and the corresponding acceptable control limits are presented below.

Table 12-5 – Laboratory Data Quality Indicators (DQIs)

Item	Comments and Acceptable Control Limits
Sample Analysis	■ All sample analyses to be conducted using NATA accredited laboratories which will implement a quality control plan in accordance with NEPC (2013).
Holding times	■ All samples are to be submitted to the laboratory within the required laboratory holding times.
Laboratory detection limits	■ All laboratory detection limits to be less than the adopted assessment criteria.
Laboratory Blanks	■ Laboratory blanks to be analysed at a rate of 1 in 20, with a minimum of one analysed per batch. ■ Concentration of analytes to be less than the laboratory detection limits.
Laboratory Duplicates	■ Laboratory duplicates to be analysed at a rate of 1 in 20, with a minimum of one analysed per batch. ■ RPDs to be less than 30%.
Laboratory Control Samples (LCS)	■ LCSs to be analysed at a rate of 1 in 20, with a minimum of one analysed per analytical batch. ■ Control limits: 70 to 130 % Acceptable Recovery.
Surrogates	■ Surrogate compound concentrations will be required to be spiked at a similar concentration to sample results, at a rate of 1 in 20. ■ Control limits: 70% to 130% Acceptable recovery.
Matrix spikes	■ A matrix spike is an aliquot of a sample spiked with a known concentration of target analyte. A matrix spike documents the effect(s) of bias of matrix on method performance. ■ Matrix spike control limits: 70 to 130 % Acceptable recovery.

12.5 Assessment Criteria

Site Specific Target Levels (SSTLs) were developed for soil, groundwater and soil vapour to be considered as remediation assessment criteria to meet remediation objectives of the project (i.e. removal of risk to identified receptors).

The HHERA was conducted following the National Environmental Protection (Assessment of Site Contamination) Measure 1999, as updated 2013 (NEPM, 1999) to assess risks to potential future workers from direct soil contact exposure and vapour migration and to derive SSTLs. The risk assessment evaluated potential risks to off-site adjacent receptors as unlikely. The risk assessment derived SSTLs for vapour inhalation and direct contact for the following receptors:

- Future commercial workers;
- Future construction workers conducting intrusive works; and
- Future intrusive maintenance workers conducting intrusive works.

The SSTLs were developed for target COPCs which exceeded relevant tier 1 assessment criteria and summarised in *Table D1, Appendix D*, for remediation or management considerations along with the NEPM HSL for asbestos management, Management Limits for LNAPL management and the NEPM HILs for metals. The TRH SSTLs were derived for specific aliphatic and aromatic hydrocarbons fractions.

As certain remediation methods result in the breakdown of petroleum hydrocarbons that alters the fraction specific make-up (e.g. natural attenuation, bio-piling), the fraction specific SSTLs may be used in post-remediation validation. The risk assessment conclusions for remaining potential risks that warrant consideration for remediation or management are summarised in the table below.

A complete list of assumptions and limitations of the SSTLs are provided within the HHERA (ERM, 2020a).

12.5.1 Remediation Criteria

Areas where COPCs exceed the Assessment Criteria presented in *Table D.1 of Appendix D* have been identified as remediation areas of concern (AECs) and are shown on *Figure 7*. Due to differences in the COPCs and the remediation approach in these different AECs, the remediation criteria is specific to the individual AEC.

12.5.1.1 Hydrocarbon Remediation

Within AEC-3a, AEC-3d, AEC-3e, AEC-14a and AEC-14b, the remediation approach is excavation and biopiling for re-use. Applicable risk-based remediation criteria for excavation bases and walls within hydrocarbon impacted remediation areas are as follows:

- Soil SSTLs (Direct Contact) for commercial workers, construction workers and intrusive maintenance workers;
- Soil SSTLs (Vapour Intrusion) for commercial workers, construction workers and intrusive maintenance workers;

In addition to the above risk-based criteria, the following should be used to assess the potential presence of LNAPL or residual TRH concentrations requiring future management under a LTEMP:

- The visible presence of LNAPL or sheen in the walls or base of the excavation; and
- NEPM Management Limits for TRH, which trigger indicate the potential formation of LNAPL or potential for future acute hazards during excavation.

Given the association between measured concentration of methane and LNAPL presence at AEC-3A and AEC-3d the removal of visible LNAPL within these excavations in combination with soil analytical data is applicable for removal of methane risks. No specific methane monitoring is proposed and therefore specific criteria have not been presented.

12.5.1.2 AEC-1 and AEC-3b (Asbestos AEC)

Within AEC-1 and AEC-3b, the remediation approach is excavation and off-site disposal. The remediation criteria for excavation bases and walls within asbestos impacted remediation areas is the NEPM HSL-D for asbestos management.

12.5.1.3 AEC-4 (In-Situ Management Area)

Within the AEC-4 remediation area, the assessment criteria relates to the verification that the capping layer construction has been completed in accordance with the detailed design. The validation approach for AEC-4 is outlined within Section 12.3.9.

If the required documentation and lines of evidence show the cap has been constructed in accordance with the design, the placement of the cap can be validated as complete. Any changes to the design will require verification from the design engineers that the capping layer meets the design intent.

12.5.2 Soil Beneficial Re-Use Criteria

Relevant Assessment Criteria are provided as *Table D.*1 of *Appendix D*. Applicable risk-based remediation criteria for soil re-use on-site are as follows:

- Soil SSTLs (Direct Contact) for commercial workers, construction workers and intrusive maintenance workers;
- Soil SSTLs (Vapour Intrusion) for commercial workers, construction workers and intrusive maintenance workers;

In addition to the above risk-based criteria, the following should be used to assess the potential presence of asbestos containing material, inorganics, LNAPL, or residual TRH concentrations requiring future management:

- The visible presence of LNAPL or sheen in soils proposed for re-use;
- NEPM Management Limits for TRH, which trigger indicate the potential formation of LNAPL or potential for future acute hazards during excavation;
- NEPM HSL for asbestos management; and
- NEPM HIL for other COPCs

The following is noted in relation to end-use of excavated soils within other areas of the WARP:

- If Soil SSTLs, NEPM HSL (for asbestos management) or NEPM HILs are exceeded, soils are unsuitable for re-use and will require further treatment or offsite disposal.
- If concentrations are <SSTLs, NEPM HSL (for asbestos management) or NEPM HILs, the presence of LNAPL, exceedance of TRH management limits or presence of asbestos containing material does not indicate that soils are unsuitable for on-site re-use but that future management in areas where this soil is placed may be required.
- On the basis of the restricted use, it is preferable that
  - soils are treated to below NEPM TRH management limits to reduce long term management requirements, and
  - placement of any soils known to contain some asbestos containing material be targeted to areas of site where additional filling will be required (such that any ACM will not be at the soil surface).

12.5.3 Soil Offsite Disposal Criteria

If off-site disposal of excavated materials is required, this will be undertaken in accordance with the NSW EPA (2014) Waste Classification Guidelines: Part 1: Classifying Waste (‘the waste classification criteria’).

Ex-situ sampling of stockpiled material for laboratory analysis may be required to be undertaken, where in-situ dataset is unavailable or insufficient for waste classification purposes.

12.5.4 Imported Material Criteria

Imported material assessment criteria will be in accordance with the appropriate NSW EPA approved exemptions, *NSW EPA (2014) Waste Classification Guidelines: Part 1: Classifying Waste* (for VENM) or the NSW EPA (2014) Excavated Natural Material Order 2014 (for Excavated Natural Material (ENM)).

Where imported fill is required at the Site for reinstatement of excavations, only material certified to be VENM, ENM or other material approved in writing by the NSW EPA is to be brought into the Western Area. If VENM is brought to the Site accompanied by a VENM certificate, sampling may not be required.

The VENM certificate should 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 VENM certificate does not meet these requirements, the source site may be visited by the validation consultant to enable collection and analysis of samples may if required.

If the required volume of material is less than 1000 m^3, samples will be collected at 1 per 100 m^3. For larger volumes, further consideration of appropriate density may be made based on guidance presented in the NSW EPA (1995) *Sampling Design Guidelines* with appropriate review and approval of any deviations by the Site Auditor.

12.6 Validation Reporting

In consideration of the redevelopment strategy proposed for the Stage 2 area as part of SSD 10459, subdivided 'lots' will be progressively validated such that Section A Site Audit Statements may be obtained for large portions of the Stage 2 Area which do not require active remediation works as specified within this RAP.

Based on anticipated schedule of remediation works, validation reporting for the Stage 2 area will be undertaken in three separate stages. The proposed reporting staging by future lot subdivision is shown on *Figure 10* and outlined below:

- **Where active remediation is not required:** Preparation of a 'Stage 2 Site Suitability Report' which will provide an assessment of the consolidated historical dataset for lots where remediation is not required i.e. (lots 52, 53, 54, 55, 56 and 61 as per Figure 10). This report will be required to be accompanied by legally enforceable LTEMPs addressing relevant risks outlined within Section 10.4;
- **Where remediation and validation works are required:** Preparation of a 'Stage 2 Validation Report' to validate successful completion of remediation works detailed within this RAP, excluding the AEC-4 area. This report will include lots where remediation by excavation and on-site treatment and re-use or excavation and offsite disposal will be completed (i.e. lots 51, 58, 59, 60, 62 and 63 as per Figure 10).
- **Validation of AEC-4 completion:** will include the remaining lot (lot 64 as per Figure 10) where AEC-4 is located. The remediation strategy for AEC-4 of on-site management whereby a capping layer is to be placed over the remediation area of concern is anticipated to be completed last given the requirement for detailed design, groundwater monitoring and production a LTEMP reflective of the site conditions, controls and restrictions specific to this area.

Each Validation Report will document the scope, methods, results and conclusions of the works that meets requirements of guidance by NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Land. The report will include conclusions regarding the suitability, from a contamination perspective, of each of the portions of the Stage 2 Area for the relevant proposed land use.

13 CONTINGENCY PLANNING

13.1 Remediation Contingency

The chosen remediation strategy includes excavation, on-site soil treatment via biopiling, off-site disposal of soils and construction of an engineered cap with in-situ management. A combination of these methods is considered to be the most appropriate means of achieving the remediation action objectives and is considered to offer a high probability of success in comparison to the other alternatives evaluated.

Despite this, there are potential scenarios where additional impacts are identified after completion of the proposed vertical and lateral extent of remediation. If this occurs, the remediation strategy will need to be reassessed using the latest information on the Site and remedial contingencies developed and implemented in consultation with the Site Auditor.

The remedial contingencies for hydrocarbon remediation areas may include an action or a combination of the following actions as listed below:

- conduct additional excavation to remove residual impacts and collect validation samples;
- conduct additional soil vapour investigation following the backfill of the excavation and monitoring to demonstrate residual impacts result in soil vapour concentrations below the relevant SSTLs;
- conduct additional risk assessments, based on a revised understanding of future site layout. It would be noted that the LTEMP may require modification to restrict future building design or incorporating vapour barriers beneath future building slabs;
- consideration of short-term active LNAPL remediation solutions (such as mobile MPVE) if changes to groundwater conditions are identified that may present an unacceptable risk to human health or the environment.

For asbestos remediation areas:

- conduct additional excavation and off-site disposal to remove residual impacts and collect validation samples;
- conduct excavation to remove surface impacts which pose a risk, modify LTEMP to manage deeper materials;
- If large volumes of previously unidentified asbestos impacted soils are identified, altered approaches such as in-situ management under capping may be considered, subject to approval of the Site Auditor and relevant project and regulatory stakeholders;

For the AEC-4 Capping Area:

- requirement for impermeable material or liner to be constructed beneath hardstand pavement, should minor cracking or settlement of handstanding occur in the future;
- contingency items as specified in the GWMP should contaminant concentrations in groundwater be detected above adopted offsite criteria for down gradient monitoring wells including:
  - conduct further investigation, flux assessment and/or risk assessment;
  - consideration of in-situ LNAPL extraction technologies, such as Multi Phase Vapour Extraction (MPVE), as required.

13.1.1 Soil Treatment Contingencies

Remediation Trials and full-scale biopiling works have been undertaken and have been proven effective for treatment of contaminants and soil types within the Stage 1 Area. These contaminant and soil types are common to Stage 2 and thus there is a high degree of confidence that the proposed methodology will effectively treat soils within Stage 2.

Despite this, it is proposed that VENM will be imported from off-site or existing validated soils on the Stage 2 Area be used to backfill excavation areas to mitigate the risks associated with extended soil treatment timeframes.

The following presents contingency measures to be taken in the event that the unforeseen conditions described below are encountered during soil treatment works.

- **Extended treatment duration:** Although a 10 week timeframe is anticipated for the project, the remediation program has been designed to accommodate longer treatment timeframe if required (e.g. treated soils utilised on later stages of redevelopment under SSD 10459 to allow for backfill and land forming works to commence).
- **Dust and odour impacts:** The dust and odour management measures described within the Air Quality Management Plan and AEVR will include contingency actions that can be taken to mitigate unacceptable dust/odours. PID screening to assess volatile air quality impacts will be supplemented by alternative field measurements (e.g. Summa canister analysis) to more accurately assess the speciation (and therefore exposure potential) of elevated PID readings or odours.
- **Bioremediation area construction/ maintenance deficiencies:** In the event that bioremediation area construction/maintenance deficiencies are observed during the weekly inspections, repairs will be implemented as soon as reasonably practicable. In addition, a root cause analysis will be performed to identify the cause of the deficiency and measures that can be taken to prevent recurrence.
- **Releases from bioremediation area:** In the event of a release of impacted soil and/or storm water from the bioremediation area, measures will be taken as soon as reasonably practicable to stop the release, perform necessary repairs and collect released soil/storm water. Areas affected by the release will be assessed and managed consistent with the requirements of the EPL, POEO and CLM Act.

Incidents which are considered to have the potential to adversely affect the soil or groundwater quality outside the remediation area, pose an increased risk to the groundwater resource, or exceed the specified air quality/ odour levels will be reported to ERM who will be responsible for notifying Viva Energy and preparing an Environmental Incident Report within 48 hours of the incident. The Environmental Incident Report will provide a description of the incident, analysis of the cause of the incident, details of corrective action required, person(s) responsible for taking action, and the outcome of previous actions taken.

13.1.2 Unexpected Contamination during Remediation (Unexpected Finds)

An unexpected finds procedure has been developed (Appendix C), which outlines relevant actions and communications to be undertaken should unexpected finds of contamination be identified during the remediation. Based on the Conceptual Site Model for the Western Area, potential contamination which constitutes an unexpected find includes:

- Asbestos Containing Materials;
- LNAPL (unexpected high contaminant concentrations or of a different nature than identified during previous investigations);
- chromium (hexavalent and trivalent) contaminated fill material; and

- other buried waste or unexpected contamination.

In the event of unexpected finds of asbestos, the area of suspected asbestos impact should be isolated and assessed by a 'Competent person' or 'Licenced Asbestos Assessor' in accordance with the Safework NSW Codes of Practice and associated Work Health and Safety Regulation. Isolated asbestos finds will be isolated, investigated and removed with a clearance certificate issued to recommence works within the area.

Identification of the above will trigger the implementation of additional safety controls, segregation of impacted soils for further characterisation and potential alteration to the remediation approach should significant unexpected conditions be encountered during remediation excavation. Alterations to the remediation approach may include offsite disposal or on-site management under the LTEMP.

13.1.3 Soil Treatment Contingencies

The following presents contingency measures to be taken in the event that the unforeseen conditions described below are encountered during soil treatment works.

- **Extended treatment duration:** Although a 10 week timeframe is anticipated for the project, the remediation program has been designed to accommodate longer treatment timeframe if required (e.g. treated soils utilised on later stages of redevelopment under SSD 10459 to allow for backfill and land forming works to commence).
- **Bioremediation area construction/ maintenance deficiencies:** In the event that bioremediation area construction/maintenance deficiencies are observed during the weekly inspections, repairs will be implemented as soon as reasonably practicable. In addition, a root cause analysis will be performed to identify the cause of the deficiency and measures that can be taken to prevent recurrence.

13.1.4 Waste Water Generation and Management

As previously stated, the former refinery drainage network has been decommissioned and isolated from the Wastewater Treatment Plant (WWTP). Given the impermeability of surrounding soils and low volume of groundwater ingress into excavations during the Stage 1 remediation, the potential for accumulation of significant volumes of wastewater is considered unlikely.

Should greater volumes of groundwater or rainwater accumulate within remediation excavations this will be pumped out by the Remediation Contractor, with appropriate intermediate storage, testing and disposal to an appropriately licensed Wastewater Treatment Facility.

This information will be incorporated into the 'Groundwater Management Method Statement' (as per Table 10-1 of this Document) to be produced and implemented by the Remediation Contractor.

13.2 Environmental Incidents/ Releases

Incidents which are considered to have the potential to adversely affect the soil or groundwater quality outside the remediation area, pose an increased risk to the groundwater resource, or exceed the specified air quality/ odour levels will be reported to ERM who will be responsible for notifying Viva Energy and preparing an Environmental Incident Report within 48 hours of the incident. The Environmental Incident Report will provide a description of the incident, analysis of the cause of the incident, details of corrective action required, person(s) responsible for taking action, and the outcome of previous actions taken.

- In the unlikely event of a release of impacted soil and/or storm water from the Site, measures will be taken as soon as reasonably practicable to stop the release, and collect released soil/storm water. Areas affected by the release will be assessed and managed consistent with the requirements of the EPL, POEO and CLM Act.

- **Dust and odour impacts:** The dust and odour management measures described within the Air Quality Management Plan and AEVR will include contingency actions that can be taken to mitigate unacceptable dust/odours. PID screening to assess volatile air quality impacts will be supplemented by alternative field measurements (e.g. Summa canister analysis) to more accurately assess the speciation (and therefore exposure potential) of elevated PID readings or odours.

14 CONCLUSIONS

Viva Energy commissioned ERM to prepare a Detailed Remediation Action Plan (RAP) for the 'Stage 2' portion of the Clyde Western Area Remediation Project (WARP), 'The Stage 2 Area'.

The objective of the RAP was to outline the remediation approaches to be implemented to achieve the remediation objectives for the Project. The remediation objectives for the project, are as follows:

- Remediate the soil and manage groundwater within the Stage 2 Area, to enable the land to be used for commercial/ industrial purposes in the future, thereby reducing the risk of contamination from the land adversely affecting human health and the environment;
- Ensure any approved remediation process that is implemented adheres to all applicable regulatory requirements so as to limit or eliminate where possible adverse effects to human health or ecological receptors.

Data from numerous historical investigations, including a RSI and HHERA has been utilised in the development of this RAP. Site specific data collected from field and laboratory scale remediation trials has also been incorporated into a re-appraised remedial options analysis for the Stage 2 Area.

On the basis of the HHERA, the key drivers for remediation within the Stage 2 Area were identified:

- Indoor inhalation of vapours by future on site commercial workers from hydrocarbon impacted soil and LNAPL trapped within shallow soils;
- Direct contact with contaminated soils (PAHs, TRH C10-C40, hexavalent chromium) by future on-site commercial workers and construction workers undertaking intrusive works;
- 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; and
- Potential acute hazards within future indoor settings where potential for hazardous ground gas accumulation (specifically methane) from LNAPL has been identified (AEC-3A and AEC-3D).

The proposed remediation methodologies were selected for remediation of contaminated soil and LNAPL within the Stage 2 Area:

1) **Excavation and on-site bio-piling (hydrocarbon impacted areas);**
2) **Excavation and off-site disposal of soils (for asbestos impacted soils or as a contingency measure);**
3) **On-site management under a constructed engineered cap (specific approach to AEC-4); and**
4) **On-site management with management control outlined within an LTEMP (direct contact risks and residual LNAPL)**

Remediation Methodology	Combined Estimated In-situ Volume (m^3)	Remediation Area(s) of Environmental Concern
Excavation and on-Site bio-piling (hydrocarbon impacted areas)	5690	■ AEC-3A, ■ AEC-3D, ■ AEC-3E, ■ AEC-14A, ■ AEC-14B
Excavation and off-site disposal of soils (for asbestos impacted soils or as a contingency measure)	701	■ AEC-1 ■ AEC-3B
On-site management under a constructed engineered cap (Specific to AEC-4)	6968*	■ AEC-4
On-site management with management controls outlined within an LTEMP (direct contact risks and residual LNAPL)	-	■ AEC-2 ■ AEC-3C ■ AEC-5 ■ AEC-8 ■ AEC-11 ■ AEC-14 ■ AEC-15

**In-situ volume estimate for AEC-4 reflects an allowance of an average depth of excavation of 0.5m below existing grade for re-contouring of the area.*

The above remediation methodologies are consistent with the shortlisted remediation methodologies outlined within the Conceptual RAP and EIS (AECOM, 2019). These remedial technologies were selected for use in combination and are considered technically, logistically and economically feasible, to address risks to human health and the environment from identified soil and LNAPL impacts within the soil profile.

Given the current assessment that hydrocarbon concentrations in groundwater are stable to decreasing, it is expected that the remediation works proposed will enhance the current natural attenuation processes to reduce residual groundwater impacts over time.

In order to undertake the remediation scope undertaken within this RAP, works will be implemented in accordance with the overarching Remediation Environmental Management Plan (REMP) for the Project. The REMP will include the following sub-plans, and relevant contractor work method statements to ensure compliance with the consent conditions of the State Significant Development (SSD 9302), EPL 570 and other relevant legislative requirements:

- Soil and Water Management Plan;
- Groundwater Monitoring and Management Plan;
- Air Quality and Odour Management Plan;
- Waste Management Plan; and
- Traffic Management Plan.

A detailed design for capping construction at AEC-4 to meet the objectives outlined in this RAP is required to be prepared as per the requirements for physical separation and minimisation of water infiltration as outlined within this RAP. This Detailed Cap Design and associated additional detail of validation approaches will be reviewed by the Site Auditor to supplement this RAP.

It is concluded that upon successful completion of the preferred remediation strategy described within this RAP, the Stage 2 Area can be made suitable for the proposed commercial/ industrial land use, subject to the implementation of legally enforceable LTEMP(s).

The LTEMP(s) would be written in accordance with relevant development consent conditions and the NSW EPA (2020) *Consultants Reporting on Contaminated Land* Guidance and the *Guidelines for the NSW Site Auditor Scheme* (3rd edition) and will be provided to the Auditor for approval. The implementation of the LTEMP is anticipated to be a requirement for the issue of a Site Audit Statement, along with a site validation report.

In consideration of the redevelopment strategy proposed for the Stage 2 area as part of SSD 10459, subdivided ‘lots’ will be progressively validated such that Section A Site Audit Statements may be obtained for portions of the Stage 2 Area which do not require active remediation works as specified within this RAP.

Based on anticipated schedule of remediation works, validation reporting for the Stage 2 area will undertake in three separate stages as outlined below:

1) **For areas where active remediation is not required:** Preparation of a ‘Stage 2 Site Suitability Report’ which will provide an assessment of the consolidated historical dataset for lots where remediation is not required.
2) **Where remediation and validation works are required:** Preparation of a ‘Stage 2 Validation Report’ to validate successful completion of remediation works detailed within this RAP, excluding the AEC-4 area, accompanied by an LTEMP where on-site management of residual impacts is required.
3) **Validation of AEC-4 completion:** will include the remaining lot (lot 64) where AEC-4 is located. The final validation of AEC-4 is anticipated to be completed last given the requirement for detailed design, groundwater monitoring and production of a LTEMP reflective of this area’s specific site conditions and future controls required.

15 REFERENCES

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ERM 2021b. Clyde Western Area Remediation Project – Stage 2 Additional ESA.

ERM 2021c. Clyde Western Area Remediation Project – Stockpile Assessment.

ERM 2021d. Clyde Western Area Remediation Project – Stage 2 Drainage Decommissioning Validation Report.

ERM 2021e. Clyde Western Area Remediation Project – Quarter 4 (2020) Groundwater Monitoring Event.

ERM 2021f. Clyde Western Area Remediation Project – Remediation Options Assessment (‘AEC-4’)

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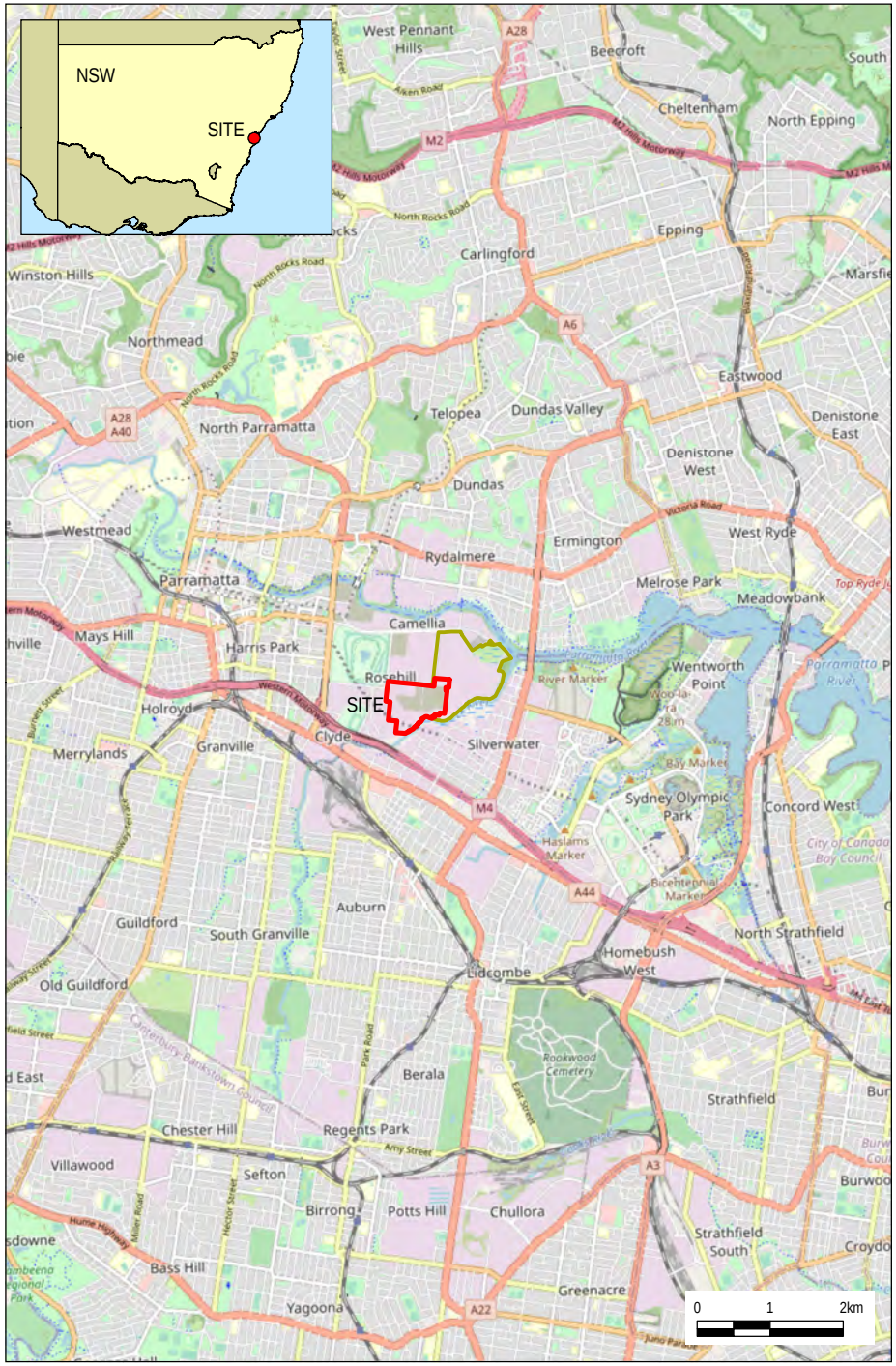
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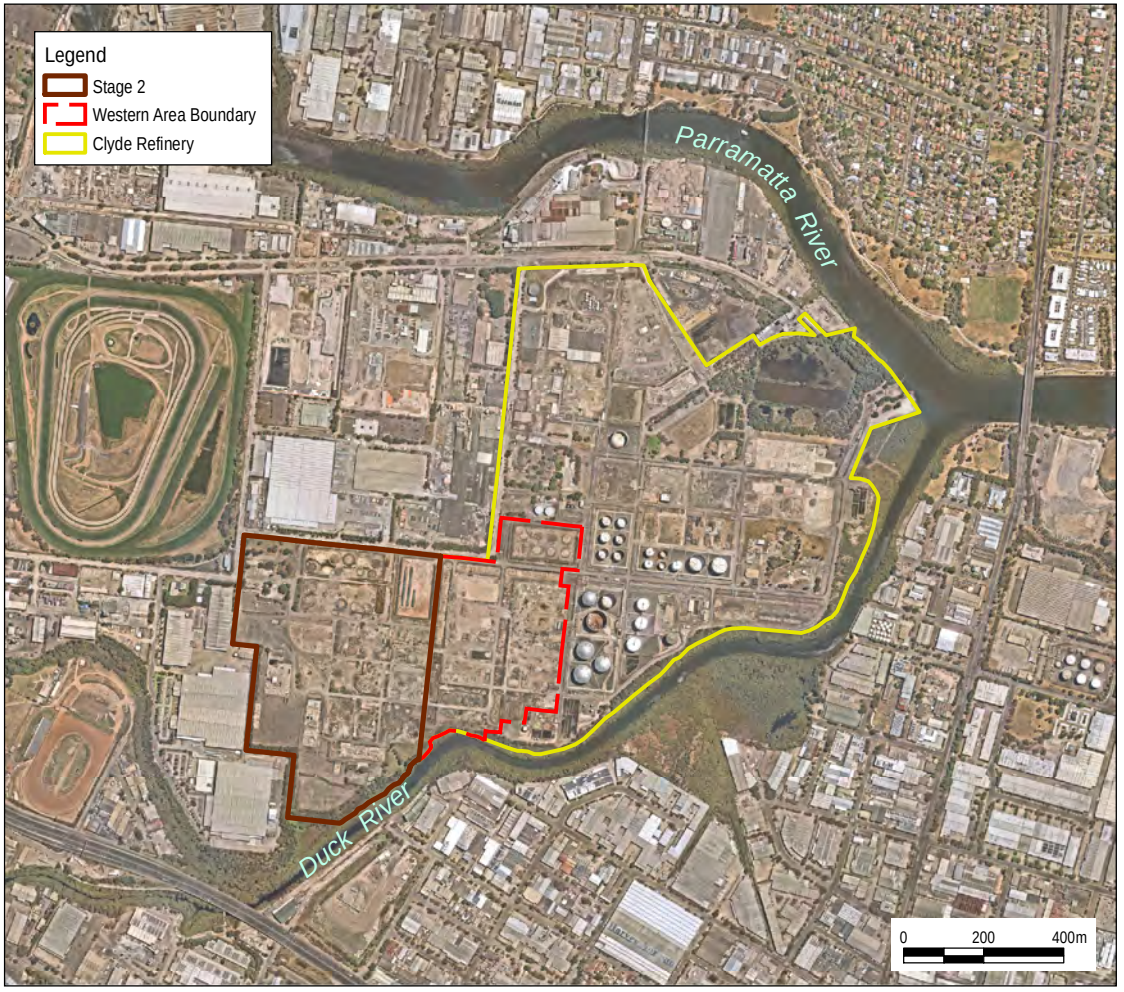
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FIGURES





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)

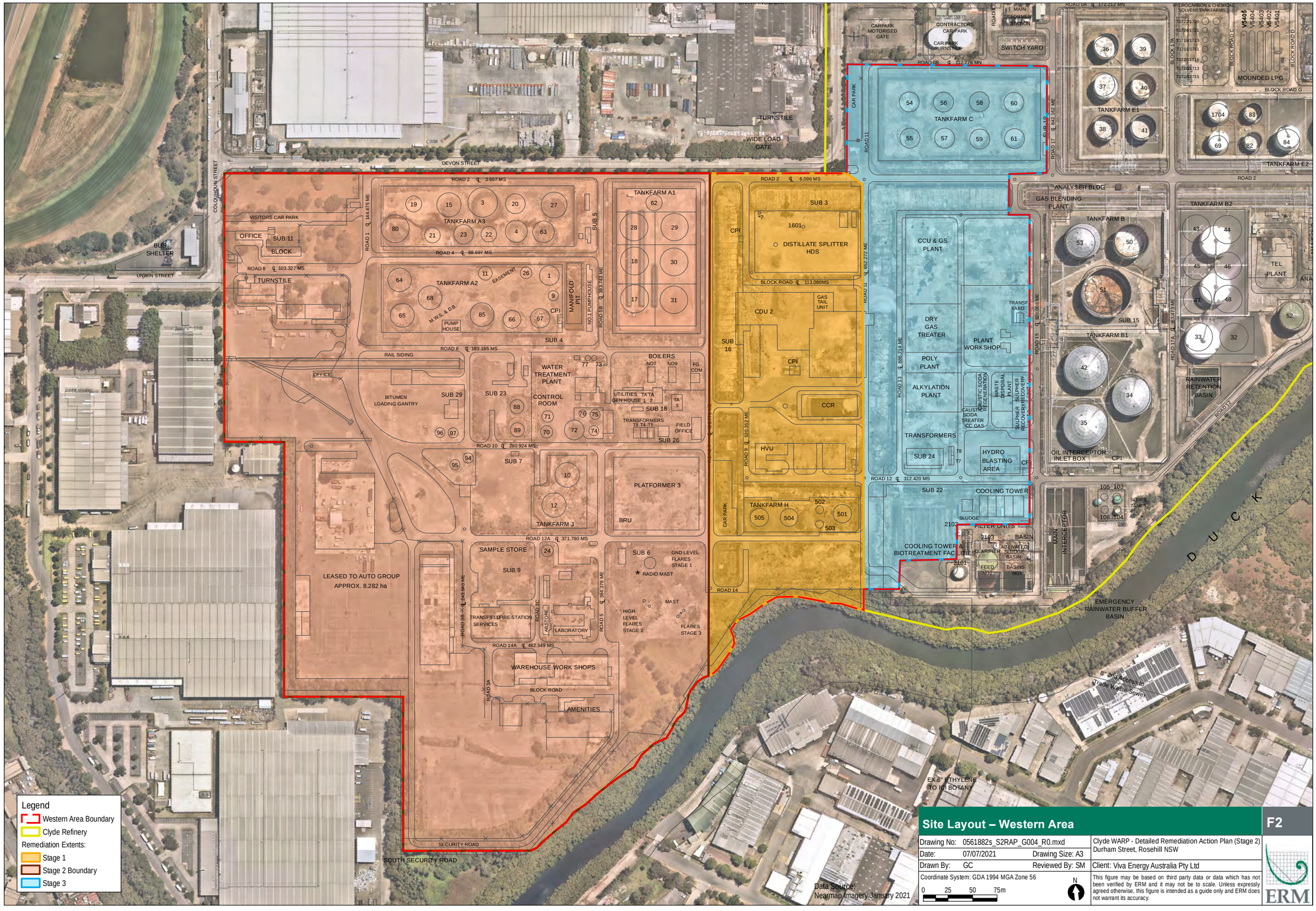
Source:
Nearmap Imagery January 2021
Locality: Esri, OpenStreetMap 2021

Site Locality

F1

Drawing No:	0561882s_S2RAP_G003_R0.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 2) Durham Street, Rosehill NSW
Date:	07/07/2021	Drawing Size: A4	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd
Coordinate System: GCS GDA 1994		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



Site Layout – Western Area

F2

Drawing No:	0561882s_S2RAP_G004_R0.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 2) Durham Street, Rosehill NSW
Date:	07/07/2021	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

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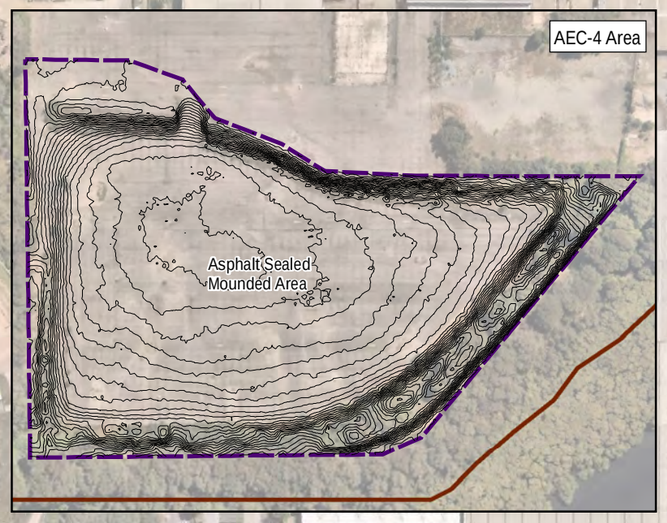
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ERM

Stockpile Location (centroid)		
Stockpile ID	Eastings	Northings
SP29	317926.68	6255206.23
SP30	317990.55	6255063.99
SP31	318027.27	6255056.47
SP32	318121.81	6255026.71
SP33	318145.95	6255017.47
SP34	318139.76	6255013.41
SP35	318140.75	6255007.03
SP36	317975.98	6254978.08
SP37	318015.09	6254938.89
SP38	318039.20	6254937.89
SP39	318115.94	6254962.02
SP40	317986.28	6254843.23
SP41	317929.30	6254816.08
SP42	317960.39	6254801.35
SP43	318009.82	6254817.67
SP75	318105.52	6255169.96
SP76	318118.62	6255169.20
SP77	318128.32	6255139.06

Coord. Sys.: GDA 1994, MGA Zone 56



Legend

- Stage 2 Boundary
- Clyde Refinery
- AEC-4 Area
- Western Area Boundary
- Biopiling Area (Tankfarm A1)

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

Current Site Layout – Stage 2

F3

Drawing No:	0561882s_S2RAP_G005_R0.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 2) Durham Street, Rosehill NSW
Date:	08/07/2021	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

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ERM

DEVON STREET

COLQUHOUN STREET

SUBDIVISION

STAGE 2

STAGE 1 SUBDIVISION

PROPOSED ROAD

RIVER

DUCK CA

WATER

SETBACK

HIGH

MEAN

RIPARIAN

BOUNDARY

51 52 53 54 55 56 58 59 60 61 62 63 64 6 7

2.135ha 2.125ha 3.316ha 1.553ha 3.097ha 1.633ha 2.35ha

2 DP 864567

Legend

- 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

F4

Drawing No:	0561882s_S2RAP_G006_R1.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 2) Durham Street, Rosehill NSW
Date:	08/07/2021	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

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ERM

Legend

- Stage 2
- Western Area Boundary
- Clyde Refinery
- AEC Investigation Areas
- Monitoring Well
- Lost/Destroyed Monitoring Well
- Soil Vapour Well
- Soil Sampling Location
- Test Pit Location
- Test Pit (Visual Observation)

ID	Areas of Concern
1	Old Admin Area
2	Buried Waste Area 8 - CDU Tankfarm Sludge
3	Southern Contractor Area
4	Southern Buried Waste Area
5	Platformer 3
6	Buried Waste - Ex Solvents Plant
7	Pipe Track Areas
8	Tankfarm J
9	Process West
10	Process East
11	Tankfarms A1, A2, A3
12	Tankfarm C
13	Substations and Transformer Yards (see above)
14	Subsurface Drainage Network (not shown due to complexity)
15	AEC-15 General Site Areas (not covered within other Areas)

Historical Investigation Locations

F5

Drawing No:	0561882s_S2RAP_G007_R0.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 2) Durham Street, Rosehill NSW
Date:	31/05/2021	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

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ERM

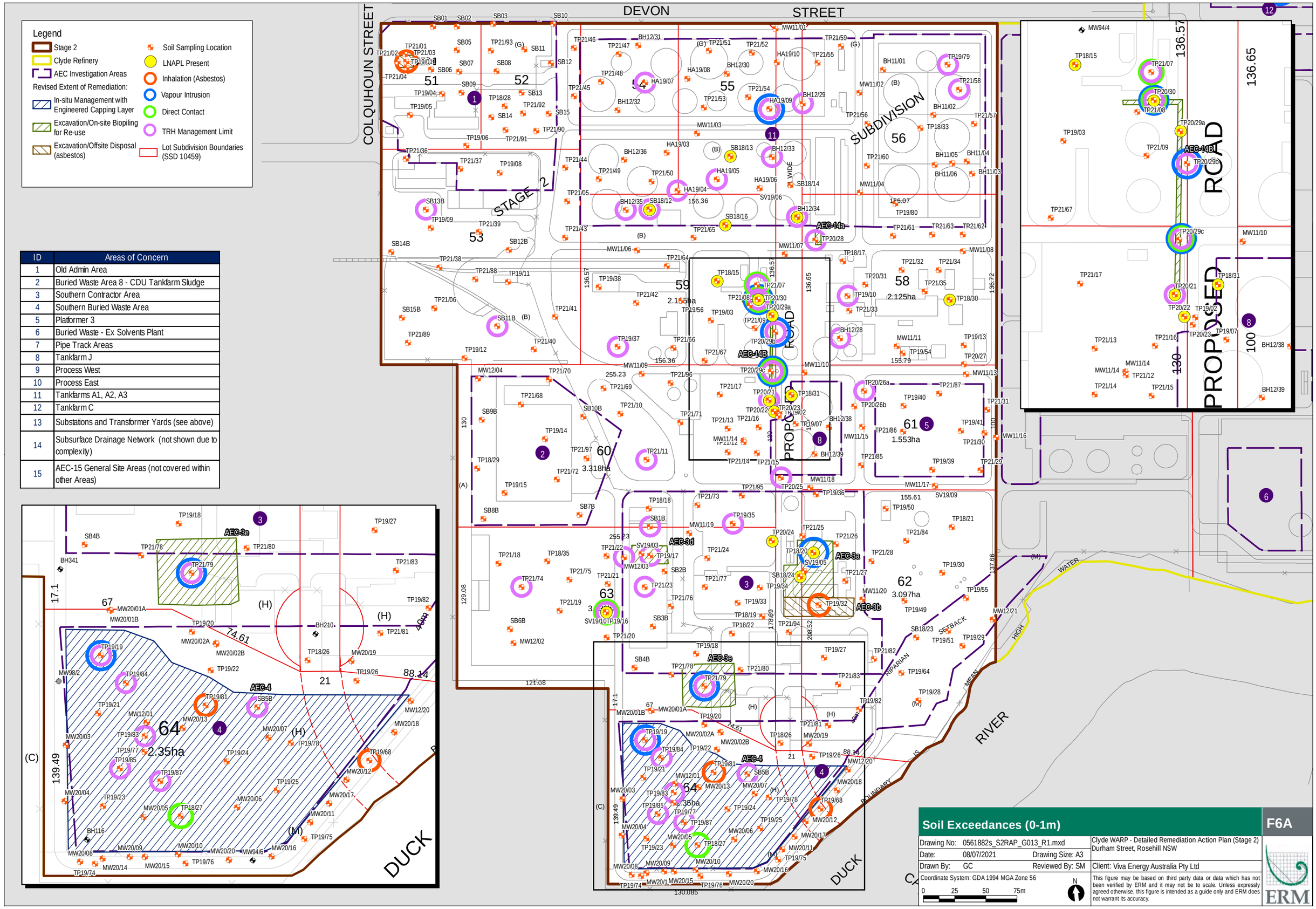
Legend

- Stage 2
- Clyde Refinery
- AEC Investigation Areas

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)

ID	Areas of Concern
1	Old Admin Area
2	Buried Waste Area 8 - CDU Tankfarm Sludge
3	Southern Contractor Area
4	Southern Buried Waste Area
5	Platformer 3
6	Buried Waste - Ex Solvents Plant
7	Pipe Track Areas
8	Tankfarm J
9	Process West
10	Process East
11	Tankfarms A1, A2, A3
12	Tankfarm C
13	Substations and Transformer Yards (see above)
14	Subsurface Drainage Network (not shown due to complexity)
15	AEC-15 General Site Areas (not covered within other Areas)



Soil Exceedances (0-1m)

F6A

Drawing No:	0561882s_S2RAP_G013_R1.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 2) Durham Street, Rosehill NSW
Date:	08/07/2021	Drawing Size: A3	
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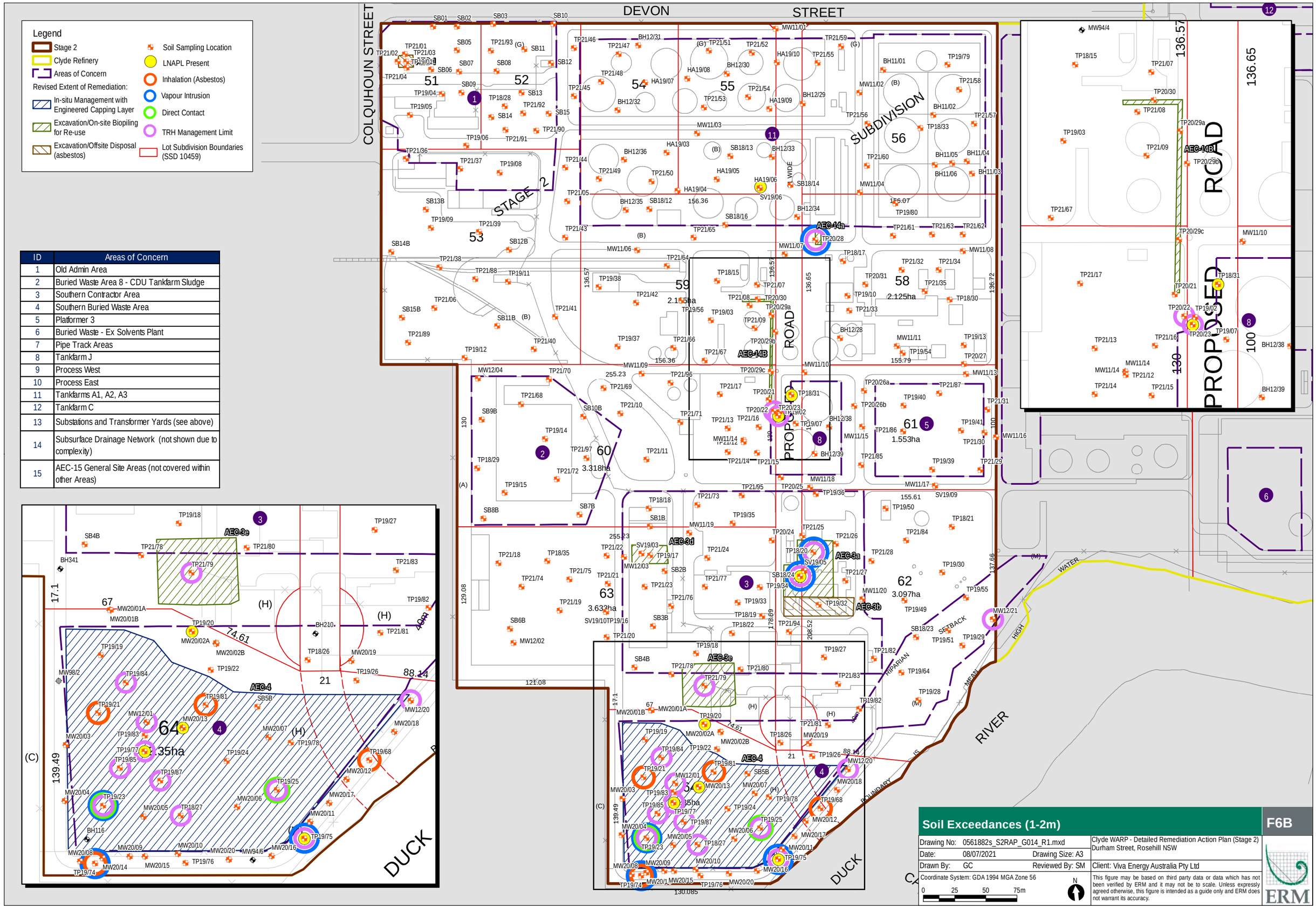
Coordinate System: GDA 1994 MGA Zone 56

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ERM



ID	Areas of Concern
1	Old Admin Area
2	Buried Waste Area 8 - CDU Tankfarm Sludge
3	Southern Contractor Area
4	Southern Buried Waste Area
5	Platformer 3
6	Buried Waste - Ex Solvents Plant
7	Pipe Track Areas
8	Tankfarm J
9	Process West
10	Process East
11	Tankfarms A1, A2, A3
12	Tankfarm C
13	Substations and Transformer Yards (see above)
14	Subsurface Drainage Network (not shown due to complexity)
15	AEC-15 General Site Areas (not covered within other Areas)

Soil Exceedances (1-2m) — F6B

Drawing No:	0561882s_S2RAP_G014_R1.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 2) Durham Street, Rosehill NSW
Date:	08/07/2021	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 25 50 75m

N

ERM

Legend

- Stage 2
- Clyde Refinery
- Areas of Concern

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)

ID	Areas of Concern
1	Old Admin Area
2	Buried Waste Area 8 - CDU Tankfarm Sludge
3	Southern Contractor Area
4	Southern Buried Waste Area
5	Platformer 3
6	Buried Waste - Ex Solvents Plant
7	Pipe Track Areas
8	Tankfarm J
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10	Process East
11	Tankfarms A1, A2, A3
12	Tankfarm C
13	Substations and Transformer Yards (see above)
14	Subsurface Drainage Network (not shown due to complexity)
15	AEC-15 General Site Areas (not covered within other Areas)

DEVON STREET

COLQUHOUN STREET

STAGE 2

STAGE 1 SUBDIVISION

SUBDIVISION

PROPOSED ROAD

RIVER

DUCK

WATER

RIPARIAN

SETBACK

HIGH

MEAN

BOUNDARY

AEC-3e

AEC-3d

AEC-3a

AEC-3b

AEC-4

AEC-14a

AEC-14b

Soil Exceedances (2-4m)

F6C

Drawing No:	0561882s_S2RAP_G015_R2.mxd	Clyde WARP - Detailed Remediation Action Plan (Stage 2) Durham Street, Rosehill NSW	
Date:	08/07/2021	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

Analytes	TRH C6-C10 less BTEX
Units	µg/L
Clyde WARP SSTL - GW VI - Commercial	6200
Clyde WARP SSTL - GW VI - Construction	NL
Clyde WARP SSTL - GW VI - IMW	NL

ID	Areas of Concern
1	Old Admin Area
2	Buried Waste Area 8 - CDU Tankfarm Sludge
3	Southern Contractor Area
4	Southern Buried Waste Area
5	Platformer 3
6	Buried Waste - Ex Solvents Plant
7	Pipe Track Areas
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11	Tankfarms A1, A2, A3
12	Tankfarm C
13	Substations and Transformer Yards (see above)
14	Subsurface Drainage Network (not shown due to complexity)
15	AEC-15 General Site Areas (not covered within other Areas)

Legend

- Stage 2 Boundary
- Clyde Refinery
- Areas of Concern
- Monitoring Well
- Lost/Destroyed Monitoring Well
- SSTL Exceedances in Groundwater
- LNAPL identified (2008-2021)
- Lot Subdivision Boundaries (SSD 10459)

MW12/18 (Dup) — TRH C6-C10 less BTEX: 22000

Groundwater Exceedances

F6D

Drawing No:	0561882s_S2RAP_G008_R0.mxd	Clyde WARP - Detailed Remediation Action Plan (Stage 2) Durham Street, Rosehill NSW	
Date:	07/07/2021	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

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

ID	Areas of Concern
1	Old Admin Area
2	Buried Waste Area 8 - CDU Tankfarm Sludge
3	Southern Contractor Area
4	Southern Buried Waste Area
5	Platformer 3
6	Buried Waste - Ex Solvents Plant
7	Pipe Track Areas
8	Tankfarm J
9	Process West
10	Process East
11	Tankfarms A1, A2, A3
12	Tankfarm C
13	Substations and Transformer Yards (see above)
14	Subsurface Drainage Network (not shown due to complexity)
15	AEC-15 General Site Areas (not covered within other Areas)

Legend

- Stage 2 Boundary
- Clyde Refinery
- Areas of Concern
- Monitoring Well
- Lost/Destroyed Monitoring Well
- Soil Vapour Well
- Lot Subdivision Boundaries (SSD 10459)

Soil Vapour Exceedances

F6E

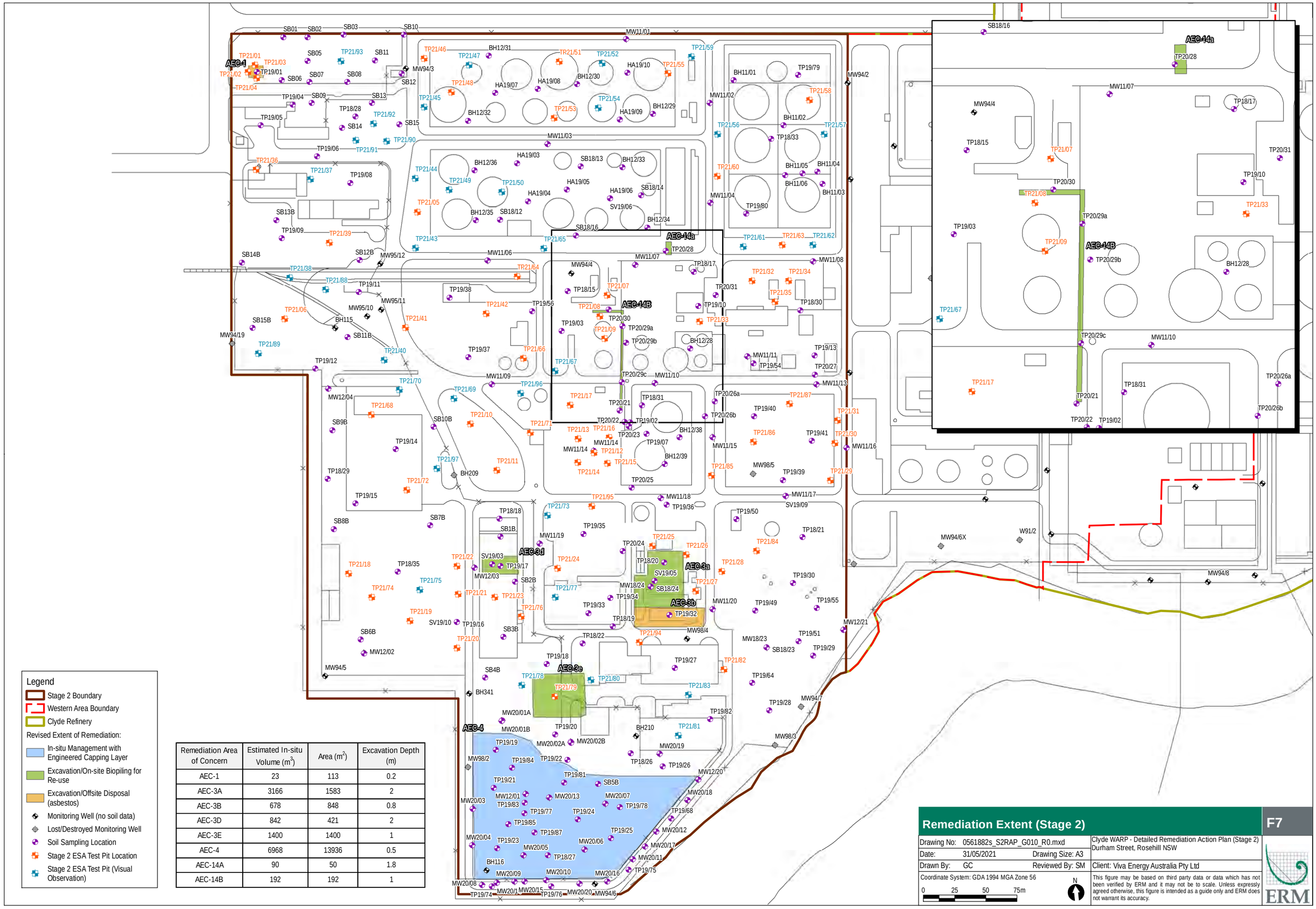
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Date:	07/07/2021	Drawing Size: A3
Drawn By:	GC	Reviewed By: SM
Coordinate System: GDA 1994 MGA Zone 56		Client: Viva Energy Australia Pty Ltd

0 25 50 75m

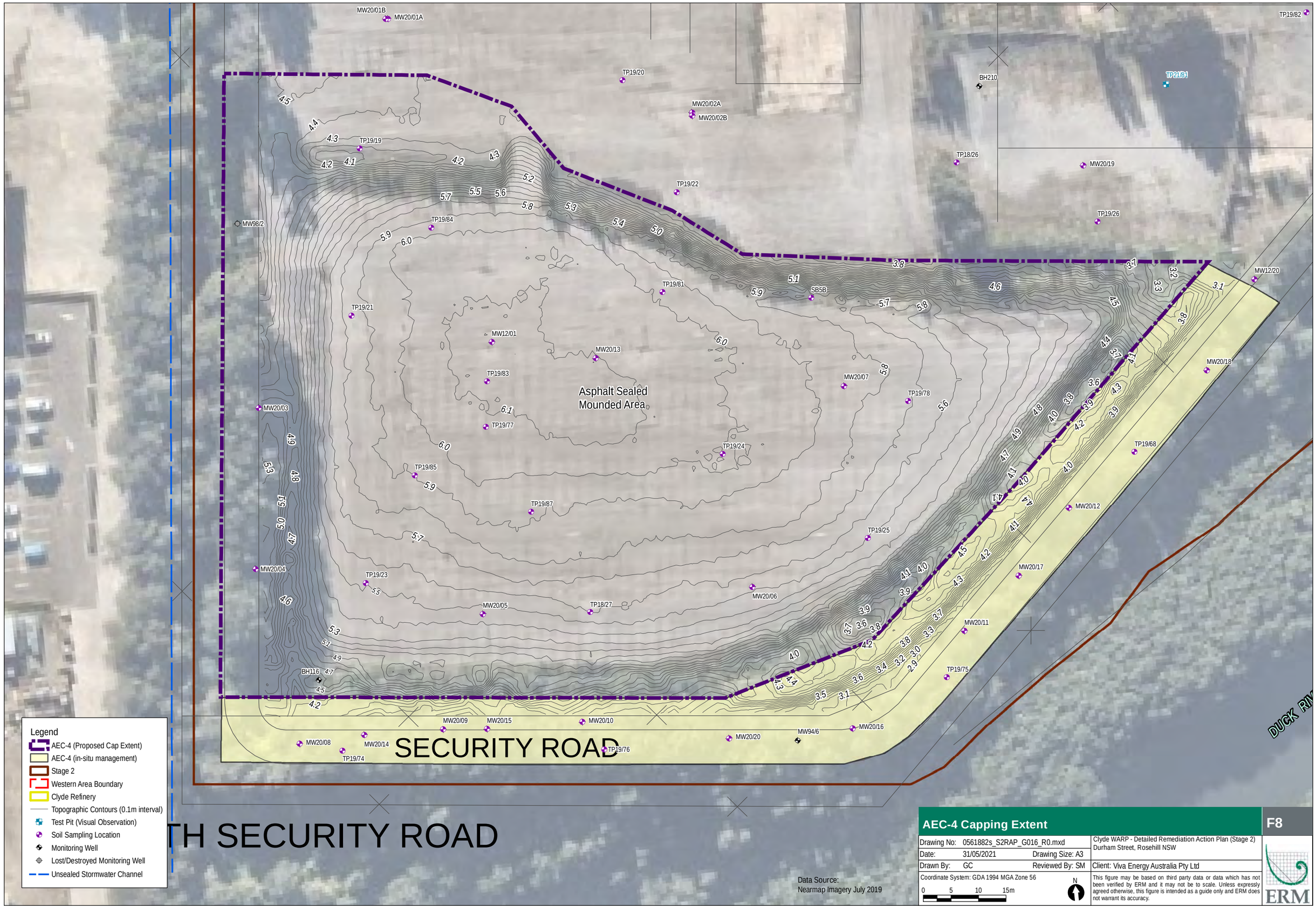
N

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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



Legend

- AEC-4 (Proposed Cap Extent)
- AEC-4 (in-situ management)
- Stage 2
- Western Area Boundary
- Clyde Refinery
- Topographic Contours (0.1m interval)
- Test Pit (Visual Observation)
- Soil Sampling Location
- Monitoring Well
- Lost/Destroyed Monitoring Well
- Unsealed Stormwater Channel

Data Source:
Nearmap Imagery July 2019

AEC-4 Capping Extent

F8

Drawing No:	0561882s_S2RAP_G016_R0.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 2) Durham Street, Rosehill NSW
Date:	31/05/2021	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

0 5 10 15m

N

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ERM

COLQUHOUN STREET

UNWIN STREET

Site Entry/Exit

Site Offices/
Amenities

AEC-1

Biopiling Treatment Area
(Tankfarm A1)

AEC-14a

AEC-14B

Soil Screening/
Segregation Area

Soil Screening/
Segregation Area

AEC-3d

AEC-3a

AEC-3b

Sediment
Basin

AEC-3e

AEC-4

Legend

- Stage 2 Boundary
- Western Area Boundary
- Clyde Refinery
- Sediment Basin (approximate)
- Biopiling Treatment Area (Tankfarm A1)
- Site Offices / Amenities
- Soil Screening/ Segregation Area

Revised Extent of Remediation:

- In-situ Management with Engineered Capping Layer
- Excavation/On-site Biopiling for Re-use
- Excavation/Offsite Disposal (asbestos)
- Site Entry/Exit (Cnr Colquhoun & Unwin Streets)

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

Stage 2 Remediation Site Layout

F9

Drawing No:	0561882s_S2RAP_G012_R0.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 2) Durham Street, Rosehill NSW
Date:	31/05/2021	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

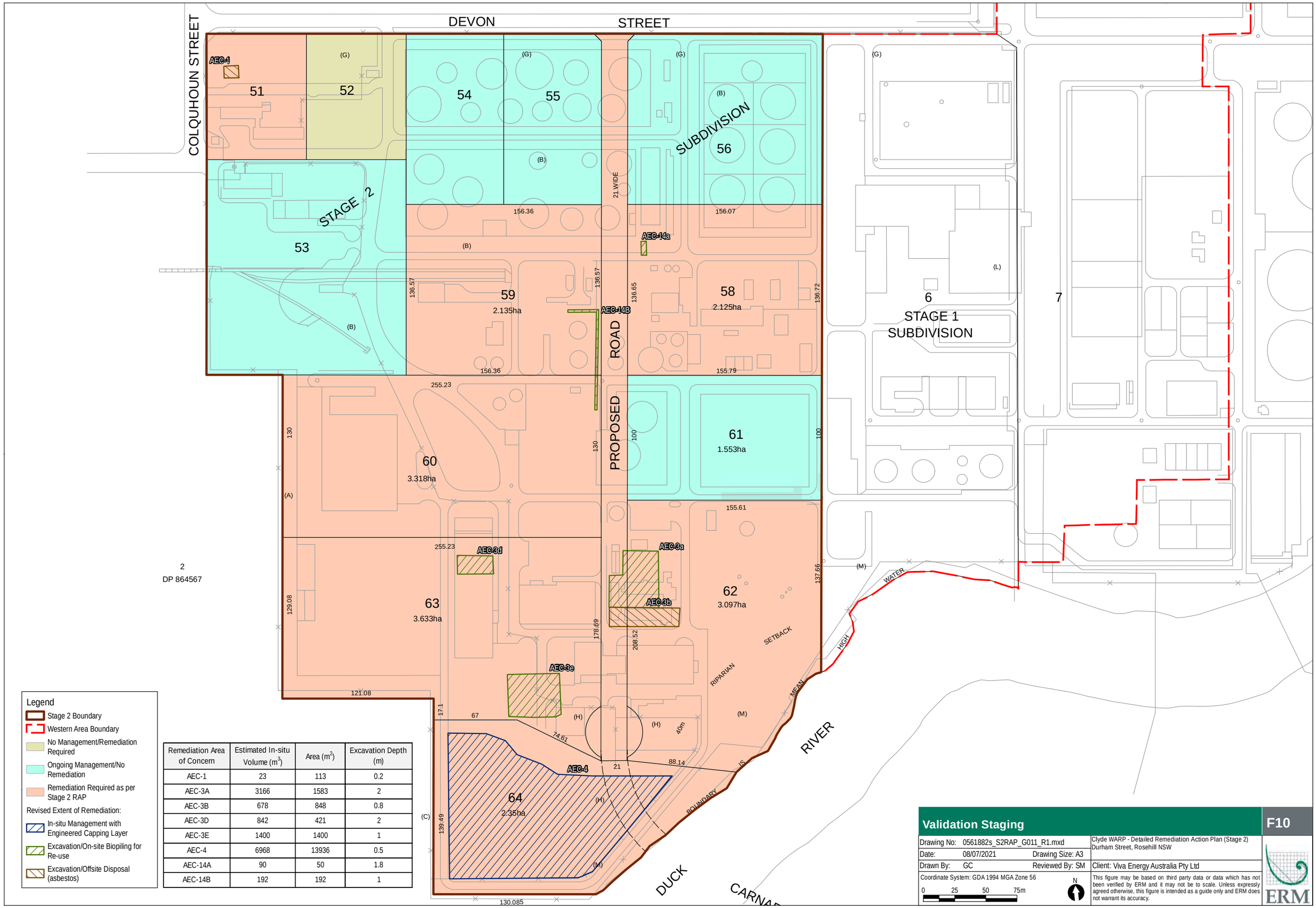
Coordinate System: GDA 1994 MGA Zone 56

0 25 50 75m

N

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ERM



Legend

- Stage 2 Boundary
- Western Area Boundary
- No Management/Remediation Required
- Ongoing Management/No Remediation
- Remediation Required as per Stage 2 RAP

Revised Extent of Remediation:

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

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

Validation Staging

F10

Drawing No:	0561882s_S2RAP_G011_R1.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 2) Durham Street, Rosehill NSW
Date:	08/07/2021	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

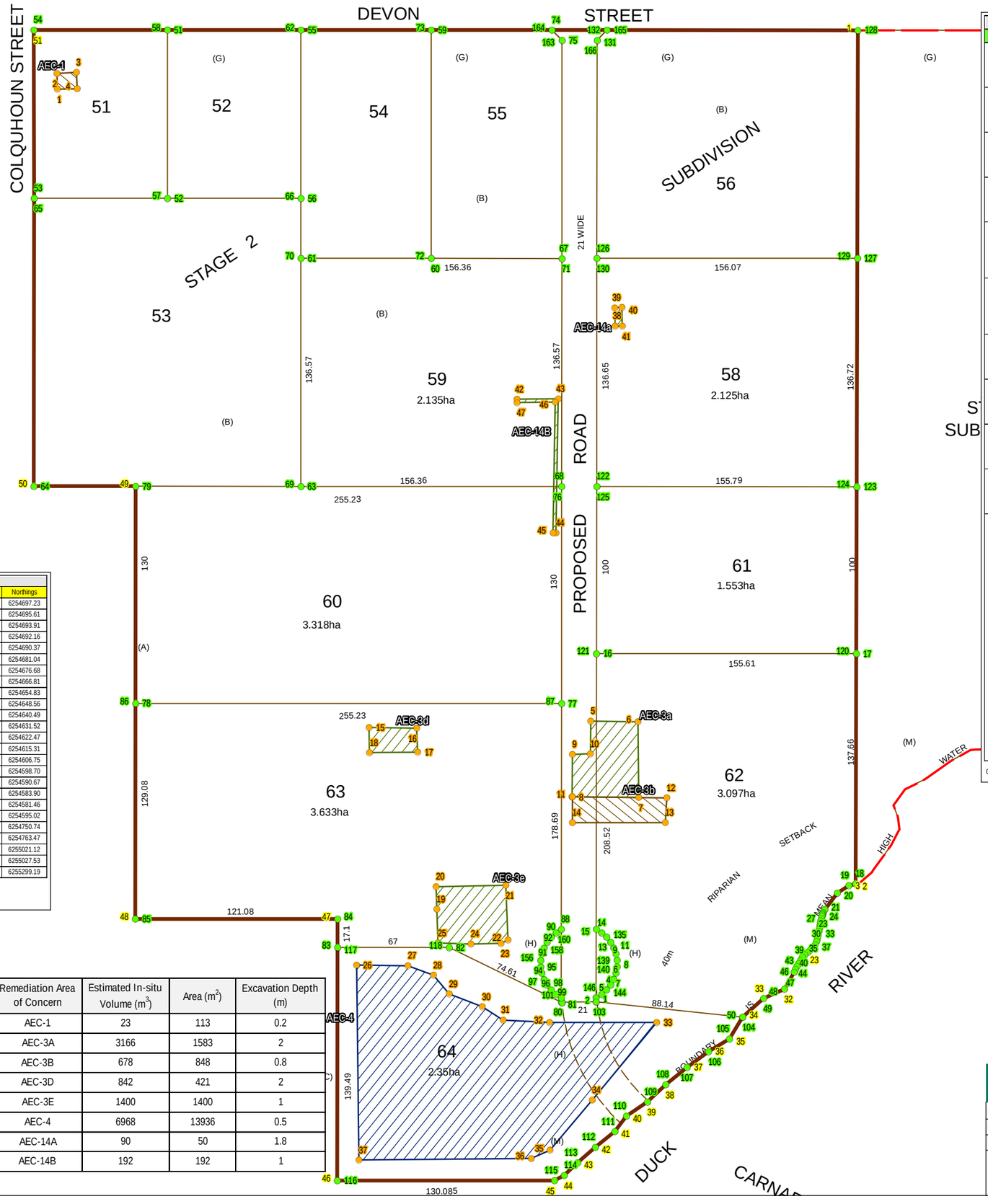
Coordinate System: GDA 1994 MGA Zone 56

0 25 50 75m

N

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ERM



Proposed Lot Boundaries												
Lot	Point ID	Eastings	Northings	Lot	Point ID	Eastings	Northings	Lot	Point ID	Eastings	Northings
51	51	317785.2456	6255290.808	62	1	317979.8816	6254685.258	64	102	317959.4539	6254687.25
	52	317774.7825	6255190.556		2	317980.1351	6254687.647		103	317979.8816	6254685.258
	53	317695.2218	6255198.976		3	317983.6248	6254689.35		104	318066.0658	6254666.807
	54	317705.6809	6255299.19		4	317986.7795	6254691.614		105	318056.9076	6254654.825
52	55	317864.805	6255282.426		5	317989.5098	6254694.375		106	318043.7362	6254648.563
	56	317854.1977	6255182.15		6	317991.7383	6254697.554		107	318030.0003	6254640.491
	57	317774.7825	6255190.556		7	317993.4019	6254701.063		108	318016.1837	6254631.515
	58	317785.2456	6255290.808		8	317994.4535	6254704.801		109	318004.0673	6254622.474
53	63	317836.0633	6255010.716		9	317994.8632	6254708.662		110	317990.6137	6254615.306
	64	317677.1142	6255027.53		10	317994.6194	6254712.537		111	317982.7877	6254606.751
	65	317695.2218	6255198.976		11	317993.7291	6254716.317		112	317970.1503	6254598.7
	66	317854.155	6255182.155		12	317992.2175	6254719.894		113	317958.7133	6254590.672
54	59	317942.4951	6255274.242		13	317990.1274	6254723.166		114	317950.0516	6254583.9
	60	317928.1162	6255138.311		14	317987.518	6254726.041		115	317943.7984	6254581.462
	61	317850.4296	6255146.528		15	317984.4633	6254728.439		116	317814.4204	6254595.015
	62	317864.805	6255282.426		16	318001.8836	6254892.618		117	317829.0942	6254733.735
55	71	318005.9178	6255130.081		17	318156.6336	6254876.248		118	317895.7224	6254726.687
	72	317928.1162	6255138.311		18	318141.8687	6254739.385		119	317959.4072	6254686.8
	73	317942.4951	6255274.242		19	318137.6116	6254738.625	Proposed Road	133	317984.4633	6254728.439
	74	318014.3333	6255266.674		20	318130.3873	6254734.881		134	317987.5236	6254726.045
	75	318019.6691	6255260.078		21	318121.8694	6254725.912		135	317990.1384	6254723.17
56	128	318196.6807	6255247.464		22	318120.7307	6254724.088		136	317992.2332	6254719.898
	129	318182.0238	6255111.602		23	318120.5363	6254723.71		137	317993.7485	6254716.32
	130	318026.8082	6255127.953		24	318120.346	6254723.329		138	317994.6413	6254712.539
	131	318040.5501	6255257.879		25	318120.1608	6254722.946		139	317994.8862	6254708.661
	132	318047.1482	6255263.217		26	318119.9815	6254722.56		140	317994.4762	6254704.797
58	124	318167.3595	6254975.671		27	318119.8071	6254722.173		141	317993.423	6254701.057
	125	318012.435	6254992.059		28	318119.2925	6254720.831		142	317991.7565	6254697.547
	126	318026.8082	6255127.953		29	318118.8732	6254719.451		143	317989.5242	6254694.367
	127	318182.0238	6255111.602		30	318118.5	6254718.047		144	317986.7893	6254691.607
59	67	318005.9178	6255130.081		31	318118.1242	6254716.646		145	317983.6296	6254689.346
	68	317991.5515	6254994.268		32	318117.6992	6254715.262		146	317980.1351	6254687.647
	69	317836.0633	6255010.716		33	318117.069	6254713.278		147	317979.8816	6254685.258
	70	317850.4296	6255146.528		34	318116.4536	6254711.264		148	317959.4539	6254687.25
60	76	317991.5515	6254994.268		35	318115.776	6254709.284		149	317959.3547	6254689.896
	77	317977.8763	6254864.99		36	318114.9588	6254707.4		150	317956.3018	6254692.284
	78	317724.0609	6254891.839		37	318113.9278	6254705.676		151	317953.6933	6254695.151
	79	317737.736	6255021.117		38	318112.4953	6254704.118		152	317951.6032	6254698.415
61	120	318156.6336	6254876.248		39	318110.7673	6254702.779		153	317950.091	6254701.984
	121	318001.8836	6254892.618		40	318108.9106	6254701.528		154	317949.1995	6254705.756
	122	318012.435	6254992.059		41	318107.0912	6254700.235		155	317948.9542	6254709.625
	123	318167.3595	6254975.671		42	318105.4776	6254698.77		156	317949.3619	6254713.479
63	80	317959.4539	6254687.25		43	318104.1492	6254697.232		157	317950.4112	6254717.211
	81	317959.0788	6254687.287		44	318102.8956	6254695.607		158	317952.0721	6254720.713
	82	317895.7224	6254726.687		45	318101.7271	6254693.913		159	317954.2975	6254723.886
	83	317829.0942	6254733.735		46	318100.6534	6254692.164		160	317957.0243	6254726.641
	84	317830.8927	6254750.738		47	318099.6867	6254690.375		161	317960.1749	6254728.899
	85	317710.4825	6254763.475		48	318092.7751	6254681.039		162	317963.66	6254730.595
	86	317724.0609	6254891.839		49	318079.8653	6254676.681		163	318019.6691	6255260.078
	87	317977.8763	6254864.99		50	318066.0658	6254666.807		164	318014.3333	6255266.674
	88	317963.66	6254730.595						165	318047.1482	6255263.217
	89	317960.1749	6254728.899						166	318040.5501	6255257.879
	90	317957.0243	6254726.641								
	91	317954.2975	6254723.886								
	92	317952.0721	6254720.713								
	93	317950.4112	6254717.211								
	94	317949.3619	6254713.479								
	95	317948.9542	6254709.625								
	96	317949.1995	6254705.756								
	97	317950.091	6254701.984								
	98	317951.6032	6254698.415								
	99	317953.6933	6254695.151								
	100	317956.3018	6254692.284								
	101	317959.3547	6254689.896								

Coord. Sys.: GDA 1994, MGA Zone 56

Stage 2 Boundary					
Point ID	Eastings	Northings	Point ID	Eastings	Northings
1	318196.68	6255247.46	27	318104.15	6254697.23
2	318141.87	6254739.38	28	318102.90	6254695.61
3	318137.61	6254738.63	29	318101.73	6254693.91
4	318130.39	6254734.88	30	318100.65	6254692.16
5	318121.87	6254725.91	31	318099.69	6254690.37
6	318120.73	6254724.09	32	318092.78	6254681.04
7	318120.54	6254723.71	33	318079.87	6254676.68
8	318120.35	6254723.33	34	318066.07	6254666.81
9	318120.16	6254722.95	35	318056.91	6254654.83
10	318119.98	6254722.56	36	318043.74	6254648.56
11	318119.81	6254722.17	37	318030.00	6254640.49
12	318119.29	6254720.83	38	318016.18	6254631.52
13	318118.87	6254719.45	39	318004.07	6254622.47
14	318118.50	6254718.05	40	317990.61	6254615.31
15	318118.12	6254716.65	41	317982.79	6254606.75
16	318117.70	6254715.26	42	317970.15	6254598.70
17	318117.07	6254713.28	43	317958.71	6254590.67
18	318116.45	6254711.26	44	317950.05	6254583.90
19	318115.78	6254709.28	45	317943.80	6254581.46
20	318114.96	6254707.40	46	317814.42	6254595.02
21	318113.93	6254705.68	47	317830.89	6254750.74
22	318112.50	6254704.12	48	317710.48	6254763.47
23	318110.77	6254702.78	49	317737.74	6255021.12
24	318108.91	6254701.53	50	317677.11	6255027.53
25	318107.09	6254700.24	51	317705.68	6255299.19
26	318105.48	6254698.77			

Coord. Sys: GDA 1994, MGA Zone 56

Remediation Extents							
Area	Point ID	Eastings	Northings	Area	Point ID	Eastings	Northings
AEC-1	1	317716.05	6255262.49	AEC-4	26	317839.39	6254721.99
	2	317716.65	6255271.91		27	317869.92	6254718.42
	3	317728.34	6255271.26		28	317884.58	6254711.20
	4	317727.75	6255261.49		29	317892.79	6254699.08
AEC-3a	5	317994.13	6254852.79		30	317911.60	6254689.39
	6	318022.23	6254849.27		31	317923.38	6254680.21
	7	318018.09	6254804.18		32	317950.80	6254675.96
	8	317978.32	6254808.77		33	318014.71	6254669.06
	9	317981.30	6254834.07		34	317971.37	6254626.91
	10	317991.89	6254833.28		35	317943.14	6254599.61
AEC-3b	11	317978.56	6254808.77		36	317931.37	6254595.99
	12	318034.65	6254802.17		37	317828.60	6254605.82
	13	318032.22	6254787.63	AEC-14a	38	318033.37	6255086.54
	14	317976.91	6254793.31		39	318034.30	6255097.41
AEC-3d	15	317861.71	6254862.73		40	318038.68	6255097.10
	16	317889.90	6254859.37		41	318037.75	6255086.06
	17	317889.20	6254844.95		42	317970.39	6255049.05
	18	317860.45	6254847.77		43	317995.05	6255046.71
AEC-3e	19	317890.65	6254750.25		44	317985.35	6254967.01
	20	317891.71	6254763.79		45	317983.46	6254967.15
	21	317933.24	6254760.33		46	317993.02	6255045.00
	22	317931.22	6254727.52		47	317970.24	6255047.18
	23	317926.69	6254726.06				
	24	317908.95	6254727.44				
	25	317889.20	6254730.13				

Coord. Sys.: GDA 1994, MGA Zone 56

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

Legend

- Stage 2 Boundary
- Western Area Boundary

Revised Extent of Remediation:

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

Proposed Lot Boundaries

F11

Drawing No: 0561882s_S2RAP_G017_R0.mxd
Date: 07/07/2021 Drawing Size: A3
Drawn By: GC Reviewed By: SM
Coordinate System: GDA 1994 MGA Zone 56
0 25 50 75m
N

Clyde WARP - Detailed Remediation Action Plan (Stage 2)
Durham Street, Rosehill NSW
Client: Viva Energy Australia Pty Ltd

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ERM

Legend

Stage 2
Clyde Refinery
Lot Subdivision Boundaries (SSD 10459)
Proposed Test Pit
Monitoring Well
Lost/Destroyed Monitoring Well
Soil Vapour Well
Soil Sampling Location
Test Pit Location
Test Pit (Visual Observation)

DEVON STREET
COLQUHOUN STREET
STAGE 2
SUBDIVISION
STAGE 1 SUBDIVISION
PROPOSED ROAD 1
WIDE
DUCK
RIVER
WATER
HIGH
MEAN
SETBACK
RIPARIAN
BOUNDARY

51 52 53 54 55 56 57 58 59 60 61 62 63 64 6 7
2.125ha 3.318ha 1.553ha 3.097ha 3.635ha 2.35ha

Data Gap Investigation Locations

F12

Drawing No:	0561882s_S2RAP_G018_R0.mxd	Clyde WARP - Detailed Remediation Action Plan (Stage 2) Durham Street, Rosehill NSW	
Date:	08/07/2021	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 HISTORICAL DATA 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-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 >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	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							3500		10,000	
Alternative_Name	**Monitoring_Zone**	**Location_Code**	**Field_ID**	**Sample_Depth_Range**	**Sampled_Date_Time**																															
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	-	-	-	-	-	-	-	-	-
Road alignment	3	SB18/24	MW(SB)18/24_0.3_180209	0.3-0.3	9/02/2018	0.8	3.4	1.3	0.9	6.4	7.3	12.8	3	66	-	160	200	-	<100	360	75	62	190	190	200	390	<100	90	60	90	190	220	130	130	<100	<100
Road alignment	3	SB18/24	MW(SB)18/24_1.2_180209	1.2-1.2	9/02/2018	2.7	<0.5	21.5	1.2	52.8	54	78.2	4	1480	-	300	530	-	<100	830	1530	1450	430	430	300	730	<100	260	210	260	460	430	250	170	<100	<100
Road alignment	3	SB18/24	MW(SB)18/24_3.0_180209	3-3	9/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	16	-	<50	<100	-	<100	<50	17	17	<50	<50	<100	<50	<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 62	3	TP18/20	TP18/20_0.45_20180208	-0.45	8/02/2018	<0.2	2.2	0.6	1.1	3.4	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	TP18/20	TP18/20_0.45_20180208	0.45-0.45	8/02/2018	0.4	22.4	2.9	4.2	14.9	19.1	44.8	<1	3270	-	<50	<100	-	320	320	3420	3380	<50	<50	250	710	460	<50	<50	<50	<50	<50	<100	<100	<100	<100
Lot 62	3	TP18/20	TP18/20_0.7_20180208	0.7-0.7	8/02/2018	<0.2	3.8	1.4	1.8	6.6	8.4	13.6	<1	816	-	<50	<100	-	<100	<50	851	837	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 62	3	TP18/20	TP18/20_1.2_20180208	-1.2	8/02/2018	<0.2	<0.5	0.8	0.6	2.8	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	TP18/20	TP18/20_1.2_20180208	1.2-1.2	8/02/2018	<0.2	<0.5	0.8	0.6	2.8	3.4	4.2	<1	861	-	<50	<100	-	<100	<50	819	814	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 62	3	TP18/20	TP18/20_2.3_20180208	2.3-2.3	8/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	19	-	<50	<100	-	<100	<50	20	20	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 62	3	TP19/27	TP19/27_0.6	0.5-0.7	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 62	3	TP19/27	TP19/27_1.5	1.4-1.6	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 62	3	TP19/32	TP19/32_1.0	0.9-1.1	23/07/2019	<0.2	<0.2	<0.2	<0.2	<0.4	<0.6	-	<1	-	<40	<20	<50	-	<50	<50	<40	<40	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-
Lot 62	3	TP19/32	TP19/32_0.1	0-0.2	23/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	110	-	<20	210	<20	<20	<50	<50	180	180	<100	-	<20	<50	<50	-	<50	<100	<50	<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	<2.5	<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	-	-	-	-	-	-	-	-	-

				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-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 >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						3500		10,000
Alternative_Name	**Monitoring_Zone**	**Location_Code**	**Field_ID**	**Sample_Depth_Range**	**Sampled_Date_Time**																													
Lot 64	4	MW12/01	MW12/01_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	180	130	130 - 205	<20	<20	<50	<50	180	-	<100	-	-	-	-	-	-	-	-
Lot 64	4	MW12/01	MW12/01_2.5	2.5-2.5	27/02/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	480	3700	4800	1100	5280 - 5300	<20	<20	930	930	4100	-	490	-	-	-	-	-	-	-	-
Lot 64	4	MW12/01	MW12/01_2.0	2-2	27/02/2012	1.2	780	3.4	6	14	20	800 - 804.6	16 - 33	1200	-	7400	57,000	74,000	17,000	81,000 - 81,400	1300	510	15,000	15,000	61,000	-	7900	-	-	-	-	-	-	-	-
Lot 64	4	MW12/20	MW12/20_0.4	0.4-0.4	6/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	150	350	200	350 - 375	<20	<20	<50	<50	330	-	<100	-	-	-	-	-	-	-	-
Lot 64	4	MW12/20	MW12/20_2.4	2.4-2.4	6/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW12/20	MW12/20_2.0	2-2	6/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	76	2100	4700	2600	4776 - 4800	<20	<20	180	180	4200	-	1100	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21_0.5	0.5-0.5	7/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21_1.4	1.4-1.4	7/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	730	2600	4600	2000	5300 - 5330	<20	<20	1200	1200	3700	-	870	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21_2.4	2.4-2.4	7/03/2012	<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 62	4	MW12/21	MW12/21_3.5	3.5-3.5	7/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/03	MW20/03_0.8	0.7-0.9	13/07/2020	<0.1	<0.1	<0.1	0.3	2.2	2.5	-	<0.5	-	<20	59	100	-	56	215	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4	MW20/03	MW20/03_3.0	2.9-3.1	13/07/2020	0.3	0.2	3.9	1	2.5	3.5	-	5 - 9.1	-	350	2600	5200	-	1600	9400	620	610	2800	2790.9	2200	5340	340	-	2100	2400	6800	-	3700	1500	1000	220
Lot 64	4	MW20/03	MW20/03_6.0	5.9-6.1	13/07/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	330	970	-	<50	1300	35	35	520	520	240	760	<100	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4	MW20/04	MW20/04_1.0	0.9-1.1	13/07/2020	<0.1	<0.1	<0.1	0.2	2.2	2.4	-	<0.5	-	<20	<20	150	-	<50	150	<20	<20	<50	<50	190	190	<100	-	<50	<50	<100	-	<100	100	<100	<100
Lot 64	4	MW20/04	MW20/04_3.5	3.4-3.6	13/07/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	52	-	<50	52	24	24	<50	<50	<100	<100	<100	-	390	590	3040	-	1700	560	950	270
Lot 64	4	MW20/04	MW20/04_4.5	4.4-4.6	13/07/2020	<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 64	4	MW20/05	MW20/05_3.5	3.4-3.6	13/07/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	20	160	-	110	290	<20	<20	<50	<50	160	160	<100	-	<50	<50	<100	-	<100	120	<100	<100
Lot 64	4	MW20/06	MW20/06_6.0	5.8-6	14/07/2020	<1	5.2	1.3	2	4	6	-	3.2 - 8.9	-	<200	2200	14,000	-	1600	17,800	<200	<200	4400	4391.1	9800	14,990	790	-	1500	2400	9900	-	6600	3700	1800	330
Lot 64	4	MW20/07	MW20/07_6.0	5.8-6	14/07/2020	<0.1	0.6	0.9	1.4	5.7	7.1	-	1.5 - 7.6	-	470	820	2200	-	710	3730	970	960	940	932.4	890	1990	160	-	550	590	2090	-	1100	340	440	<100
Lot 64	4	MW20/13	D01_20200714		14/07/2020	<0.1	0.8	1.1	1.1	2	3.1	-	1 - 6.1	-	120	310	620	-	220	1150	230	230	360	353.9	100	460	<100	-	240	220	820	-	400	120	180	<100
Lot 64	4	MW20/13	MW20/13_6.0	5.8-6	14/07/2020	<0.1	<0.1	0.2	0.2	0.3	0.4	-	<0.5 - 2	-	<20	94	350	-	<50	444	49	48	170	168	190	360	<100	-	64	110	234	-	170	<100	<100	<100
Lot 64	4	MW20/13	T01_20200714	5.8-6	14/07/2020	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	1 - 3.3	55	-	520	1480	-	540	2540	79	79	820	820	1570	2690	300	490	250	490	1670	1830	1010	1100	410	240
Lot 64	4	MW20/17	MW20/17_3.0	2.9-3.1	9/07/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	190	4000	-	340	4530	<20	<20	580	580	2900	3920	440	-	150	480	2780	-	2400	1200	230	240
Lot 62	4	SB18/23	MW(SB)18/23_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	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 62	4	SB18/23	MW(SB)18/23_1.2_20180208	-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	SB18/23	MW(SB)18/23_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	<10	-	80	1340	-	360	1780	<10	<10	240	240	1440	1890	210	<50	<50	<50	460	550	460	550	<100	<100
Lot 62	4	SB18/23	MW(SB)18/23_3.0_20180208	3-3	8/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	130	1410	-	400	1940	<10	<10	300	300	1510	2070	260	130	110	130	950	840	710	710	130	<100
Lot 64	4	SB5B	SB5B_1.0	0.9-1.1	5/02/2018	<0.2	<0.5	0.6	1.6	2.2	3.8	4.4	1 - 3	11	-	240	11,000	-	10,100	21,300	22	18	340	340	19,200	24,000	4440	-	-	-	-	-	-	-	-	-
Lot 64	4	SB5B	T03_050218	0.9-1.1	5/02/2018	<0.2	<0.5	<1	1	<2	1	-	1 - 1.8	-	<25	220	-	-	-	-	<25	<25	300	300	13,000	17,000	4500	-	-	-	-	-	6200	-	8500	-
Lot 64	4	SB5B	SB5B_4.0	3.9-4	5/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1 - 0.6	12	-	340	5580	-	2640	8560	24	24	720	720	7090	9350	1540	-	-	-	-	-	-	-	-	-
Road alignment	4	TP18/26	TP18/26_0.3	-0.3	7/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	TP18/26	TP18/26_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	-	-	-	-	-	-	-	-	-
Road alignment	4	TP18/26	TP18/26_1.2	-1.2	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	TP18/26	TP18/26_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	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Road alignment	4	TP18/26	TP18/26_1.7	1.7-1.7	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 64	4	TP18/27	TP18/27_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	160	-	180	340	<10	<10	<50	<50	270	440	170	<50	<50	<50	<50	<50	<100	<100	<100	<100
Lot 64	4	TP18/27	QC18_102	1.2-1.2	7/02/2018	0.3	12.5	4.5	7.1	13.9	21	38.3	4	104	-	2040	20,800	-	9380	32,200	168	130	3750	3750	28,100	36,300	4460	2320	1390	2320	15,300	16,200	10,000	12,000	3950	1830
Lot 64	4	TP18/27	TP18/27_1.2	1.2-1.2	7/02/2018	0.3	12.6	4.5	6.8	13.5	20.3	37.7	5	106	-	8400	43,500	-	8420	60,300	169	131	9900	9900	48,200	61,200	3130	2780	1280	2790	19,200	20,200	13,500	15,500	4430	1920
Lot 64	4	TP18/27	TP18/27_1.8	-1.8	7/02/2018	0.3	<0.5	2.9	1.2	5.9			2 - 4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	TP18/27_1.8	1.8-1.8	7/02/2018	0.8	<0.5	3.1	0.6	5.1	5.7	9.6	1	61	-	1660	25,300	-	11,300	38,300	90	81	3240	3240	34,800	43,200	5150	2140	1240	2140	18,700	19,800	12,500	15,300	4990	2330
Lot 64	4	TP18/27	QC18_103	3-3	7/02/2018	0.7	1.1	5.4	4	6	10	17.2	22	234	-	34,000	11,100	-	480	45,600	521	504	34,400	34,400	6810	41,200	<100	11,500	8820	11,500	16,900	16,400	8080	4880	<100	<100
Lot 64	4	TP18/27	TP18/27_3.0	3-3	7/02/2018	0.6	0.7	5	3.1	5.3	8.4	14.7	20	246	-	37,000	12,800	-	580	50,400	579	564	37,500	37,500	8170	45,700	<100	14,900	11,200	14,900	22,500	21,900	11,300	7030	<100	<100
Lot 64	4	TP19/19	TP19/19_0.6	0.5-0.7	16/07/2019	14	37	12	22	53	76	-	47	-	1100	41,000	110,000	-	9000	160,000	2100	2000	67,000	66,953	110,000	186,000	9000	-	21,000	29,000	72,000	-	38,000	35,000	13,000	6600
Lot 64	4	TP19/19	TP19/19_2.0	1.9-2.1	16/07/2019	<0.1	0.3	0.2	0.3	0.6	0.9	-	0.7 - 1.2	-	22	520	2700	-	250	3470	53	52	950	948.8	3300	4720	470	-	550	900	3050	-	1800	1800	700	350
Lot 64	4	TP19/20	D02_160719	0.3-0.5	16/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5 - 0.7	-	27	170	750	-	71	991	64	64	290	289.3	1100	1620	230	-	<20	<50	518	-	78	320	440	400
Lot 64	4	TP19/20	T02_160719	0.3-0.5	16/07/2019	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1 - 0.6	46	-	260	1910	-	1620	3790	68	68	490	490	2820	4580	1270	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/20	TP19/20_0.4	0.3-0.5	16/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	78	400	2800	-	480	3680	140	140	860	860	3400	4620	360	-	<20	160	960	-	450	670	510	340
Lot 64	4	TP19/20	D01_150719	0-0.2	16/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	520	-	210	730	<20	<20	<50	<50	1100	1410	310	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/20	D01_160719	0-0.2	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<50	570	-	120	390	450	390
Lot 64	4	TP19/20	T01_160719	0-0.2	16/07/2019	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	230	-	590	820	<10	<10	<50	<50	660	1360	700	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/20	TP19/20_0.1	0-0.2	16/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	380	-	200	580	<20	<20	<50	<50	880	1130	250	-	<20	<50	770	-	200	560	570	620
Lot 64	4	TP19/21	TP19/21_2.8	2.7-2.9	16/07/2019	<1	<1	62	<1	4.1	<3	-	24 - 39	-	520	5400	19,000	-	6100	30,500	930	860	8100	8061	17,000	27,600	2500	-	310	460	1340	-	790	730	240	130
Lot 64	4	TP19/21	TP19/21_4.0	3.9-4.1	16/07/2019	<0.2	<0.2	0.7	0.3	<0.4	<0.3	-	7.3	-	<40	630	6400	-	1000	8030	<40	<40	1200	1192.7	7200	8790	390	-	180	340	2600	-	1800	2000	620	200
Lot 64	4	TP19/22	TP19/22_0.5	0.4-0.6	16/07/2019	<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	-	-	-	-	-	-	-	-	-

								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-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 >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
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 64	4	TP19/22	TP19/22_1.2	1.1-1.3	16/07/2019	<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 64	4	TP19/23	D01_150719	1.4-1.6	15/07/2019	2.7	28	7.9	12	30	42	-	22	-	190	4300	31,000	-	12,000	47,300	250	170	6700	6678	34,000	45,200	4500	-	1500	2500	27,500	-	16,000	21,000	10,000	1700
Lot 64	4	TP19/23	T01_150719	1.4-1.6	15/07/2019	12.3	67.8	16.6	19.7	65.6	85.3	182	31.4 - 34	571	-	3050	55,800	-	27,300	86,200	661	479	5680	5650	73,400	92,900	13,800	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/23	TP19/23_1.5	1.4-1.6	15/07/2019	3.8	48	13	23	51	74	-	27 - 30	-	360	5000	36,000	-	15,000	56,000	470	330	7700	7670	41,000	53,500	4800	-	1900	2800	21,900	-	14,000	17,000	6000	1100
Lot 64	4	TP19/23	TP19/23_3.5	3.4-3.6	15/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	230	-	140	370	<20	<20	<50	<50	290	290	<100	-	<20	<50	<50	-	<50	<100	<50	<100
Lot 64	4	TP19/24	TP19/24_1.5	1.4-1.6	15/07/2019	<0.1	0.7	0.4	0.5	0.9	1.4	-	<0.5	-	<20	140	4100	-	2600	6840	<20	<20	280	280	5600	7180	1300	-	51	120	1981	-	1200	1500	730	240
Lot 64	4	TP19/24	TP19/24_3.0	2.9-3.1	15/07/2019	<0.1	<0.1	2.8	0.7	0.4	1.1	-	11 - 18	-	92	3500	4900	-	710	9110	270	270	4800	4782	3700	8890	390	-	5000	6000	11,720	-	5800	4200	920	150
Lot 64	4	TP19/24	TP19/24_4.2	4.1-4.3	15/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	200	-	150	350	<20	<20	<50	<50	280	280	<100	-	<20	<50	<50	-	<50	<100	<50	<100
Lot 64	4	TP19/25	TP19/25_0.5	0.4-0.6	15/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	400	-	380	780	<20	<20	<50	<50	660	850	190	-	<20	<50	51	-	51	<100	<50	<100
Lot 64	4	TP19/25	TP19/25_1.3	1.2-1.4	15/07/2019	1.4	28	13	25	45	70	-	20 - 21	-	<400	6900	54,000	-	20,000	80,900	<400	<400	11,000	10,979	58,000	76,500	7500	-	2100	3100	17,800	-	10,000	13,000	5700	1100
Lot 62	4	TP19/28	TP19/28_1.0	0.9-1.1	19/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	230	-	150	380	<20	<20	<50	<50	300	300	<100	-	<20	<50	<50	-	<50	<100	<50	<100
Lot 62	4	TP19/28	D01_190719	0-0.2	19/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	57	2700	-	2300	5057	<20	<20	140	140	4000	5130	990	-	<20	<50	830	-	540	730	290	<100
Lot 62	4	TP19/28	T01_190719	0-0.2	19/07/2019	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	200	1120	-	150	1470	<10	<10	410	410	1030	1440	<100	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/28	TP19/28_0.1	0-0.2	19/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	42	2100	-	1800	3942	<20	<20	100	100	3200	4120	820	-	<20	<50	600	-	390	530	210	<100
Lot 62	4	TP19/29	TP19/29_1.8	1.7-1.9	22/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	76	-	110	186	<20	<20	<50	<50	150	150	<100	-	<20	<50	<50	-	<50	<100	<50	<100
Lot 62	4	TP19/29	TP19/29_2.2	2.1-2.3	22/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	85	-	69	154	<20	<20	<50	<50	120	120	<100	-	<20	<50	<50	-	<50	<100	<50	<100
Lot 62	4	TP19/30	D01_220719	0.3-0.5	22/07/2019	<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 62	4	TP19/30	T01_220719	0.3-0.5	22/07/2019	<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 62	4	TP19/30	TP19/30_0.4	0.3-0.5	22/07/2019	<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 62	4	TP19/30	TP19/30_1.2	1.1-1.3	22/07/2019	<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 64	4	TP19/74	TP19/74_1.5	1.4-1.6	19/07/2019	<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 64	4	TP19/74	TP19/74_2.5	2.4-2.6	19/07/2019	<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 64	4	TP19/75	TP19/75_1.5	1.4-1.6	19/07/2019	<0.2	1	1.2	1.1	2.1	3.2	-	16 - 17	-	290	5700	14,000	-	4600	24,300	590	580	8400	8384	13,000	23,800	2400	-	3300	4800	17,100	-	8100	9500	5700	1400
Lot 64	4	TP19/75	TP19/75_3.0	2.9-3.1	19/07/2019	<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 64	4	TP19/76	TP19/76_1.5	1.4-1.6	19/07/2019	<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 64	4	TP19/76	TP19/76_2.2	2.1-2.3	19/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	98	-	77	175	<20	<20	<50	<50	140	140	<100	-	<20	<50	<50	-	<50	<100	<50	<100
Lot 64	4	TP19/77	D02_150719	1.4-1.6	15/07/2019	<0.5	3.2	2	1	2.4	3.4	-	29	-	<100	1700	25,000	-	9500	36,200	<100	<100	3200	3171	28,000	33,900	2700	-	1100	2200	17,700	-	12,000	14,000	4600	1700
Lot 64	4	TP19/77	T02_150719	1.4-1.6	15/07/2019	<0.5	5	3.4	1.5	2	3.5	11.9	39	54	-	2200	38,500	-	17,300	58,000	92	80	5200	5160	49,300	61,800	7270	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/77	TP19/77_1.5	1.4-1.6	15/07/2019	<1	3.2	2	<1	<2	<3	-	41	-	<200	2400	33,000	-	13,000	48,400	<200	<200	4500	4459	38,000	46,700	4200	-	1500	2900	21,800	-	15,000	17,000	5300	1400
Lot 64	4	TP19/77	TP19/77_4.0	3.9-4.1	15/07/2019	24	75	99	77	200	280	-	150 - 220	-	3000	45,000	74,000	-	22,000	141,000	5000	4500	58,000	57,850	70,000	136,200	8200	-	30,000	38,000	76,600	-	37,000	30,000	9600	4800
Lot 61	5	MW11/16	MW11/16_0.45	0.45-0.45	22/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 61	5	MW11/16	MW11/16_3.3	3.3-3.3	22/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 61	5	MW11/17	D_220911_01	1-1	22/09/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<0.5	<10	-	<50	-	-	-	<50 - 2300	-	-	-	-	-	-	-	-	-	-	-	-	1600	-	740	-
Lot 61	5	MW11/17	MW11/17_1.0	1-1	22/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50 - 1700	-	-	-	-	-	-	-	-	-	-	-	-	1200	-	510	-
Lot 61	5	MW11/17	T-220911-01	1-1	22/09/2011	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	2290	3080	790	3080 - 3105	<10	<10	90	-	2590	3080	400	-	-	-	-	-	-	-	-	-
Lot 61	5	MW11/17	MW11/17_2.5	2.5-2.5	22/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 61	5	TP19/39	TP19/39_0.2	0.1-0.3	29/07/2019	<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	5	TP19/39	TP19/39_0.4	0.3-0.5	29/07/2019	<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	5	TP19/40	TP19/40_0.1	0.1-0.3	30/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	200	-	200	400	<20	<20	<50	<50	350	350	<100	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/40	TP19/40_0.2	0.1-0.3	30/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<50	<50	-	<50	<100	<50	<100
Lot 61	5	TP19/40	TP19/40_0.2	1.9-2.1	30/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	260	-	56	316	<20	<20	<50	<50	280	280	<100	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/41	D01_290719	0.1-0.3	29/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	68	68	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/41	TO1_290719	0.1-0.3	29/07/2019	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	<100	-	110	110	<10	<10	<50	<50	140	140	<100	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/41	TP19/41_0.2	0.1-0.3	29/07/2019	<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	5	TP19/41	TP19/41_0.4	0.3-0.5	29/07/2019	<0.1	0.8	0.2	5.4	10	16	-	4.5 - 6.3	-	<80	290	130	-	130	550	75	59	140	135.5	200	340	<100	-	120	83	350	-	110	180	120	<100
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
Lot 56	11	BH11/01	BH11|01-0.1	0.1-0.2	15/12/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5	<10	-	<50	1200	1480	280	1500 - 1505	<20	<20	160	140	1400	-	<100	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/01	BH11|01-0.8	0.8-0.9	15/12/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5 - 1	17	-	300	810	860	<100	1100 - 1160	29	29	580	490	510	-	<100	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/01	DUP_01	0.8-0.9	15/12/2011	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5	16	-	87	260	310	<100	350 - 397	29	29	190	160	150	-	<100	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/01	BH11|01-1.5	1.5-1.6	15/12/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/02	BH11|02-0.1	0.1-0.2	15/12/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5	<10	-	<50	<100	190	140	140 - 215	<20	<20	<50	<50	150	-	<100	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/02	BH11|02-1.4	1.4-1.5	15/12/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/03	BH11|03-0.1	0.1-0.2	15/12/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5	<10	-	<50	480	880	400	880 - 905	<20	<20	<50	<50	860	-	120	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/03	BH11|03-1.5	1.5-1.6	15/12/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<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-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 >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
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					3500		10,000	
Alternative_Name	**Monitoring_Zone**	**Location_Code**	**Field_ID**	**Sample_Depth_Range**	**Sampled_Date_Time**																													
Lot 56	11	BH11/04	BH11|04-0.1	0.1-0.2	15/12/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5	<10	-	58	530	580	<100	590 - 638	<20	<20	190	160	490	-	<100	-	-	-	-	-	-	-	-
Lot 56	11	BH11/04	BH11|04-1.7	1.7-1.8	15/12/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-
Lot 56	11	BH11/04	BH11|04-1.0	1-1.1	15/12/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-
Lot 56	11	BH11/05	BH11|05-0.1	0.1-0.2	15/12/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5	<10	-	140	950	1000	<100	1100 - 1140	<20	<20	440	390	680	-	<100	-	-	-	-	-	-	-	-
Lot 56	11	BH11/05	BH11|05-1.5	1.5-1.6	15/12/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-
Lot 56	11	BH11/05	BH11|05-1.0	1-1.1	15/12/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-
Lot 56	11	BH11/06	BH11|06-0.1	0.1-0.2	15/12/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5	<10	-	<50	280	680	400	680 - 705	<20	<20	<50	<50	640	-	190	-	-	-	-	-	-	-	-
Lot 56	11	BH11/06	BH11|06-1.0	1-1.1	15/12/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5 - 0.75	<1.5 - 1.5	<0.5	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-
Lot 56	11	BH12/29	D_140312_02	-0.65		<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	3.6	<10	-	370	980	1030	<100	1400	22	22	630	630	810	-	<100	-	-	-	-	-	-	-	-
Lot 56	11	BH12/29	T-140312-01	-0.65		<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	2	<10	-	350	1110	1230	120	1580	25	25	570	-	930	1500	<100	-	-	-	-	-	-	-	-
Lot 56	11	BH12/29	BH12/29_0.65	0.65-0.65	14/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5 - 5	<10	-	750	1800	2070	270	2800 - 2820	23	23	1200	1200	1600	-	<100	-	-	-	-	-	-	-	-
Lot 56	11	BH12/29	BH12/29_1.3	1.3-1.3	14/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5 - 1.3	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-
Lot 55	11	BH12/30	BH12/30_0.25	0.25-0.25	14/03/2012	<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 55	11	BH12/30	BH12/30_1.3	1.3-1.3	14/03/2012	<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 54	11	BH12/31	BH12/31_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	-	<50	660	710	<100	660 - 735	<20	<20	58	58	680	-	<100	-	-	-	-	-	-	-	-
Lot 54	11	BH12/31	BH12/31_0.4	0.4-0.4	14/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	76	110	160	<100	190 - 236	<20	<20	120	120	<100	-	<100	-	-	-	-	-	-	-	-
Lot 54	11	BH12/31	BH12/31_1.4	1.4-1.4	14/03/2012	<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 54	11	BH12/32	BH12/32_0.2	0.2-0.2	14/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5 - 1.2	<10	-	650	600	650	<100	1300	<20	<20	880	880	370	-	<100	-	-	-	-	-	-	-	-
Lot 54	11	BH12/32	BH12/32_1.2	1.2-1.2	14/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	0.7 - 5	<10	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-
Lot 55	11	BH12/33	BH12/33_0.2	0.2-0.2	14/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	5.2	57	-	2700	10,000	10,520	520	13,000 - 13,220	92	92	6200	6200	7700	-	230	-	-	-	-	-	-	-	-
Lot 55	11	BH12/33	BH12/33_0.6	0.6-0.6	14/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	55	-	2200	8400	8670	270	10,870 - 11,000	83	83	5100	5100	6100	-	110	-	-	-	-	-	-	-	-
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 54	11	BH12/36	BH12/36_0.7	0.7-0.7	14/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	320	2300	2580	280	2900	<20	<20	700	700	2300	-	100	-	-	-	-	-	-	-	-
Lot 54	11	BH12/36	BH12/36_1.3	1.3-1.3	14/03/2012	<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 54	11	HA19/03	HA19/03_0.8	0.7-0.9	31/07/2019	<0.1	<0.1	0.5	<0.1	0.5	0.5	-	2.1 - 5.6	-	<20	49	200	-	<50	249	24	23	100	94.4	140	240	<100	-	27	60	147	-	120	<100	<50	<100
Lot 54	11	HA19/03	HA19/03_1.5	1.4-1.6	31/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	1.8	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-
Lot 54	11	HA19/04	HA19/04_0.4	0.3-0.5	31/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500	750	1431	-	840	590	91	<100
Lot 54	11	HA19/04	HA19/04_0.4	0.4-0.6	31/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	68	1300	2200	-	220	3720	200	200	2100	2100	1500	3600	<100	-	-	-	-	-	-	-	-	-
Lot 54	11	HA19/04	HA19/04_1.0	0.9-1.1	31/07/2019	<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 55	11	HA19/05	HA19/05_0.3	0.2-0.4	31/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	1200	120	-	<50	1320	27	27	1200	1200	<100	1200	<100	-	150	160	150	-	<50	<100	<50	<100
Lot 55	11	HA19/05	HA19/05_0.05	0-0.1	31/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	75	-	<50	75	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-
Lot 55	11	HA19/06	HA19/06_1.0	0.9-1.1	1/08/2019	<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 55	11	HA19/06	HA19/06_2.2	2.1-2.3	1/08/2019	<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 54	11	HA19/07	HA19/07_0.3	0.2-0.4	2/08/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	31	360	-	88	479	<20	<20	69	69	370	439	<100	-	<20	<50	190	-	190	180	<50	<100
Lot 54	11	HA19/07	HA19/07_0.05	0-0.1	2/08/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	60	5400	-	2100	7560	<20	<20	320	320	6600	7840	920	-	73	300	9073	-	7100	7300	1900	850
Lot 55	11	HA19/08	HA19/08_0.8	0.7-0.9	2/08/2019	<0.4	<0.4	<0.4	0.4	<0.8	<1.2	-	12 - 29	-	<80	220	470	-	50	740	<80	<80	310	281	380	690	<100	-	100	150	290	-	190	140	<50	<100
Lot 55	11	HA19/08	HA19/08_1.2	1.1-1.3	2/08/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	2.3	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-
Lot 55	11	HA19/09	HA19/09_0.8	0.7-0.9	2/08/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5 - 1	-	<20	2300	9700	-	340	12,340	<20	<20	5400	5400	6300	11,900	200	-	2200	5100	11,330	-	8900	5800	230	180
Lot 55	11	HA19/09	HA19/09_1.4	1.3-1.5	2/08/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	46	190	-	<50	236	<20	<20	100	100	120	220	<100	-	<20	<50	77	-	77	<100	<50	<100
Road alignment	11	HA19/10	HA19/10_0.2	0.1-0.3	2/08/2019	<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	-	-	-	-	-	-	-	-	-
Road alignment	11	HA19/10	HA19/10_0.05	0-0.1	2/08/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	200	-	-	190	390	<20	<20	<50	<50	350	350	<100	-	<20	<50	175	-	94	160	81	<100
Lot 56	11	MW11/02	MW11/02_0.5	0.5-0.5	19/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50 - 530	-	-	-	-	-	-	-	-	-	-	-	-	270	-	260	-
Lot 56	11	MW11/02	MW11/02_2.3	2.3-2.3	19/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 55	11	MW11/03	MW11/03_0.8	0.8	6/10/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 55	11	MW11/03	D_061011_02	3	6/10/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<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-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 >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	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							3500		10,000		
Alternative_Name	**Monitoring_Zone**	**Location_Code**	**Field_ID**	**Sample_Depth_Range**	**Sampled_Date_Time**																																	
Lot 55	11	MW11/03	MW11/03_3.0	3	6/10/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-		
Lot 55	11	MW11/03	MW11/03_5.8	5.8	6/10/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-		
Lot 56	11	MW11/04	MW11/04_1.0	1-1	20/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	4.9	110	-	2100	-	-	-	2100 - 5000	-	-	-	-	-	-	-	-	-	-	-	2700	-	210	-		
Lot 56	11	MW11/04	MW11/04_2.0	2-2	21/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<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	-	-	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 55	11	SB18/13	SB18/13_0.3_20180214	-0.3	14/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<1 - 2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Lot 55	11	SB18/13	SB18/13_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	<10	-	660	2310	-	170	3140	14	14	1280	1280	1800	3210	130	970	530	970	1970	2020	1440	1050	<100	<100		
Lot 55	11	SB18/13	SB18/13_0.9_20180214	-0.9	14/02/2018	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Lot 55	11	SB18/13	SB18/13_0.9_20182014	0.9-0.9	14/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	77	-	<50	<100	-	<100	<50	130	130	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-		
Road alignment	11	SB18/14	SB18/14_0.3_2018	-0.3	9/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Road alignment	11	SB18/14	SB18/14_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	11	SB18/14	SB18/14_1.2_20180209	-1.2	9/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Road alignment	11	SB18/14	SB18/14_1.2_180209	1.2-1.2	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	11	SB18/14	SB18/14_2.4_180209	2.4-2.4	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	-	-	-	-	-	-	-	-	-		
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 56	11	TP18/33	TP18/33_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	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-		
Lot 56	11	TP18/33	TP18/33_1.2_20180208	-1.2	8/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Lot 56	11	TP18/33	TP18/33_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	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-		
Lot 56	11	TP18/33	TP18/33_3.0_20180208	-3	8/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Lot 56	11	TP18/33	TP18/33_3.0_20180208	3-3	8/02/2018	<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 56	11	TP19/79	TP19/79_0.3	0.2-0.35	26/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5 - 1.5	-	<20	930	1700	-	280	2910	<20	<20	1400	1400	1400	2800	<100	-	-	-	-	-	-	-	-	-		
Lot 56	11	TP19/79	TP19/79_1.2	1.1-1.3	26/07/2019	<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 58	11	TP19/80	TP19/80_0.5	0.5-0.6	26/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5 - 1.6	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-		
Lot 62	13	TP19/50	TP19/50_0.1	0-0.2	26/07/2019	<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 58	13	TP19/54	TP19/54_0.1	0-0.2	1/08/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
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 62	14	TP19/36	TP19/36_0.4	0.3-0.5	30/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	290	-	280	570	<20	<20	<50	<50	500	500	<100	-	-	-	-	-	-	-	-	-		
Lot 62	14	TP19/36	TP19/36_1.6	1.4-1.6	30/07/2019	<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 58	15	BH12/28	D_160312_02	-0.05	16/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	2.7	<10	-	1200	30,000	42,000	12,000	43,000 - 43,200	<20	<20	7300	7300	35,000	-	4800	-	-	-	-	-	-	-	-	-		
Lot 58	15	BH12/28	T-160312-01	-0.05	16/03/2012	<0.2	0.8	<0.5	<0.5	<0.5	<0.5	0.8 - 1.4	2	13	-	940	16,600	21,080	4480	22,000 - 22,020	22	21	4000	-	16,600	22,700	2120	-	-	-	-	-	-	-	-	-		
Lot 58	15	BH12/28	BH12/28_0.05	0.05-0.05	16/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	4.9 - 6.1	<10	-	420	3000	4000	1000	4400 - 4420	<20	<20	870	4500	3500	-	340	-	-	-	-	-	-	-	-	-		
Lot 58	15	BH12/28	BH12/28_1.4	1.4-1.4	16/03/2012	<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 61	15	BH12/38	D_160312_01	-1	16/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	120	-	<50	<100	<200	<100	<100	150	150	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-		
Lot 61	15	BH12/38	BH12/38_1.4	1.4-1.4	16/03/2012	<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 61	15	BH12/38	BH12/38_1.0	1-1	16/03/2012	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	59	-	<50	<100	<200	<100	<100	76	76	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-		
Lot 61	15	BH12/39	BH12/39_0.25	0.25-0.25	16/03/2012	<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 61	15	BH12/39	BH12/39_1.1	1.1-1.1	16/03/2012	<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	-	-	-	-	-	-	-	-	-		
Road alignment	15	MW11/01	MW11/01_0.2	0.2-0.2	23/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50 - 200	-	-	-	-	-	-	-	-	-	-	-	<100	-	200	-		
Road alignment	15	MW11/01	MW11/01_2.4	2.4-2.4	23/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-		
Lot 56	15	MW11/05	MW11/05_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 - 150	-	-	-	-	-	-	-	-	-	-	-	<100	-	150	-		
Lot 56	15	MW11/05	MW11/05_2.3	2.3-2.3	22/09/2011	<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_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 58	15	MW11/08	MW11/08_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 - 240	-	-	-	-	-	-	-	-	-	-	-	<100	-	240	-		
Lot 58	15	MW11/08	D_200901_01	3.2-3.2	20/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-		
Lot 58	15	MW11/08	MW11/08_3.2	3.2-3.2	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	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-		
Lot 61	15	MW11/10	MW11/10_0.450	0.45-0.45	21/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	3.2	<10	-	56	-	-	-	56 - 2400	-	-	-	-	-	-	-	-	-	-	-	1400	-	990	-		
Lot 61	15	MW11/10	MW11/10_3.4	3.4-3.4	21/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50 - 180	-	-	-	-	-	-	-	-	-	-	-	<100	-	180	-		
Lot 58	15	MW11/11	MW11/11_0.4	0.4-0.4	26/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	100	-	-	-	100 - 1000	-	-	-	-	-	-	-	-	-	-	-	780	-	120	-		
Lot 58	15	MW11/11	MW11/11_2.2	2.2-2.2	26/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-		
Lot 58	15	MW11/12	MW11/12_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 - 320	-	-	-	-	-	-	-	-	-	-	-	<100	-	320	-		
Lot 58	15	MW11/12	MW11/12_3.0	3-3	22/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50 - 270	-	-	-	-	-	-	-	-	-	-	-	<100	-	270	-		
Lot 61	15	MW11/13	MW11/13_0.3	0.3-0.3	26/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-		
Lot 61	15	MW11/13	MW11/13_3.6	3.6-3.6	26/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-		
Lot 60	15	MW11/14	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 61	15	MW11/15	MW11/15_1.3	1.3-1.3	22/09/2011	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<1.5	<0.5	<10	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-		
Lot 61	15	MW11/15	MW11/15_3.0	3-3	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	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	-	-	-	-	-	-	-	-	-		

				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-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 >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/Indust - Asbestos																																			
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																				700		1000		3500		10000							3500		10,000
Alternative_Name	**Monitoring_Zone**	**Location_Code**	**Field_ID**	**Sample_Depth_Range**	**Sampled_Date_Time**																														
Lot 53	15	SB11B	SB11B_0.2	0.2-0.4	1/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	1350	580	-	<100	1930	<10	<10	1570	1570	200	1770	<100	-	-	-	-	-	-	-	-	-
Lot 53	15	SB11B	SB11B_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	-	100	770	-	300	1170	<10	<10	150	150	960	1230	120	-	-	-	-	-	-	-	-	-
Lot 53	15	SB11B	SB11B_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	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 53	15	SB12B	SB12B_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	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 53	15	SB12B	SB12B_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	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 53	15	SB13B	SB13B_0.5	0.4-0.6	1/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1 - 0.5	54	-	1190	2040	-	720	3950	78	78	2210	2210	1970	4770	590	-	-	-	-	-	-	-	-	-
Lot 53	15	SB13B	SB13B_1.0	0.9-1.1	1/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1 - 1.6	296	-	980	2410	-	1420	4810	356	356	1960	1960	2530	5340	850	-	-	-	-	-	-	-	-	-
Lot 53	15	SB14B	SB14B_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	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 53	15	SB15B	SB15B_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	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 53	15	SB15B	SB15B_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	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<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	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/17	TP18/17_0.3_20180208	-0.3	8/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/17	TP18/17_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	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/17	TP18/17_1.2_20180208	-1.2	8/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/17	TP18/17_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	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/17	TP18/17_2.7_20180208	2.7-2.7	8/02/2018	<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 62	15	TP18/21	QC18_101		6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	270	-	240	510	<10	<10	<50	<50	480	630	150	<50	<50	<50	<50	<50	<100	<100	<100	<100
Lot 62	15	TP18/21	TP18/21_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	450	-	350	800	<10	<10	<50	<50	700	900	200	<50	<50	<50	<50	<50	<100	<100	<100	<100
Lot 62	15	TP18/21	TP21_0.6	-0.6	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	-	<50	360	-	300	660	<10	<10	<50	<50	620	840	220	-	-	-	-	-	-	-	-	-
Lot 62	15	TP18/21	TP18/21_1.2	-1.2	6/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	15	TP18/21	TP18/21_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	<100	-	<100	<50	<10	<10	<50	<50	<100	<50	<100	-	-	-	-	-	-	-	-	-
Lot 62	15	TP18/21	TP18/21_2.37	2.37-2.37	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 58	15	TP18/30	TP18/30_0.3	0.3-0.3	5/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	180	-	220	400	<10	<10	<50	<50	310	480	170	<50	<50	<50	<50	<50	<100	<100	<100	<100
Lot 58	15	TP18/30	TP18/30_1.2	-1.2	5/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/30	TP18/30_1.2	1.2-1.2	5/02/2018	<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 58	15	TP18/30	TP18/30_2.4	-2.4	5/02/2018	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/30	TP18/30_2.4	2.4-2.4	5/02/2018	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 53	15	TP19/09	TP19/09_0.4	0.4-0.6	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 53	15	TP19/09	TP19/09_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 58	15	TP19/10	TP19/10_0.3	0.2-0.4	1/08/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	410	11,000	-	8500	19,910	<20	<20	960	960	16,000	21,660	4700	-	490	1000	22,690	-	13,000	19,000	9200	4200
Lot 53	15	TP19/11	TP19/11_0.4	0.3-0.5	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 53	15	TP19/12	D01_170719	0.1-0.3	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 53	15	TP19/12	T01_170719	0.1-0.3	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 53	15	TP19/12	TP19/12_0.1	0.1-0.3	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 53	15	TP19/12	TP19/12_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 58	15	TP19/13	TP19/13_0.1	0.1-0.3	24/07/2019	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	97	-	89	186	<20	<20	<50	<50	150	150	<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	<20	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 52	52	TP21/46	TP21/46_0.2	0.2	19/03/2021	<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 52	52	TP21/46	TP21/46_0.5	0.5	19/03/2021	<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	-	-	-	-	-	-	-	-	-

								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-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 >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
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					3500		10,000
Alternative_Name	**Monitoring_Zone**	**Location_Code**	**Field_ID**	**Sample_Depth_Range**	**Sampled_Date_Time**																															
Lot 53	53	TP21/06	TP21/06-0.3	0.3	8/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	83	-	77	160	<20	<20	<50	<50	130	130	<100	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 53	53	TP21/06	TP21/06-0.8	0.8	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 53	53	TP21/36	TP21/36_0.5	0.5	19/03/2021	<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 53	53	TP21/36	TP21/36_1.5	1.5	19/03/2021	<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 53	53	TP21/39	TP21/39_0.3	0.3	19/03/2021	<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 53	53	TP21/39	DUP09_210319	1.2	19/03/2021	<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 53	53	TP21/39	TP21/39_1.2	1.2	19/03/2021	<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 53	53	TP21/39	TRIP09_210319	1.2	19/03/2021	<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	<50	<50	<50	<50	<50	<100	<100	<100	<100
Lot 53	53	TP21/41	TP21/41_1.0	1	29/03/2021	<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 53	53	TP21/41	TP21/41_2.0	2	29/03/2021	<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 61	54	TP21/30	TP21/30-1.0	1	9/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	250	-	100	350	<20	<20	<50	<50	270	270	<100	-	<50	<50	220	-	220	270	<100	<100
Lot 61	54	TP21/30	TP21/30-2.1	2.1	9/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	130	-	61	191	<20	<20	<50	<50	150	150	<100	-	<50	<50	150	-	150	180	<100	<100
Lot 54	54	TP21/48	DUP11_210330	0.2	30/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	72	72	-	<50	144	<20	<20	92	92	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 54	54	TP21/48	TP21/48_0.2	0.2	30/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	600	510	-	<50	1110	<20	<20	890	890	190	1080	<100	-	440	610	790	-	350	140	<100	<100
Lot 54	54	TP21/48	TRIP 11_210330	0.2	30/03/2021	<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	<50	<50	<50	<50	<50	<100	<100	<100	<100
Lot 54	54	TP21/48	TP21/48_1.5	1.5	30/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	2.1	-	<20	29	91	-	<50	120	<20	<20	<50	<50	<100	<100	<100	-	59	100	169	-	110	<100	<100	<100
Lot 55	55	TP21/51	TP21/51_0.5	0.5	30/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	46	64	-	<50	110	<20	<20	53	53	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 55	55	TP21/51	TP21/51_1.5	1.5	30/03/2021	<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 55	55	TP21/53	TP21/53_0.5	0.5	30/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	48	700	-	120	868	<20	<20	210	210	560	920	150	-	60	210	810	-	600	590	150	150
Lot 55	55	TP21/53	TP21/53_1.5	1.5	30/03/2021	<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 56	56	TP21/55	TP21/55_0.6	0.6	30/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	36	420	-	130	586	<20	<20	68	68	430	498	<100	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 56	56	TP21/55	TP21/55_1.2	1.2	30/03/2021	<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 56	56	TP21/58	TP21/58_0.5	0.5	30/03/2021	<1	<1	<1	<1	<2	<3	-	<1 - 9.2	-	<200	1100	15,000	-	1100	17,200	<200	<200	3400	3390.8	<100	3850	450	-	640	1500	6810	-	5400	5500	770	350
Lot 56	56	TP21/58	TP21/58_1.2	1.2	30/03/2021	<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 56	56	TP21/60	TP21/60_1.0	1	29/03/2021	<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 56	56	TP21/60	DUP10-210329	2	29/03/2021	<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 56	56	TP21/60	TP21/60_2.0	2	29/03/2021	<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 56	56	TP21/60	TRIP10_210329	2	29/03/2021	<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 58	58	TP21/32	TP21/32_1.0	1	10/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 58	58	TP21/33	TP21/33_0.5	0.5	10/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<20	220	-	230	450	<20	<20	<50	<50	420	420	<100	-	<50	<50	360	-	200	320	160	<100
Lot 58	58	TP21/33	TP21/33_1.4	1.4	10/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<20	86	-	71	157	<20	<20	<50	<50	140	140	<100	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 58	58	TP21/34	TP21/34_0.4	0.4	10/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<20	87	-	96	183	<20	<20	<50	<50	150	150	<100	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 58	58	TP21/34	TP21/34_0.6	0.6	10/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	50	350	-	220	620	<20	<20	92	92	480	732	160	-	<50	57	310	-	200	270	110	<100
Lot 58	58	TP21/35	TP21/32_0.3	0.3	10/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	200	930	-	280	1410	<20	<20	430	430	950	1560	180	-	180	360	1110	-	740	650	190	<100
Lot 58	58	TP21/35	TP21/35_0.6	0.6	10/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<20	<50	-	57	57	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 58	58	TP21/35	DUP03_210310	1	10/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 58	58	TP21/35	TP21/35_1.0	1	10/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 58	58	TP21/35	TRIP03_210310	1	10/03/2021	<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 58	58	TP21/63	TP21/63_0.2	0.2	29/03/2021	<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 58	58	TP21/63	TP21/63_1.5	1.5	29/03/2021	<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	TP21/07	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

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									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-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 >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
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 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	
Road alignment	Road	TP21/94	TP21/94_0.2	0.2	17/03/2021	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	110	-	310	420	<20	<20	<50	<50	310	630	320	-	<50	<50	280	-	<100	270	280	270	
Road alignment	Road	TP21/94	TP21/94_0.6	0.6	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 64	4	TP19/83	TP19/83_1.0	0.9-1.1	20/11/2019	<0.1	0.4	0.2	1.4	1.1	2.5	-	4.1	-	25	2000	27,000	-	7200	36,200	52	49	3700	3695.9	28,000	33,400	1700	-	-	-	-	-	-	-	-	-	
Lot 64	4	TP19/83	TP19/83_3.0	2.9-3.1	20/11/2019	<0.1	2.8	0.3	0.8	1.3	2	-	2.2	-	40	710	9400	-	3600	13,710	70	65	1500	1497.8	11,000	13,800	1300	-	-	-	-	-	-	-	-	-	
Lot 64	4	TP19/84	TP19/84_1.0	0.9-1.1	20/11/2019	<1	2	1.6	4	<2	4	-	64	-	<200	2600	32,000	-	9200	43,800	<200	<200	4600	4536	35,000	41,500	1900	-	-	-	-	-	-	-	-	-	
Lot 64	4	TP19/84	TP19/84_2.0	1.9-2.1	20/11/2019	3.6	16	32	39	84	120	-	140	-	1800	51,000	92,000	-	14,000	157,000	3600	3400	72,000	71,860	66,000	143,900	5900	-	-	-	-	-	-	-	-	-	
Lot 64	4	TP19/85	TP19/85_1.0	0.9-1.1	20/11/2019	0.4	12	5.3	6.3	13	20	-	22	-	74	720	12,000	-	4600	17,320	130	93	1400	1378	14,000	17,100	1700	-	-	-	-	-	-	-	-	-	
Lot 64	4	TP19/85	TP19/85_2.0	1.9-2.1	20/11/2019	<0.1	0.5	0.4	1.1	1.5	2.6	-	2.8	-	37	4700	6200	-	1700	12,600	90	87	5900	5897.2	5500	12,400	1000	-	-	-	-	-	-	-	-	-	
Lot 64	4	TP19/85	TP19/85_3.0	2.9-3.1	20/11/2019	<0.1	0.2	0.6	<0.1	<0.2	<0.3	-	1.7	-	<20	370	1500	-	670	2540	45	44	580	578.3	1700	2650	370	-	-	-	-	-	-	-	-	-	
Lot 64	4	TP19/87	TP19/87_1.0	0.9-1.1	20/11/2019	<0.1	0.4	1.6	1.6	2.9	4.4	-	<1	-	440	2300	5000	-	1700	9000	750	740	3200	3200	4900	9030	930	-	-	-	-	-	-	-	-	-	
Lot 64	4	TP19/87	TP19/87_2.0	1.9-2.1	20/11/2019	<0.2	0.9	3.1	2.2	4	6.2	-	13	-	120	2800	3700	-	600	7100	330	320	3800	3787	2900	7090	390	-	-	-	-	-	-	-	-	-	
Lot 64	4	TP19/87	D03_20191120	2.9-3.1	20/11/2019	0.2	6.1	2.5	3.5	5.8	9.4	-	11	-	540	2800	16,000	-	4400	23,200	460	440	4300	4289	17,000	22,500	1200	-	-	-	-	-	-	-	-	-	
Lot 64	4	TP19/87	TP19/87_3.0	2.9-3.1	20/11/2019	<0.5	15	6.6	9.5	15	25	-	33	-	720	6600	23,000	-	5400	35,000	970	920	9200	9167	23,000	33,600	1400	-	-	-	-	-	-	-	-	-	
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	-	<0.5	-	<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 61	14	TP20/26a	TP20/26A_0.7	0.6-0.7	7/10/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	330	6800	-	2300	9430	<20	<20	640	640	8200	9680	840	-	-	-	-	-	-	-	-	-	
Lot 58	14	TP20/27	TP20/27_0.45	0.35-0.45	7/10/2020	<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 58	14	TP20/28	TP20/28_1.55	1.45-1.55	16/10/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5 - 1.7	-	470	2400	620	-	130	3150	1700	1700	2300	2300	460	2760	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lot 58	14	TP20/31	TP20/31_0.55	0.45-0.55	16/10/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	240	2400	-	1600	4240	<20	<20	600	600	3300	4820	920	-	-	-	-	-	-	-	-	-	
Statistical Summary																																						
Number of Results						545	545	545	530	530	514	242	547	232	298	506	458	76	458	504	450	450	444	441	444	387	444	38	206	206	206	38	254	206	254	206	
Number of Detects						23	43	61	57	61	73	33	114	47	39	184	236	36	203	268	103	103	173	170	228	203	140	21	75	87	114	22	122	108	90	50	
Minimum Concentration						<0.05	<0.05	<0.05	<0.1	<0.2	<0.05	<0.2	<0.1	<10	<10	<20	<50	160	<50	<50	<10	<10	<50	<50	<100	<50	<100	<50	<20	<50	<50	<50	<50	<100	<50	<100	
Minimum Detect						0.2	0.1	0.1	0.1	0.3	0.4	0.8	0.1	10	22	20	52	160	50	51	14	14	51	51	100	120	100	60	27	51	51	220	51	100	81	100	
Maximum Concentration						24	780	99	77	200	280	804.6	220	3270	3000	51000	110000	74000	27300	160000	5000	4500	72000	71860	110000	186000	15600	14900	30000	38000	76600	21900	38000	35000	13000	6600	
Maximum Detect						24	780	99	77	200	280	804.6	220	3270	3000	51000	110000	74000	27300	160000	5000	4500	72000	71860	110000	186000	15600	14900	30000	38000	76600	21900	38000	35000	13000	6600	
Average Concentration						0.24	2.4	0.82	0.73	1.7	2.4	5.7	2.6	51	63	793	2952	2756	949	4347	101	96	1303	1306	3236	5148	470	1080	617	894	2898	3017	1469	1740	548	245	
Median Concentration						0.1	0.25	0.25	0.25	0.25	0.25	0.1	0.25	5	10	25	77	100	50	125	10	10	25	25	120	150	50	75	25	25	150	325	50	120	50	50	
Standard Deviation						1.3	34	5.4	4.3	11	15	53	12	262	242	4248	10259	9962	3060	15616	403	379	6084	6096	10748	17388	1513	3007	2764	3648	8743	6378	4333	4760	1666	709	
Number of Guideline Exceedances						5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	15	76	5	66	0	2	0	0	29	0	0	0	24	0	0	
Number of Guideline Exceedances(Detects Only)						5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	15	76	5	66	0	2	0	0	29	0	0	0	24	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
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	24000	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 51	1	SB01	SB01_0.2-0.5	0.2-0.5	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	<10	<0.5	22	<1	22	<5	44	-	9	-	<0.1	<10	5.8	<2	-	<10	13
Lot 51	1	SB02	SB02_0.0-0.3	0-0.3	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.5	<10	<0.5	36	<1	36	<5	26	-	190	-	<0.1	<10	7.8	<2	-	<10	360
Lot 52	1	SB03	SB03_0.45-0.6	0.45-0.6	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.2	<10	<0.5	19	<1	19	<5	8.5	-	32	-	<0.1	<10	6.9	<2	-	<10	27
Lot 51	1	SB05	SB05_0.4-0.6	0.4-0.6	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.8	<10	<0.5	25	<1	25	<5	9.1	-	8	-	<0.1	<10	5.4	<2	-	<10	16
Lot 51	1	SB05	SB05_0.0-0.3	0-0.3	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	SB06	D091209-01	0.2-0.4	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	<10	<0.5	12	<1	12	6.6	21	-	16	-	<0.1	<10	16	<2	-	<10	56
Lot 51	1	SB06	SB06_0.2-0.9	0.2-0.4	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3	<10	<0.5	14	<1	14	7.9	22	-	21	-	<0.1	<10	15	<2	-	<10	58
Lot 51	1	SB07	D091208_02	0.1-0.3	9/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	45	-	-	-	11	19,700	-	39	<0.1	-	6	-	-	-	59
Lot 51	1	SB07	SB07_0.1-0.3	0.1-0.3	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.4	<10	<0.5	58	<1	58	<5	13	-	34	-	<0.1	<10	8.7	<2	-	<10	79
Lot 52	1	SB08	SB08_0.0-0.3	0-0.3	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	<10	<0.5	11	<1	11	<5	6.6	-	8.8	-	<0.1	<10	<5	<2	-	<10	16
Lot 51	1	SB09	SB09_0.4-0.7	0.4-0.7	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<10	<0.5	11	<1	11	<5	6.6	-	8.9	-	<0.1	<10	<5	<2	-	<10	14
Lot 52	1	SB10	SB10_0.2-0.5	0.2-0.5	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	<10	<0.5	1900	2.3	1900	13	8.6	-	13	-	<0.1	<10	32	<2	-	<10	44
Lot 52	1	SB11	SB11_0.15-0.25	0.15-0.25	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	<10	<0.5	1000	1.1	1000	6	13	-	48	-	<0.1	<10	15	<2	-	<10	45
Lot 52	1	SB12	SB12_0.35-0.5	0.35-0.5	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.7	<10	<0.5	19	<1	19	<5	12	-	28	-	<0.1	<10	7.4	<2	-	<10	75
Lot 52	1	SB13	SB13_0.15-0.3	0.15-0.3	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	<10	<0.5	52	<1	52	<5	14	-	52	-	<0.1	<10	5.8	<2	-	<10	91
Lot 52	1	SB14	SB14_0.1-0.5	0.1-0.5	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<10	<0.5	15	<1	15	<5	7.8	-	10	-	<0.1	<10	<5	<2	-	<10	25
Lot 52	1	SB15	SB15_0.0-0.5	0-0.5	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<10	<0.5	8.7	<1	8.7	<5	5.1	-	18	-	<0.1	<10	<5	<2	-	<10	16
Lot 52	1	TP18/28	TP18/28_0.3	0.3-0.3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	TP18/28	TP18/28_1.2	-1.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	<1	27	-	-	-	13	-	20	-	<0.1	-	5	-	-	-	15
Lot 52	1	TP18/28	TP18/28_1.2	1.2-1.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	TP18/28	TP18/28_2.2	-2.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	<1	17	-	-	-	16	-	17	-	<0.1	-	<2	-	-	-	7
Lot 52	1	TP18/28	TP18/28_2.2	2.2-2.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	TP18/28	TP18/28_3.0	3-3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	TP19/01	DOI_050819	0.7-0.9	5/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	<0.4	44	-	-	-	25	-	32	-	<0.1	-	5.4	-	-	-	15
Lot 51	1	TP19/01	TP19/01_0.8	0.7-0.9	5/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	<0.4	35	-	-	-	21	-	31	-	<0.1	-	<5	-	-	-	9.2
Lot 51	1	TP19/01	TP19/01_0.1	0-0.2	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6	-	<0.4	24	-	-	-	11	-	51	-	<0.1	-	6.4	-	-	-	90
Lot 51	1	TP19/04	TP19/04_0.1	0-0.2	5/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	2.8	52	-	-	-	82	-	97	-	0.2	-	78	-	-	-	480
Lot 51	1	TP19/05	TP19/05_0.2	0.1-0.3	5/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	-	<0.4	<5	-	-	-	<5	-	<5	-	<0.1	-	<5	-	-	-	<5
Lot 51	1	TP19/06	TP19/06_0.5	0.4-0.6	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	-	<0.4	2400	-	-	-	8.5	-	17	-	<0.1	-	58	-	-	-	62
Lot 51	1	TP19/06	TP19/06_1.0	0.9-1.1	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5	-	<0.4	150	-	-	-	14	-	19	-	<0.1	-	<5	-	-	-	14
Lot 53	1	TP19/08	TP19/08_1.0	0.9-1.1	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	-	<0.4	30	-	-	-	13	-	17	-	<0.1	-	8.1	-	-	-	18
Lot 53	1	TP19/08	TP19/08_0.1	0-0.2	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	-	<0.4	54	-	-	-	25	-	78	-	0.3	-	11	-	-	-	180
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	14	-	-	-	67	-	<5	-	<0.1	-	95	-	-	-	42
Lot 60	2	SB10B	SB10B_1.0	0.9-1.1	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	16	-	-	-	14	-	21	-	<0.1	-	2	-	-	-	5
Lot 60	2	SB7B	SB7B_1.0	0.9-1.1	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	<1	22	-	-	-	17	-	21	-	<0.1	-	2	-	-	-	6
Lot 60	2	SB7B	SB7B_2.0	1.9-2	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	7	-	-	-	10	-	14	-	<0.1	-	<2	-	-	-	8
Lot 60	2	SB8B	SB8B_0.2	0.2-0.4	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	10	-	-	-	98	-	14	-	<0.1	-	40	-	-	-	48
Lot 60	2	SB8B	SB8B_1.0	0.9-1.1	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	<1	18	-	-	-	23	-	39	-	0.1	-	5	-	-	-	46
Lot 60	2	SB9B	SB9B_1.0	0.9-1.1	1/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	<1	19	-	-	-	32	-	166	-	0.1	-	12	-	-	-	87
Lot 60	2	SB9B	SB9B_2.0	1.9-2	1/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	18	-	-	-	9	-	28	-	<0.1	-	7	-	-	-	40
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	<1	50	<0.5	50	-	24	-	163	-	<0.1	-	15	-	-	-	101
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	6	-	-	-	8	-	10	-	<0.1	-	<2	-	-	-	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	-	<0.4	19	-	-	-	9.6	-	18	-	<0.1	-	<5	-	-	-	7
Lot 60	2	TP19/14	TP19/14_3.0	2.9-3.1	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.5	-	<0.4	13	-	-	-	14	-	14	-	<0.1	-	<5	-	-	-	13
Lot 60	2	TP19/15	TP19/15_0.8	0.7-0.9	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.7	-	<0.4	16	-	-	-	28	-	140	-	<0.1	-	8.8	-	-	-	210
Lot 60	2	TP19/15	TP19/15_2.0	1.9-2.1	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1	-	<0.4	27	-	-	-	15	-	18	-	<0.1	-	<5	-	-	-	17

						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	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	24000	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 61	3	MW11/18	MW11/18_0.3	0.3-0.3	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	0.1	13	<1	13	-	51	-	8.6	-	<0.05	-	36	-	-	-	24
Lot 61	3	MW11/18	MW11/18_3.2	3.2-3.2	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	-	<0.1	3.8	<1	<5	-	6.3	-	7	-	<0.05	-	<1	-	-	-	<5
Lot 63	3	MW11/19	D_230911_01	0.4-0.4	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	2.8	<1	<5	-	17	-	14	-	<0.05	-	3.5	-	-	-	10
Lot 63	3	MW11/19	MW11/19_0.4	0.4-0.4	23/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	3.3	<1	<5	-	14	-	12	-	<0.05	-	3.2	-	-	-	8.5
Lot 63	3	MW11/19	MW11/19_2.3	2.3-2.3	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	0.1	<2	<1	<5	-	41	-	6.6	-	<0.05	-	7.5	-	-	-	14
Lot 62	3	MW11/20	MW11/20_0.2	0.2-0.2	23/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	<2	<1	<5	-	11	-	12	-	<0.05	-	2.2	-	-	-	5.4
Lot 62	3	MW11/20	MW11/20_5.0	5-5	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	<2	<1	<5	-	5.7	-	2.2	-	<0.05	-	<1	-	-	-	<5
Lot 63	3	MW12/03	MW12/03_1.0	1-1	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.1	-	<0.1	15	-	-	-	9.7	-	19	-	<0.05	-	1.4	-	-	-	13
Lot 63	3	MW12/03	MW12/03_3.3	3.3-3.3	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	3	SB18/24	MW(SB)18/24_0.3_180209	0.3-0.3	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	3	SB18/24	MW(SB)18/24_1.2_180209	1.2-1.2	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	3	SB18/24	MW(SB)18/24_3.0_180209	3-3	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	3	SB1B	SB1B_0.5	0.4-0.6	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	<1	25	-	-	-	14	-	22	-	<0.1	-	2	-	-	-	11
Lot 60	3	SB1B	SB1B_2.0	1.9-2	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	7	-	-	-	14	-	14	-	<0.1	-	<2	-	-	-	8
Lot 60	3	SB1B	T02_020218	1.9-2	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<4	-	<0.4	5	-	-	-	12	-	12	-	<0.1	-	1	-	-	-	5
Lot 63	3	SB2B	D02_020218	0.9-1.1	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	<1	26	-	-	-	10	-	23	-	<0.1	-	4	-	-	-	19
Lot 63	3	SB2B	SB2B_1.0	0.9-1.1	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	<1	22	-	-	-	10	-	20	-	<0.1	-	4	-	-	-	18
Lot 63	3	SB2B	SB2B_2.0	1.9-2	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	<1	14	-	-	-	16	-	19	-	<0.1	-	<2	-	-	-	5
Lot 63	3	SB3B	SB3B_0.2	0.2-0.4	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	13	-	-	-	52	-	60	-	<0.1	-	60	-	-	-	133
Lot 63	3	SB3B	SB3B_1.0	0.9-1.1	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	12	-	-	-	10	-	17	-	<0.1	-	<2	-	-	-	<5
Lot 63	3	SB3B	SB3B_2.0	1.9-2	2/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	6	-	-	-	9	-	15	-	<0.1	-	<2	-	-	-	6
Lot 63	3	SB4B	SB4B_0.2	0.2-0.4	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	<1	43	-	-	-	58	-	87	-	0.3	-	77	-	-	-	318
Lot 63	3	SB4B	SB4B_2.0	1.9-2	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	<1	23	-	-	-	10	-	16	-	<0.1	-	<2	-	-	-	9
Lot 60	3	TP18/18	TP18/18_0.3	-0.3	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	4	-	-	-	<5	-	8	-	<0.1	-	<2	-	-	-	36
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	<1	28	-	-	-	18	-	23	-	<0.1	-	5	-	-	-	23
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 62	3	TP18/20	TP18/20_0.45_20180208	-0.45	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	4	-	-	-	<5	-	5	-	<0.1	-	<2	-	-	-	<5
Lot 62	3	TP18/20	TP18/20_0.45_20180208	0.45-0.45	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	TP18/20	TP18/20_0.7_20180208	0.7-0.7	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	TP18/20	TP18/20_1.2_20180208	-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	<1	15	-	-	-	14	-	16	-	<0.1	-	<2	-	-	-	6
Lot 62	3	TP18/20	TP18/20_1.2_20180208	1.2-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	TP18/20	TP18/20_2.3_20180208	2.3-2.3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	TP18/22	TP18/22_0.3	-0.3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	<1	39	-	-	-	24	-	23	-	<0.1	-	7	-	-	-	35
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	15	-	-	-	14	-	14	-	<0.1	-	2	-	-	-	7
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 62	3	TP19/27	TP19/27_0.6	0.5-0.7	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	7.7	-	-	-	5.9	-	11	-	<0.1	-	<5	-	-	-	13
Lot 62	3	TP19/27	TP19/27_1.5	1.4-1.6	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	10	-	-	-	9.5	-	8.9	-	<0.1	-	<5	-	-	-	12
Lot 62	3	TP19/32	TP19/32_1.0	0.9-1.1	23/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	-	<0.4	13	-	-	-	<5	-	11	-	<0.1	-	<5	-	-	-	7.2
Lot 62	3	TP19/32	TP19/32_0.1	0-0.2	23/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.6	-	0.5	27	-	-	-	29	-	47	-	1.8	-	19	-	-	-	230
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

						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
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	24000	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 64	4	MW12/01	MW12/01_0.15	0.15-0.15	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW12/01	MW12/01_2.5	2.5-2.5	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	-	0.3	170	-	-	-	22	-	300	-	0.65	-	17	-	-	-	65
Lot 64	4	MW12/01	MW12/01_2.0	2-2	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.4	-	1.8	3000	<1	3000	-	150	-	300	-	0.56	-	110	-	-	-	2100
Lot 64	4	MW12/20	MW12/20_0.4	0.4-0.4	6/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	0.2	17	-	-	-	25	-	37	-	0.22	-	26	-	-	-	100
Lot 64	4	MW12/20	MW12/20_2.4	2.4-2.4	6/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW12/20	MW12/20_2.0	2-2	6/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	-	<0.1	18	-	-	-	17	-	65	-	<0.05	-	5.9	-	-	-	94
Lot 62	4	MW12/21	MW12/21_0.5	0.5-0.5	7/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21_1.4	1.4-1.4	7/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	-	4.9	520	<1	520	-	140	-	440	-	0.99	-	35	-	-	-	820
Lot 62	4	MW12/21	MW12/21_2.4	2.4-2.4	7/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	<0.1	7.9	-	-	-	5.3	-	6.5	-	<0.05	-	3.2	-	-	-	13
Lot 62	4	MW12/21	MW12/21_3.5	3.5-3.5	7/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/03	MW20/03_0.8	0.7-0.9	13/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/03	MW20/03_3.0	2.9-3.1	13/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/03	MW20/03_6.0	5.9-6.1	13/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/04	MW20/04_1.0	0.9-1.1	13/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/04	MW20/04_3.5	3.4-3.6	13/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/04	MW20/04_4.5	4.4-4.6	13/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/05	MW20/05_3.5	3.4-3.6	13/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/06	MW20/06_6.0	5.8-6	14/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/07	MW20/07_6.0	5.8-6	14/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/13	D01_20200714		14/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/13	MW20/13_6.0	5.8-6	14/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/13	T01_20200714	5.8-6	14/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/17	MW20/17_3.0	2.9-3.1	9/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	SB18/23	MW(SB)18/23_0.3_20180208	0.3-0.3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	SB18/23	MW(SB)18/23_1.2_20180208	-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	<0.5	12	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	SB18/23	MW(SB)18/23_1.2_20180208	1.2-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	SB18/23	MW(SB)18/23_3.0_20180208	3-3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	SB5B	SB5B_1.0	0.9-1.1	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	37,800	-	-	-	41	-	154	-	0.2	-	576	-	-	-	1410
Lot 64	4	SB5B	T03_050218	0.9-1.1	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<4	-	<0.4	26,000	-	-	-	19	-	350	-	0.3	-	430	-	-	-	510
Lot 64	4	SB5B	SB5B_4.0	3.9-4	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	2	160	-	-	-	63	-	340	-	0.5	-	12	-	-	-	1530
Road alignment	4	TP18/26	TP18/26_0.3	-0.3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	40	-	-	-	104	-	93	-	<0.1	-	34	-	-	-	318
Road alignment	4	TP18/26	TP18/26_0.3	0.3-0.3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	TP18/26	TP18/26_1.2	-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	16	<0.5	16	-	12	-	14	-	<0.1	-	2	-	-	-	10
Road alignment	4	TP18/26	TP18/26_1.2	1.2-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	TP18/26	TP18/26_1.7	1.7-1.7	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	TP18/27_0.3	0.3-0.3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	QC18_102	1.2-1.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	TP18/27_1.2	1.2-1.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	TP18/27_1.8	-1.8	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	1	805	3.2	802	-	78	-	102	-	0.2	-	57	-	-	-	380
Lot 64	4	TP18/27	TP18/27_1.8	1.8-1.8	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	QC18_103	3-3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	TP18/27_3.0	3-3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/19	TP19/19_0.6	0.5-0.7	16/07/2019	8.6	<50	1100	9200	19,000	14,000	19,000	-	27	140	1200	7900	9800	15,000	11	-	1.1	350	-	-	-	260	-	180	-	5.3	-	30	-	-	-	430
Lot 64	4	TP19/19	TP19/19_2.0	1.9-2.1	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.2	-	<0.4	400	-	-	-	39	-	86	-	0.3	-	30	-	-	-	170
Lot 64	4	TP19/20	D02_160719	0.3-0.5	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	-	<0.4	59	-	-	-	86	-	39	-	<0.1	-	12	-	-	-	79
Lot 64	4	TP19/20	T02_160719	0.3-0.5	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	36	-	-	-	64	-	48	-	<0.1	-	13	-	-	-	99
Lot 64	4	TP19/20	TP19/20_0.4	0.3-0.5	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6	-	<0.4	32	-	-	-	17	-	46	-	0.2	-	5.4	-	-	-	130
Lot 64	4	TP19/20	D01_150719	0-0.2	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	36	-	-	-	120	-	13	-	<0.1	-	16	-	-	-	55
Lot 64	4	TP19/20	D01_160719	0-0.2	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/20	T01_160719	0-0.2	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	51	-	-	-	110	-	13	-	<0.1	-	17	-	-	-	51
Lot 64	4	TP19/20	TP19/20_0.1	0-0.2	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	17	-	-	-	61	-	10	-	<0.1	-	10	-	-	-	39
Lot 64	4	TP19/21	TP19/21_2.8	2.7-2.9	16/07/2019	<0.4	<40	490	180	330	290	330	-	0.8	40	27	240	220	230	4.3	-	0.7	170	-	-	-	67	-	84	-	1.2	-	38	-	-	-	200
Lot 64	4	TP19/21	TP19/21_4.0	3.9-4.1	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.4	-	<0.4	850	-	-	-	24	-	140	-	0.6	-	35	-	-	-	140
Lot 64	4	TP19/22	TP19/22_0.5	0.4-0.6	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	18	-	-	-	73	-	10	-	<0.1	-	64	-	-	-	60

								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
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	24000	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 64	4	TP19/22	TP19/22_1.2	1.1-1.3	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8	-	<0.4	20	-	-	-	11	-	15	-	<0.1	-	<5	-	-	-	13
Lot 64	4	TP19/23	D01_150719	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.9	-	0.8	580	-	-	-	120	-	230	-	0.3	-	180	-	-	-	650
Lot 64	4	TP19/23	T01_150719	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	<1	560	-	-	-	116	-	294	-	0.2	-	192	-	-	-	614
Lot 64	4	TP19/23	TP19/23_1.5	1.4-1.6	15/07/2019	3.6	<100	330	1300	2700	3800	12,000	-	66	140	530	3200	10,000	32,000	5.7	-	1	1000	-	-	-	140	-	210	-	0.4	-	180	-	-	-	720
Lot 64	4	TP19/23	TP19/23_3.5	3.4-3.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.3	-	<0.4	29	-	-	-	19	-	21	-	<0.1	-	6.7	-	-	-	25
Lot 64	4	TP19/24	TP19/24_1.5	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	<0.4	960	-	-	-	53	-	110	-	0.2	-	78	-	-	-	290
Lot 64	4	TP19/24	TP19/24_3.0	2.9-3.1	15/07/2019	<0.5	<50	200	2400	3500	2000	910	-	0.8	14	240	1800	1200	460	7.7	-	0.9	40	-	-	-	110	-	65	-	<0.1	-	30	-	-	-	120
Lot 64	4	TP19/24	TP19/24_4.2	4.1-4.3	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	<0.4	26	-	-	-	21	-	25	-	<0.1	-	6.6	-	-	-	55
Lot 64	4	TP19/25	TP19/25_0.5	0.4-0.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.8	-	<0.4	190	-	-	-	47	-	53	-	0.1	-	47	-	-	-	170
Lot 64	4	TP19/25	TP19/25_1.3	1.2-1.4	15/07/2019	<1	<100	360	1200	2400	2500	6600	-	100	95	130	1700	4500	13,000	8.2	-	1.2	1200	-	-	-	190	-	430	-	0.5	-	470	-	-	-	1200
Lot 62	4	TP19/28	TP19/28_1.0	0.9-1.1	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.4	-	<0.4	50	-	-	-	30	-	51	-	<0.1	-	26	-	-	-	69
Lot 62	4	TP19/28	D01_190719	0-0.2	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	1.3	1100	-	-	-	110	-	250	-	0.9	-	94	-	-	-	700
Lot 62	4	TP19/28	T01_190719	0-0.2	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	<1	29	-	-	-	10	-	17	-	<0.1	-	4	-	-	-	8
Lot 62	4	TP19/28	TP19/28_0.1	0-0.2	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	1.3	1200	-	-	-	110	-	220	-	0.9	-	91	-	-	-	750
Lot 62	4	TP19/29	TP19/29_1.8	1.7-1.9	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	-	<0.4	60	-	-	-	31	-	61	-	0.5	-	20	-	-	-	100
Lot 62	4	TP19/29	TP19/29_2.2	2.1-2.3	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	-	<0.4	28	-	-	-	24	-	41	-	<0.1	-	7.3	-	-	-	49
Lot 62	4	TP19/30	D01_220719	0.3-0.5	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	-	<0.4	7	-	-	-	7.6	-	19	-	<0.1	-	<5	-	-	-	18
Lot 62	4	TP19/30	T01_220719	0.3-0.5	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	5	-	-	-	<5	-	11	-	<0.1	-	<2	-	-	-	13
Lot 62	4	TP19/30	TP19/30_0.4	0.3-0.5	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	-	<0.4	15	-	-	-	8.3	-	20	-	<0.1	-	6.4	-	-	-	24
Lot 62	4	TP19/30	TP19/30_1.2	1.1-1.3	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	5.5	-	-	-	7.3	-	11	-	<0.1	-	<5	-	-	-	<5
Lot 64	4	TP19/74	TP19/74_1.5	1.4-1.6	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	-	<0.4	79	-	-	-	23	-	27	-	<0.1	-	43	-	-	-	99
Lot 64	4	TP19/74	TP19/74_2.5	2.4-2.6	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.8	-	<0.4	9.8	-	-	-	6.2	-	11	-	<0.1	-	<5	-	-	-	7
Lot 64	4	TP19/75	TP19/75_1.5	1.4-1.6	19/07/2019	<0.2	<20	310	820	1700	1500	2100	-	1.1	6.3	83	510	740	1500	7.2	-	0.5	110	-	-	-	410	-	130	-	2.7	-	25	-	-	-	220
Lot 64	4	TP19/75	TP19/75_3.0	2.9-3.1	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	<0.4	12	-	-	-	5	-	14	-	<0.1	-	<5	-	-	-	24
Lot 64	4	TP19/76	TP19/76_1.5	1.4-1.6	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	<0.4	57	-	-	-	15	-	21	-	<0.1	-	16	-	-	-	50
Lot 64	4	TP19/76	TP19/76_2.2	2.1-2.3	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.2	-	0.7	48	-	-	-	47	-	220	-	0.2	-	25	-	-	-	220
Lot 64	4	TP19/77	D02_150719	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.9	-	0.4	380	-	-	-	63	-	210	-	0.2	-	92	-	-	-	180
Lot 64	4	TP19/77	T02_150719	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	-	<1	69	-	-	-	70	-	203	-	<0.1	-	108	-	-	-	139
Lot 64	4	TP19/77	TP19/77_1.5	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	-	<0.4	39	-	-	-	57	-	160	-	<0.1	-	88	-	-	-	95
Lot 64	4	TP19/77	TP19/77_4.0	3.9-4.1	15/07/2019	24	1000	2300	16,000	27,000	19,000	22,000	-	75	550	2200	11,000	12,000	23,000	10	-	1.1	540	-	-	-	280	-	170	-	6.2	-	43	-	-	-	660
Lot 61	5	MW11/16	MW11/16_0.45	0.45-0.45	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	<0.1	8.8	<1	8.8	-	<2	-	11	-	<0.05	-	<1	-	-	-	<5
Lot 61	5	MW11/16	MW11/16_3.3	3.3-3.3	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	<0.1	<2	<1	<5	-	5.8	-	4.4	-	<0.05	-	<1	-	-	-	<5
Lot 61	5	MW11/17	D_220911_01	1-1	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	-	<0.1	5.3	<1	5.3	-	5.1	-	8.8	-	<0.05	-	<1	-	-	-	<5
Lot 61	5	MW11/17	MW11/17_1.0	1-1	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	2.6	<1	<5	-	3.5	-	5.5	-	<0.05	-	<1	-	-	-	<5
Lot 61	5	MW11/17	T-220911-01	1-1	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	<1	10	<0.5	10	-	12	-	10	-	<0.1	-	<2	-	-	-	5
Lot 61	5	MW11/17	MW11/17_2.5	2.5-2.5	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	<2	<1	<5	-	3.2	-	5	-	<0.05	-	<1	-	-	-	<5
Lot 61	5	TP19/39	TP19/39_0.2	0.1-0.3	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	<5	-	-	-	<5	-	<5	-	<0.1	-	<5	-	-	-	13
Lot 61	5	TP19/39	TP19/39_0.4	0.3-0.5	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	29	-	-	-	56	-	<5	-	<0.1	-	150	-	-	-	69
Lot 61	5	TP19/40	TP19/40_0.1	0.1-0.3	30/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8	-	0.8	75	-	-	-	39	-	130	-	1.4	-	42	-	-	-	4100
Lot 61	5	TP19/40	TP19/40_0.2	0.1-0.3	30/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/40	TP19/40_0.2	1.9-2.1	30/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.4	-	<0.4	21	-	-	-	17	-	18	-	<0.1	-	<5	-	-	-	19
Lot 61	5	TP19/41	D01_290719	0.1-0.3	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	8.7	-	-	-	<5	-	5.4	-	<0.1	-	8.6	-	-	-	200
Lot 61	5	TP19/41	TO1_290719	0.1-0.3	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	6	-	-	-	<5	-	<5	-	0.2	-	7	-	-	-	231
Lot 61	5	TP19/41	TP19/41_0.2	0.1-0.3	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	9.2	-	-	-	5.3	-	<5	-	<0.1	-	11	-	-	-	350
Lot 61	5	TP19/41	TP19/41_0.4	0.3-0.5	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	46	-	-	-	60	-	<5	-	<0.1	-	220	-	-	-	87
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
Lot 56	11	BH11/01	BH11|01-0.1	0.1-0.2	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/01	BH11|01-0.8	0.8-0.9	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	7.6	-	-	-	4.1	-	9.3	-	<0.05	<1	3	<2	<0.1	<1	5.4
Lot 56	11	BH11/01	DUP_01	0.8-0.9	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/01	BH11|01-1.5	1.5-1.6	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/02	BH11|02-0.1	0.1-0.2	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/02	BH11|02-1.4	1.4-1.5	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	<0.1	7.7	-	-	-	12	-	11	-	<0.05	<1	<1	<2	<0.1	<1	<5
Lot 56	11	BH11/03	BH11|03-0.1	0.1-0.2	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/03	BH11|03-1.5	1.5-1.6	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

						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
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	24000	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 56	11	BH11/04	BH11|04-0.1	0.1-0.2	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/04	BH11|04-1.7	1.7-1.8	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/04	BH11|04-1.0	1-1.1	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/05	BH11|05-0.1	0.1-0.2	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	<0.1	3.7	-	-	-	<2	-	3	-	<0.05	<1	<1	<2	<0.1	<1	<5
Lot 56	11	BH11/05	BH11|05-1.5	1.5-1.6	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/05	BH11|05-1.0	1-1.1	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/06	BH11|06-0.1	0.1-0.2	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/06	BH11|06-1.0	1-1.1	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH12/29	D_140312_02	-0.65	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	<0.1	16	-	-	-	6.5	-	4.2	-	<0.05	-	1.2	-	-	-	<5
Lot 56	11	BH12/29	T-140312-01	-0.65	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	<1	22	-	-	-	17	-	36	-	0.1	-	2	-	-	-	136
Lot 56	11	BH12/29	BH12/29_0.65	0.65-0.65	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	-	<0.1	6.4	<1	5.4	-	9	-	12	-	<0.05	-	1.1	-	-	-	6.6
Lot 56	11	BH12/29	BH12/29_1.3	1.3-1.3	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.6	-	<0.1	17	-	-	-	7.3	-	13	-	<0.05	-	1.5	-	-	-	14
Lot 55	11	BH12/30	BH12/30_0.25	0.25-0.25	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	-	<0.1	8.5	-	-	-	13	-	11	-	<0.05	-	<1	-	-	-	7.1
Lot 55	11	BH12/30	BH12/30_1.3	1.3-1.3	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.8	-	0.2	26	-	-	-	52	-	46	-	<0.05	-	5.3	-	-	-	540
Lot 54	11	BH12/31	BH12/31_0.1	0.1-0.1	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 54	11	BH12/31	BH12/31_0.4	0.4-0.4	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	-	0.6	13	-	-	-	76	-	50	-	0.11	-	4.7	-	-	-	180
Lot 54	11	BH12/31	BH12/31_1.4	1.4-1.4	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	-	0.1	16	-	-	-	62	-	50	-	<0.05	-	2.8	-	-	-	280
Lot 54	11	BH12/32	BH12/32_0.2	0.2-0.2	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	0.6	40	<1	33	-	140	-	160	-	<0.05	-	110	-	-	-	1100
Lot 54	11	BH12/32	BH12/32_1.2	1.2-1.2	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	-	<0.1	13	-	-	-	18	-	20	-	<0.05	-	3.1	-	-	-	5.5
Lot 55	11	BH12/33	BH12/33_0.2	0.2-0.2	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	0.2	24	-	-	-	21	-	520	-	0.07	-	5.5	-	-	-	220
Lot 55	11	BH12/33	BH12/33_0.6	0.6-0.6	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.9	-	<0.1	18	-	-	-	12	-	39	-	<0.05	-	3.8	-	-	-	62
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 54	11	BH12/36	BH12/36_0.7	0.7-0.7	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	<0.1	18	-	-	-	10	-	30	-	<0.05	-	2	-	-	-	33
Lot 54	11	BH12/36	BH12/36_1.3	1.3-1.3	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	-	<0.1	7.7	-	-	-	10	-	11	-	<0.05	-	<1	-	-	-	<5
Lot 54	11	HA19/03	HA19/03_0.8	0.7-0.9	31/07/2019	<0.1	<10	<10	11	41	37	18	-	<0.1	<1	<10	28	57	35	12	-	<0.4	35	-	-	-	19	-	29	-	<0.1	-	<5	-	-	-	15
Lot 54	11	HA19/03	HA19/03_1.5	1.4-1.6	31/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	<0.4	26	-	-	-	27	-	38	-	<0.1	-	<5	-	-	-	66
Lot 54	11	HA19/04	HA19/04_0.4	0.3-0.5	31/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 54	11	HA19/04	HA19/04_0.4	0.4-0.6	31/07/2019	<0.1	<10	190	430	1100	590	380	-	<0.1	<1	10	240	250	280	5.4	-	<0.4	29	-	-	-	14	-	30	-	<0.1	-	8.4	-	-	-	49
Lot 54	11	HA19/04	HA19/04_1.0	0.9-1.1	31/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.9	-	<0.4	22	-	-	-	20	-	21	-	<0.1	-	<5	-	-	-	13
Lot 55	11	HA19/05	HA19/05_0.3	0.2-0.4	31/07/2019	<0.1	<10	<10	640	540	<10	<10	-	<0.1	<1	<10	40	<10	<10	7.2	-	<0.4	37	-	-	-	48	-	72	-	<0.1	-	14	-	-	-	390
Lot 55	11	HA19/05	HA19/05_0.05	0-0.1	31/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	1.6	150	-	-	-	400	-	650	-	<0.1	-	100	-	-	-	4200
Lot 55	11	HA19/06	HA19/06_1.0	0.9-1.1	1/08/2019	<0.1	<10	<10	<10	<10	<10	<10	-	<0.1	<1	<10	<10	<10	<10	17	-	<0.4	32	-	-	-	24	-	82	-	<0.1	-	<5	-	-	-	52
Lot 55	11	HA19/06	HA19/06_2.2	2.1-2.3	1/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.4	-	<0.4	21	-	-	-	38	-	82	-	<0.1	-	6.6	-	-	-	210
Lot 54	11	HA19/07	HA19/07_0.3	0.2-0.4	2/08/2019	<0.1	<10	<10	<10	<10	47	110	-	<0.1	<1	<10	<10	11	33	6.1	-	<0.4	26	-	-	-	16	-	23	-	<0.1	-	5	-	-	-	89
Lot 54	11	HA19/07	HA19/07_0.05	0-0.1	2/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.6	-	2.2	240	-	-	-	1000	-	660	-	1	-	35	-	-	-	3000
Lot 55	11	HA19/08	HA19/08_0.8	0.7-0.9	2/08/2019	<0.4	<40	<40	63	140	94	59	-	<0.4	<4	37	160	270	170	16	-	<0.4	37	-	-	-	33	-	34	-	<0.1	-	<5	-	-	-	99
Lot 55	11	HA19/08	HA19/08_1.2	1.1-1.3	2/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	11	-	-	-	13	-	17	-	<0.1	-	<5	-	-	-	18
Lot 55	11	HA19/09	HA19/09_0.8	0.7-0.9	2/08/2019	<0.1	<10	<10	310	4300	4000	830	-	<0.1	<1	21	380	800	310	6.9	-	<0.4	37	-	-	-	15	-	22	-	<0.1	-	9.3	-	-	-	28
Lot 55	11	HA19/09	HA19/09_1.4	1.3-1.5	2/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	<0.4	19	-	-	-	17	-	18	-	<0.1	-	<5	-	-	-	14
Road alignment	11	HA19/10	HA19/10_0.2	0.1-0.3	2/08/2019	<0.1	<10	<10	<10	<10	<10	<10	-	<0.1	<1	<10	<10	<10	<10	4.8	-	1.3	94	-	-	-	390	-	380	-	1	-	29	-	-	-	3200
Road alignment	11	HA19/10	HA19/10_0.05	0-0.1	2/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2	-	9.9	450	-	-	-	2700	-	1800	-	3.8	-	130	-	-	-	22,000
Lot 56	11	MW11/02	MW11/02_0.5	0.5-0.5	19/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	<0.1	8.2	<1	8.2	-	26	-	8.6	-	<0.05	-	27	-	-	-	13
Lot 56	11	MW11/02	MW11/02_2.3	2.3-2.3	19/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	-	<0.1	8	<1	8	-	9.5	-	7.8	-	<0.05	-	<1	-	-	-	<5
Lot 55	11	MW11/03	MW11/03_0.8	0.8	6/10/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	-	<0.1	50	<1	50	-	17	-	26	-	<0.05	-	9.1	-	-	-	17
Lot 55	11	MW11/03	D_061011_02	3	6/10/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	<0.1	11	1.1	10	-	14	-	7.8	-	<0.05	-	1.7	-	-	-	9.7

								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
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	24000	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 55	11	MW11/03	MW11/03_3.0	3	6/10/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	<0.1	16	1.9	14	-	7.5	-	9.9	-	<0.05	-	3.1	-	-	-	9.5
Lot 55	11	MW11/03	MW11/03_5.8	5.8	6/10/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	<0.1	20	1	19	-	9.3	-	10	-	<0.05	-	3.5	-	-	-	19
Lot 56	11	MW11/04	MW11/04_1.0	1-1	20/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	-	<0.1	4.4	<1	<5	-	2.1	-	15	-	<0.05	-	<1	-	-	-	19
Lot 56	11	MW11/04	MW11/04_2.0	2-2	21/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	<0.1	5.2	<1	5.2	-	5.6	-	6.1	-	<0.05	-	<1	-	-	-	8.4
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 55	11	SB18/13	SB18/13_0.3_20180214	-0.3	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	<1	18	-	-	-	18	-	123	-	<0.1	-	4	-	-	-	38
Lot 55	11	SB18/13	SB18/13_0.3_20180214	0.3-0.3	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	11	SB18/13	SB18/13_0.9_20180214	-0.9	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	<1	30	-	-	-	169	-	316	-	<0.1	-	5	-	-	-	1660
Lot 55	11	SB18/13	SB18/13_0.9_20182014	0.9-0.9	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	11	SB18/14	SB18/14_0.3_2018	-0.3	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	<1	40	-	-	-	145	-	279	-	<0.1	-	9	-	-	-	1750
Road alignment	11	SB18/14	SB18/14_0.3_180209	0.3-0.3	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	11	SB18/14	SB18/14_1.2_20180209	-1.2	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	7	-	-	-	20	-	28	-	<0.1	-	<2	-	-	-	106
Road alignment	11	SB18/14	SB18/14_1.2_180209	1.2-1.2	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	11	SB18/14	SB18/14_2.4_180209	2.4-2.4	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 56	11	TP18/33	TP18/33_0.3_20180208	0.3-0.3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	TP18/33	TP18/33_1.2_20180208	-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	<1	19	-	-	-	17	-	20	-	<0.1	-	<2	-	-	-	7
Lot 56	11	TP18/33	TP18/33_1.2_20180208	1.2-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	TP18/33	TP18/33_3.0_20180208	-3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	6	-	-	-	10	-	12	-	<0.1	-	<2	-	-	-	6
Lot 56	11	TP18/33	TP18/33_3.0_20180208	3-3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	TP19/79	TP19/79_0.3	0.2-0.35	26/07/2019	<0.1	<10	<10	44	440	310	500	-	<0.1	<1	27	370	330	590	3.2	-	<0.4	32	-	-	-	34	-	48	-	<0.1	-	17	-	-	-	290
Lot 56	11	TP19/79	TP19/79_1.2	1.1-1.3	26/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.8	-	<0.4	19	-	-	-	14	-	13	-	<0.1	-	<5	-	-	-	11
Lot 58	11	TP19/80	TP19/80_0.5	0.5-0.6	26/07/2019	<0.1	<10	<10	<10	<10	<10	<10	-	<0.1	<1	<10	<10	<10	<10	<2	-	<0.4	<5	-	-	-	<5	-	5.1	-	<0.1	-	<5	-	-	-	<5
Lot 62	13	TP19/50	TP19/50_0.1	0-0.2	26/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	0.5	43	-	-	-	75	-	62	-	<0.1	-	96	-	-	-	320
Lot 58	13	TP19/54	TP19/54_0.1	0-0.2	1/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 62	14	TP19/36	TP19/36_0.4	0.3-0.5	30/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	-	<0.4	<5	-	-	-	9.1	-	27	-	<0.1	-	<5	-	-	-	16
Lot 62	14	TP19/36	TP19/36_1.6	1.4-1.6	30/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	<0.4	26	-	-	-	23	-	18	-	<0.1	-	<5	-	-	-	16
Lot 58	15	BH12/28	D_160312_02	-0.05	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	-	0.3	32	-	-	-	59	-	65	-	0.48	-	41	-	-	-	350
Lot 58	15	BH12/28	T-160312-01	-0.05	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	<1	48	-	-	-	70	-	62	-	0.3	-	58	-	-	-	511
Lot 58	15	BH12/28	BH12/28_0.05	0.05-0.05	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	0.4	46	-	-	-	63	-	60	-	0.15	-	55	-	-	-	570
Lot 58	15	BH12/28	BH12/28_1.4	1.4-1.4	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	-	<0.1	11	-	-	-	14	-	13	-	<0.05	-	2.3	-	-	-	16
Lot 61	15	BH12/38	D_160312_01	-1	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.8	-	<0.1	26	-	-	-	19	-	17	-	<0.05	-	6.4	-	-	-	20
Lot 61	15	BH12/38	BH12/38_1.4	1.4-1.4	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1	-	<0.1	11	-	-	-	21	-	16	-	<0.05	-	2	-	-	-	13
Lot 61	15	BH12/38	BH12/38_1.0	1-1	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.4	-	<0.1	24	-	-	-	18	-	20	-	<0.05	-	12	-	-	-	22
Lot 61	15	BH12/39	BH12/39_0.25	0.25-0.25	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	0.5	43	-	-	-	150	-	200	-	0.23	-	59	-	-	-	1500
Lot 61	15	BH12/39	BH12/39_1.1	1.1-1.1	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3	-	<0.1	18	-	-	-	12	-	17	-	<0.05	-	1.8	-	-	-	13
Road alignment	15	MW11/01	MW11/01_0.2	0.2-0.2	23/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	0.1	<2	<1	<5	-	120	-	3.8	-	<0.05	-	29	-	-	-	32
Road alignment	15	MW11/01	MW11/01_2.4	2.4-2.4	23/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	<2	<1	<5	-	4.8	-	4.1	-	<0.05	-	<1	-	-	-	<5
Lot 56	15	MW11/05	MW11/05_0.3	0.3-0.3	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	21	<1	21	-	46	-	4.4	-	<0.05	-	63	-	-	-	30
Lot 56	15	MW11/05	MW11/05_2.3	2.3-2.3	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	2.2	<1	<5	-	4.8	-	6.2	-	<0.05	-	<1	-	-	-	<5
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 58	15	MW11/08	MW11/08_0.5	0.5-0.5	20/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	0.1	72	<1	72	-	12	-	62	-	0.12	-	4.8	-	-	-	36
Lot 58	15	MW11/08	D_200901_01	3.2-3.2	20/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	<0.1	3.1	<1	<5	-	8	-	5.9	-	<0.05	-	<1	-	-	-	<5
Lot 58	15	MW11/08	MW11/08_3.2	3.2-3.2	20/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	4.1	<1	<5	-	8.6	-	6.8	-	<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 61	15	MW11/10	MW11/10_0.450	0.45-0.45	21/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	2.9	<1	<5	-	6.7	-	30	-	<0.05	-	1.5	-	-	-	19
Lot 61	15	MW11/10	MW11/10_3.4	3.4-3.4	21/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	2.4	<1	<5	-	3.3	-	3.3	-	<0.05	-	<1	-	-	-	<5
Lot 58	15	MW11/11	MW11/11_0.4	0.4-0.4	26/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	0.1	4.5	<1	<5	-	3.6	-	14	-	<0.05	-	<1	-	-	-	9
Lot 58	15	MW11/11	MW11/11_2.2	2.2-2.2	26/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	<0.1	2.9	<1	<5	-	3.5	-	5.9	-	<0.05	-	<1	-	-	-	<5
Lot 58	15	MW11/12	MW11/12_0.3	0.3-0.3	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	<2	<1	<5	-	34	-	3.9	-	<0.05	-	35	-	-	-	22
Lot 58	15	MW11/12	MW11/12_3.0	3-3	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	<2	<1	<5	-	35	-	15	-	0.08	-	<1	-	-	-	6
Lot 61	15	MW11/13	MW11/13_0.3	0.3-0.3	26/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	5.7	<1	5.7	-	43	-	4.4	-	<0.05	-	37	-	-	-	24
Lot 61	15	MW11/13	MW11/13_3.6	3.6-3.6	26/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.1	3.6	<1	<5	-	6.2	-	5.4	-	<0.05	-	<1	-	-	-	<5
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 61	15	MW11/15	MW11/15_1.3	1.3-1.3	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	-	<0.1	6.2	<1	6.2	-	4.9	-	7.4	-	<0.05	-	<1	-	-	-	<5
Lot 61	15	MW11/15	MW11/15_3.0	3-3	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.6	-	<0.1	3.7	<1	<5	-	6.3	-	4.8	-	<0.05	-	<1	-	-	-	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

						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	24000	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 53	15	SB11B	SB11B_0.2	0.2-0.4	1/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	8	-	-	-	64	-	<5	-	<0.1	-	35	-	-	-	49
Lot 53	15	SB11B	SB11B_1.0	0.9-1.1	1/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	<1	21	-	-	-	24	-	141	-	<0.1	-	28	-	-	-	97
Lot 53	15	SB11B	SB11B_2.0	1.9-2	1/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	<1	19	-	-	-	11	-	18	-	<0.1	-	4	-	-	-	7
Lot 53	15	SB12B	SB12B_1.0	0.9-1.1	1/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	<1	20	-	-	-	13	-	18	-	<0.1	-	2	-	-	-	7
Lot 53	15	SB12B	SB12B_2.0	1.9-2	1/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	<1	10	-	-	-	14	-	14	-	<0.1	-	<2	-	-	-	8
Lot 53	15	SB13B	SB13B_0.5	0.4-0.6	1/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	<1	22	-	-	-	29	-	49	-	0.2	-	4	-	-	-	51
Lot 53	15	SB13B	SB13B_1.0	0.9-1.1	1/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	13	-	-	-	18	-	70	-	0.1	-	6	-	-	-	63
Lot 53	15	SB14B	SB14B_1.0	0.9-1.1	1/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	13	-	-	-	9	-	14	-	<0.1	-	<2	-	-	-	<5
Lot 53	15	SB15B	SB15B_1.0	0.9-1.1	1/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	<1	24	-	-	-	14	-	17	-	<0.1	-	2	-	-	-	6
Lot 53	15	SB15B	SB15B_2.0	1.9-2	1/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	8	-	-	-	10	-	13	-	<0.1	-	<2	-	-	-	6
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/17	TP18/17_0.3_20180208	-0.3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	<2	-	-	-	<5	-	<5	-	<0.1	-	<2	-	-	-	<5
Lot 58	15	TP18/17	TP18/17_0.3_20180208	0.3-0.3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/17	TP18/17_1.2_20180208	-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	<1	23	-	-	-	10	-	20	-	<0.1	-	6	-	-	-	24
Lot 58	15	TP18/17	TP18/17_1.2_20180208	1.2-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/17	TP18/17_2.7_20180208	2.7-2.7	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	15	TP18/21	QC18_101		6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	15	TP18/21	TP18/21_0.3	0.3-0.3	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	15	TP18/21	TP21_0.6	-0.6	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	<1	134	-	-	-	19	-	34	-	<0.1	-	14	-	-	-	40
Lot 62	15	TP18/21	TP18/21_1.2	-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	<1	16	-	-	-	17	-	19	-	<0.1	-	2	-	-	-	11
Lot 62	15	TP18/21	TP18/21_1.2	1.2-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	15	TP18/21	TP18/21_2.37	2.37-2.37	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/30	TP18/30_0.3	0.3-0.3	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/30	TP18/30_1.2	-1.2	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	<1	17	-	-	-	18	-	17	-	<0.1	-	4	-	-	-	16
Lot 58	15	TP18/30	TP18/30_1.2	1.2-1.2	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/30	TP18/30_2.4	-2.4	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	6	-	-	-	6	-	6	-	<0.1	-	<2	-	-	-	9
Lot 58	15	TP18/30	TP18/30_2.4	2.4-2.4	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 53	15	TP19/09	TP19/09_0.4	0.4-0.6	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	<0.4	26	-	-	-	6.7	-	17	-	<0.1	-	8	-	-	-	10
Lot 53	15	TP19/09	TP19/09_0.6	0.5-0.7	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	-	<0.4	25	-	-	-	9.4	-	16	-	<0.1	-	6.9	-	-	-	13
Lot 58	15	TP19/10	TP19/10_0.3	0.2-0.4	1/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	-	0.5	35	-	-	-	52	-	62	-	5.7	-	27	-	-	-	230
Lot 53	15	TP19/11	TP19/11_0.4	0.3-0.5	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	<5	-	-	-	<5	-	<5	-	<0.1	-	<5	-	-	-	<5
Lot 53	15	TP19/12	D01_170719	0.1-0.3	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.5	-	<0.4	38	-	-	-	65	-	5.8	-	<0.1	-	120	-	-	-	88
Lot 53	15	TP19/12	T01_170719	0.1-0.3	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	29	-	-	-	59	-	7.6	-	<0.1	-	91	-	-	-	78
Lot 53	15	TP19/12	TP19/12_0.1	0.1-0.3	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	26	-	-	-	49	-	6.9	-	<0.1	-	80	-	-	-	65
Lot 53	15	TP19/12	TP19/12_0.3	0.2-0.4	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8	-	<0.4	17	-	-	-	14	-	24	-	<0.1	-	<5	-	-	-	16
Lot 58	15	TP19/13	TP19/13_0.1	0.1-0.3	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	<0.4	70	-	-	-	71	-	76	-	2.9	-	56	-	-	-	460
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 52	52	TP21/46	TP21/46_0.2	0.2	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.8	-	<0.4	62	-	-	-	23	-	21	-	<0.1	-	23	-	-	-	47
Lot 52	52	TP21/46	TP21/46_0.5	0.5	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

						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	24000	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 53	53	TP21/06	TP21/06-0.3	0.3	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	<0.4	26	-	-	-	32	-	130	-	<0.1	-	<5	-	-	-	110
Lot 53	53	TP21/06	TP21/06-0.8	0.8	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/36	TP21/36_0.5	0.5	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	9.8	-	-	-	49	-	<5	-	<0.1	-	42	-	-	-	39
Lot 53	53	TP21/36	TP21/36_1.5	1.5	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/39	TP21/39_0.3	0.3	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	<0.4	19	-	-	-	61	-	8.6	-	<0.1	-	63	-	-	-	65
Lot 53	53	TP21/39	DUP09_210319	1.2	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/39	TP21/39_1.2	1.2	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/39	TRIP09_210319	1.2	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/41	TP21/41_1.0	1	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.6	-	<0.4	32	-	-	-	22	-	33	-	<0.1	-	5.6	-	-	-	19
Lot 53	53	TP21/41	TP21/41_2.0	2	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	54	TP21/30	TP21/30-1.0	1	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	54	TP21/30	TP21/30-2.1	2.1	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 54	54	TP21/48	DUP11_210330	0.2	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	61	-	-	-	75	-	<5	-	<0.1	-	250	-	-	-	91
Lot 54	54	TP21/48	TP21/48_0.2	0.2	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	54	-	-	-	68	-	<5	-	<0.1	-	240	-	-	-	88
Lot 54	54	TP21/48	TRIP 11_210330	0.2	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	<1	20	-	-	-	70	-	<5	-	<0.1	-	189	-	-	-	53
Lot 54	54	TP21/48	TP21/48_1.5	1.5	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	55	TP21/51	TP21/51_0.5	0.5	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	40	-	-	-	70	-	<5	-	<0.1	-	180	-	-	-	81
Lot 55	55	TP21/51	TP21/51_1.5	1.5	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	55	TP21/53	TP21/53_0.5	0.5	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	35	-	-	-	110	-	48	-	<0.1	-	140	-	-	-	410
Lot 55	55	TP21/53	TP21/53_1.5	1.5	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/55	TP21/55_0.6	0.6	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.6	-	<0.4	37	-	-	-	12	-	19	-	<0.1	-	11	-	-	-	28
Lot 56	56	TP21/55	TP21/55_1.2	1.2	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/58	TP21/58_0.5	0.5	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	<0.4	<5	-	-	-	<5	-	7.2	-	<0.1	-	<5	-	-	-	<5
Lot 56	56	TP21/58	TP21/58_1.2	1.2	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/60	TP21/60_1.0	1	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.7	-	<0.4	37	-	-	-	16	-	22	-	<0.1	-	9.2	-	-	-	29
Lot 56	56	TP21/60	DUP10-210329	2	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/60	TP21/60_2.0	2	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/60	TRIP10_210329	2	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/32	TP21/32_1.0	1	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/33	TP21/33_0.5	0.5	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/33	TP21/33_1.4	1.4	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/34	TP21/34_0.4	0.4	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/34	TP21/34_0.6	0.6	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/35	TP21/32_0.3	0.3	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/35	TP21/35_0.6	0.6	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/35	DUP03_210310	1	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/35	TP21/35_1.0	1	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/35	TRIP03_210310	1	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/63	TP21/63_0.2	0.2	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	-	<0.4	19	-	-	-	<5	-	18	-	<0.1	-	5.2	-	-	-	19
Lot 58	58	TP21/63	TP21/63_1.5	1.5	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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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)	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	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	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 51	1	SB01	SB01_0.2-0.5	0.2-0.5	16/12/2008	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	-	-	<0.1	-	-	-	<0.1						
Lot 51	1	SB02	SB02_0.0-0.3	0-0.3	16/12/2008	-	-	-	0.5	-	-	-	-	-	0.3	0.2	0.3	<0.1	-	0.8	<0.1	0.2	<0.5	0.5	<0.1	-	-	0.7	-	-	-	4.2						
Lot 52	1	SB03	SB03_0.45-0.6	0.45-0.6	16/12/2008	-	-	-	0.3	-	-	-	-	-	0.1	0.1	0.2	<0.1	-	0.5	<0.1	0.1	<0.5	0.3	<0.1	-	-	0.4	-	-	-	2.4						
Lot 51	1	SB05	SB05_0.4-0.6	0.4-0.6	16/12/2008	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	-	-	<0.1	-	-	-	<0.1						
Lot 51	1	SB05	SB05_0.0-0.3	0-0.3	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Lot 51	1	SB06	D091209-01	0.2-0.4	16/12/2008	-	-	-	15	-	-	-	-	-	2.8	2.8	34	8.7	-	8.3	3.3	4.3	<0.5	69	<0.1	-	-	16	-	-	-	210						
Lot 51	1	SB06	SB06_0.2-0.9	0.2-0.4	16/12/2008	-	-	-	11	-	-	-	-	-	2.7	3.3	31	7.3	-	6.8	2.9	4.1	<0.5	60	<0.1	-	-	14	-	-	-	180						
Lot 51	1	SB07	D091208_02	0.1-0.3	9/12/2008	-	-	-	0.7	-	-	-	-	-	<0.5	<0.5	0.9	<0.5	-	1.3	<0.5	<0.5	-	0.9	-	-	-	1.4	-	-	-	-						
Lot 51	1	SB07	SB07_0.1-0.3	0.1-0.3	16/12/2008	-	-	-	1.2	-	-	-	-	-	0.4	0.3	1.1	0.3	-	1.1	<0.1	0.4	<0.5	1.3	<0.1	-	-	1.3	-	-	-	9.5						
Lot 52	1	SB08	SB08_0.0-0.3	0-0.3	16/12/2008	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	-	-	<0.1	-	-	-	<0.1						
Lot 51	1	SB09	SB09_0.4-0.7	0.4-0.7	16/12/2008	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	0.1	<0.1	<0.1	<0.5	<0.1	<0.1	-	-	0.1	-	-	-	0.2						
Lot 52	1	SB10	SB10_0.2-0.5	0.2-0.5	16/12/2008	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	0.1	<0.1	<0.1	<0.5	0.1	<0.1	-	-	0.1	-	-	-	0.3						
Lot 52	1	SB11	SB11_0.15-0.25	0.15-0.25	16/12/2008	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	-	-	<0.1	-	-	-	<0.1						
Lot 52	1	SB12	SB12_0.35-0.5	0.35-0.5	16/12/2008	-	-	-	1.4	-	-	-	-	-	0.6	0.5	1.3	0.3	-	1.9	0.1	0.6	<0.5	2.6	<0.1	-	-	1.9	-	-	-	14						
Lot 52	1	SB13	SB13_0.15-0.3	0.15-0.3	16/12/2008	-	-	-	0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	0.2	<0.1	<0.1	<0.5	0.2	<0.1	-	-	0.1	-	-	-	0.6						
Lot 52	1	SB14	SB14_0.1-0.5	0.1-0.5	16/12/2008	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	-	-	<0.1	-	-	-	<0.1						
Lot 52	1	SB15	SB15_0.0-0.5	0-0.5	16/12/2008	-	-	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	-	-	<0.1	-	-	-	<0.1						
Lot 52	1	TP18/28	TP18/28_0.3	0.3-0.3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Lot 52	1	TP18/28	TP18/28_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						
Lot 52	1	TP18/28	TP18/28_1.2	1.2-1.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Lot 52	1	TP18/28	TP18/28_2.2	-2.2	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 52	1	TP18/28	TP18/28_2.2	2.2-2.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Lot 52	1	TP18/28	TP18/28_3.0	3-3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Lot 51	1	TP19/01	DOI_050819	0.7-0.9	5/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Lot 51	1	TP19/01	TP19/01_0.8	0.7-0.9	5/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Lot 51	1	TP19/01	TP19/01_0.1	0-0.2	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	<0.5	<0.5	-	-	<0.5	<10	<1	<20	<0.5						
Lot 51	1	TP19/04	TP19/04_0.1	0-0.2	5/08/2019	-	-	-	<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 51	1	TP19/05	TP19/05_0.2	0.1-0.3	5/08/2019	-	-	-	<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 51	1	TP19/06	TP19/06_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	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	<10	<1	<20	<0.5						
Lot 51	1	TP19/06	TP19/06_1.0	0.9-1.1	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Lot 53	1	TP19/08	TP19/08_1.0	0.9-1.1	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Lot 53	1	TP19/08	TP19/08_0.1	0-0.2	18/07/2019	-	-	-	<0.5	1.2	0.7	<0.5	-	<0.5	<0.5	0.6	<0.5	<20	1.1	<0.5	0.7	<1	0.8	<0.5	-	-	1.1	<10	<1	<20	4.9						
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						

								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)	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	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	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 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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	3	SB18/24	MW(SB)18/24_0.3_180209	0.3-0.3	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	3	SB18/24	MW(SB)18/24_1.2_180209	1.2-1.2	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	3	SB18/24	MW(SB)18/24_3.0_180209	3-3	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 62	3	TP18/20	TP18/20_0.45_20180208	-0.45	8/02/2018	-	1.4	0.7	-	-	-	-	<0.5	-	1.9	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	-	<0.5	-	-	-	2.6			
Lot 62	3	TP18/20	TP18/20_0.45_20180208	0.45-0.45	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	TP18/20	TP18/20_0.7_20180208	0.7-0.7	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	TP18/20	TP18/20_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	-	1.9	-	-	-	<0.5	-	-	-	1.9			
Lot 62	3	TP18/20	TP18/20_1.2_20180208	1.2-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	TP18/20	TP18/20_2.3_20180208	2.3-2.3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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			
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 62	3	TP19/27	TP19/27_0.6	0.5-0.7	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 62	3	TP19/27	TP19/27_1.5	1.4-1.6	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	TP19/32	TP19/32_1.0	0.9-1.1	23/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	TP19/32	TP19/32_0.1	0-0.2	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	<0.5			
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	-	-	-	-			
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	-	-	-	-			
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			

	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)	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	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	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 64	4	MW12/01	MW12/01_0.15	0.15-0.15	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW12/01	MW12/01_2.5	2.5-2.5	27/02/2012	<1	-	-	-	-	-	-	-	<0.5	-	1.9	<0.5	-	1.1	0.8	<0.5	<1	4.5	<0.5	-	-	4	-	-	-	18
Lot 64	4	MW12/01	MW12/01_2.0	2-2	27/02/2012	<10	-	-	-	-	-	-	-	<5	-	39	<5	-	20	32	<5	<10	110	<5	-	-	99	-	-	-	460
Lot 64	4	MW12/20	MW12/20_0.4	0.4-0.4	6/03/2012	11	-	-	-	-	-	-	-	6.2	-	4.7	<0.5	-	5.2	<0.5	4.9	<1	2.8	<0.5	-	-	6.9	-	-	-	56
Lot 64	4	MW12/20	MW12/20_2.4	2.4-2.4	6/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW12/20	MW12/20_2.0	2-2	6/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21_0.5	0.5-0.5	7/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21_1.4	1.4-1.4	7/03/2012	<1	-	-	-	-	-	-	-	<0.5	-	0.6	<0.5	-	1	<0.5	<0.5	<1	<0.5	<0.5	-	-	1.3	-	-	-	4.1
Lot 62	4	MW12/21	MW12/21_2.4	2.4-2.4	7/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21_3.5	3.5-3.5	7/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/03	MW20/03_0.8	0.7-0.9	13/07/2020	-	-	-	-	<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
Lot 64	4	MW20/03	MW20/03_3.0	2.9-3.1	13/07/2020	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	0.8	<0.5	-	1.4	-	-	-	<1	-	-	-	7.2
Lot 64	4	MW20/03	MW20/03_6.0	5.9-6.1	13/07/2020	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	<1
Lot 64	4	MW20/04	MW20/04_1.0	0.9-1.1	13/07/2020	-	-	-	-	<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
Lot 64	4	MW20/04	MW20/04_3.5	3.4-3.6	13/07/2020	-	-	-	-	<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
Lot 64	4	MW20/04	MW20/04_4.5	4.4-4.6	13/07/2020	-	-	-	-	<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
Lot 64	4	MW20/05	MW20/05_3.5	3.4-3.6	13/07/2020	-	-	-	-	<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
Lot 64	4	MW20/06	MW20/06_6.0	5.8-6	14/07/2020	-	-	-	-	4.5	4.5	4.5	2.2	-	1.5	0.7	10	0.7	-	2.4	4.4	0.5	-	12	-	-	-	8.3	-	-	-	57.7
Lot 64	4	MW20/07	MW20/07_6.0	5.8-6	14/07/2020	-	-	-	-	0.7	1.4	1	<0.5	-	<0.5	<0.5	2.6	<0.5	-	1.4	2.9	<0.5	-	10	-	-	-	3.6	-	-	-	26.3
Lot 64	4	MW20/13	D01_20200714		14/07/2020	-	-	-	-	<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
Lot 64	4	MW20/13	MW20/13_6.0	5.8-6	14/07/2020	-	-	-	-	<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
Lot 64	4	MW20/13	T01_20200714	5.8-6	14/07/2020	-	1.2	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	0.6	<0.5	-	0.7	1.2	<0.5	-	3.3	-	-	-	1.8	-	-	-	12.1
Lot 64	4	MW20/17	MW20/17_3.0	2.9-3.1	9/07/2020	-	-	-	-	3	3	3	0.8	-	1.8	1.3	1.3	0.6	-	2.2	<0.5	1.5	-	1.6	-	-	-	2.6	-	-	-	17.5
Lot 62	4	SB18/23	MW(SB)18/23_0.3_20180208	0.3-0.3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	SB18/23	MW(SB)18/23_1.2_20180208	-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	SB18/23	MW(SB)18/23_1.2_20180208	1.2-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	SB18/23	MW(SB)18/23_3.0_20180208	3-3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	SB5B	SB5B_1.0	0.9-1.1	5/02/2018	-	1.2	<0.5	-	-	-	-	-	<0.5	<0.5	<0.5	1	<0.5	-	2.3	0.6	<0.5	<2	5.4	<0.5	-	14.3	2	-	-	-	-
Lot 64	4	SB5B	T03_050218	0.9-1.1	5/02/2018	0.5	<0.5	<0.5	-	-	-	-	-	0.5	-	0.6	<0.1	-	0.9	0.1	0.2	-	2	-	<5	-	0.6	-	-	-	7.9
Lot 64	4	SB5B	SB5B_4.0	3.9-4	5/02/2018	-	5.6	5.6	-	-	-	-	-	3.3	1	0.7	10.9	1.6	-	3.5	1.5	1.2	<2	7.4	<0.5	-	52.3	10.6	-	-	-	-
Road alignment	4	TP18/26	TP18/26_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
Road alignment	4	TP18/26	TP18/26_0.3	0.3-0.3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	TP18/26	TP18/26_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
Road alignment	4	TP18/26	TP18/26_1.2	1.2-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	TP18/26	TP18/26_1.7	1.7-1.7	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	TP18/27_0.3	0.3-0.3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	QC18_102	1.2-1.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	TP18/27_1.2	1.2-1.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	TP18/27_1.8	-1.8	7/02/2018	-	5.1	4.1	-	-	-	-	9.6	-	5.4	2.2	35	<0.5	-	25.7	20.8	1.7	<2	108	<0.5	-	-	68.4	-	-	-	347
Lot 64	4	TP18/27	TP18/27_1.8	1.8-1.8	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	QC18_103	3-3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	TP18/27_3.0	3-3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/19	TP19/19_0.6	0.5-0.7	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/19	TP19/19_2.0	1.9-2.1	16/07/2019	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	0.6	<0.5	<1	0.9	<0.5	-	-	<0.5	<10	<1	<20	2.2
Lot 64	4	TP19/20	D02_160719	0.3-0.5	16/07/2019	-	-	-	-	<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 64	4	TP19/20	T02_160719	0.3-0.5	16/07/2019	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	-	<0.5	-	-	-	0.6
Lot 64	4	TP19/20	TP19/20_0.4	0.3-0.5	16/07/2019	-	-	-	-	<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 64	4	TP19/20	D01_150719	0-0.2	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/20	D01_160719	0-0.2	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/20	T01_160719	0-0.2	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/20	TP19/20_0.1	0-0.2	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/21	TP19/21_2.8	2.7-2.9	16/07/2019	-	-	-	-	3.4	3.4	3.4	0.5	-	0.8	0.6	5.6	0.7	<20	4.2	16	0.8	<1	34	<0.5	-	-	12	<10	<1	<20	108.2
Lot 64	4	TP19/21	TP19/21_4.0	3.9-4.1	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/22	TP19/22_0.5	0.4-0.6	16/07/2019	-	-	-	-	<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

								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)	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	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
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	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 64	4	TP19/22	TP19/22_1.2	1.1-1.3	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/23	D01_150719	1.4-1.6	15/07/2019	-	-	-	-	27	27	27	5.6	-	20	7.4	40	6.6	<20	12	16	4.5	<1	67	<0.5	-	-	56	<10	<1	<20	311.6
Lot 64	4	TP19/23	T01_150719	1.4-1.6	15/07/2019	-	-	-	-	21.2	21.8	21.5	-	-	5.7	-	70.6	<3	-	25.4	23	<3	<6	107	<3	-	-	103	-	-	-	463
Lot 64	4	TP19/23	TP19/23_1.5	1.4-1.6	15/07/2019	-	-	-	-	36	36	36	9.1	-	29	6.2	58	10	<20	16	22	10	<1	79	<0.5	-	-	82	<10	<1	<20	420.7
Lot 64	4	TP19/23	TP19/23_3.5	3.4-3.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/24	TP19/24_1.5	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/24	TP19/24_3.0	2.9-3.1	15/07/2019	-	-	-	-	0.8	1.4	1.1	<0.5	-	0.5	<0.5	0.8	<0.5	<20	1.3	6	0.8	<1	13	<0.5	-	-	2	<10	<1	<20	40.5
Lot 64	4	TP19/24	TP19/24_4.2	4.1-4.3	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/25	TP19/25_0.5	0.4-0.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/25	TP19/25_1.3	1.2-1.4	15/07/2019	-	-	-	-	59	59	59	9.2	-	27	9.1	90	12	<20	21	31	26	<1	120	<0.5	-	-	95	<10	<1	<20	573.1
Lot 62	4	TP19/28	TP19/28_1.0	0.9-1.1	19/07/2019	-	-	-	-	<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 62	4	TP19/28	D01_190719	0-0.2	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/28	T01_190719	0-0.2	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/28	TP19/28_0.1	0-0.2	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/29	TP19/29_1.8	1.7-1.9	22/07/2019	-	-	-	-	<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 62	4	TP19/29	TP19/29_2.2	2.1-2.3	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/30	D01_220719	0.3-0.5	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/30	T01_220719	0.3-0.5	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/30	TP19/30_0.4	0.3-0.5	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/30	TP19/30_1.2	1.1-1.3	22/07/2019	-	-	-	-	<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 64	4	TP19/74	TP19/74_1.5	1.4-1.6	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/74	TP19/74_2.5	2.4-2.6	19/07/2019	-	-	-	-	<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 64	4	TP19/75	TP19/75_1.5	1.4-1.6	19/07/2019	-	-	-	-	5.1	5.1	5.1	1.1	-	1.4	0.5	6.9	2.1	<20	2.7	9	1	<1	18	<0.5	-	-	8.5	<10	<1	<20	82.8
Lot 64	4	TP19/75	TP19/75_3.0	2.9-3.1	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/76	TP19/76_1.5	1.4-1.6	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/76	TP19/76_2.2	2.1-2.3	19/07/2019	-	-	-	-	<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 64	4	TP19/77	D02_150719	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/77	T02_150719	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/77	TP19/77_1.5	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/77	TP19/77_4.0	3.9-4.1	15/07/2019	-	-	-	-	7.7	8.2	8	3.5	-	<0.5	2.4	8.6	<0.5	<20	4.4	32	<0.5	<1	55	<0.5	-	-	9.2	<10	<1	<20	369.7
Lot 61	5	MW11/16	MW11/16_0.45	0.45-0.45	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	5	MW11/16	MW11/16_3.3	3.3-3.3	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	5	MW11/17	D_220911_01	1-1	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	5	MW11/17	MW11/17_1.0	1-1	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	5	MW11/17	T-220911-01	1-1	22/09/2011	-	-	<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 61	5	MW11/17	MW11/17_2.5	2.5-2.5	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 61	5	TP19/39	TP19/39_0.2	0.1-0.3	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/39	TP19/39_0.4	0.3-0.5	29/07/2019	-	-	-	-	<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 61	5	TP19/40	TP19/40_0.1	0.1-0.3	30/07/2019	-	-	-	-	<0.5	1.2	0.6	0.5	-	0.6	<0.5	0.6	<0.5	<20	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	0.7	<10	<1	<20	2.4
Lot 61	5	TP19/40	TP19/40_0.2	0.1-0.3	30/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/40	TP19/40_0.2	1.9-2.1	30/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/41	D01_290719	0.1-0.3	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/41	TO1_290719	0.1-0.3	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/41	TP19/41_0.2	0.1-0.3	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/41	TP19/41_0.4	0.3-0.5	29/07/2019	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	0.6	<0.5	<1	<0.5	<0.5	-	-	<0.5	<10	<1	<20	6.9
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/01	BH11|01-0.1	0.1-0.2	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/01	BH11|01-0.8	0.8-0.9	15/12/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	2.7	<0.5	<1	6.5	<0.5	-	-	<0.5	-	-	-	12
Lot 56	11	BH11/01	DUP_01	0.8-0.9	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/01	BH11|01-1.5	1.5-1.6	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/02	BH11|02-0.1	0.1-0.2	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/02	BH11|02-1.4	1.4-1.5	15/12/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 56	11	BH11/03	BH11|03-0.1	0.1-0.2	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/03	BH11|03-1.5	1.5-1.6	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

								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)	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	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
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	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 56	11	BH11/04	BH11|04-0.1	0.1-0.2	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/04	BH11|04-1.7	1.7-1.8	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/04	BH11|04-1.0	1-1.1	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/05	BH11|05-0.1	0.1-0.2	15/12/2011	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	1.9	<0.5	<1	5.2	<0.5	-	-	<0.5	-	-	-	-	7.1
Lot 56	11	BH11/05	BH11|05-1.5	1.5-1.6	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/05	BH11|05-1.0	1-1.1	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/06	BH11|06-0.1	0.1-0.2	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/06	BH11|06-1.0	1-1.1	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH12/29	D_140312_02	-0.65	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH12/29	T-140312-01	-0.65	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH12/29	BH12/29_0.65	0.65-0.65	14/03/2012	<1	-	-	-	-	-	-	-	<0.5	-	2.7	<0.5	-	<0.5	<0.5	<0.5	<1	11	<0.5	-	-	3.9	-	-	-	-	21
Lot 56	11	BH12/29	BH12/29_1.3	1.3-1.3	14/03/2012	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	1.6	<0.5	-	-	<0.5	-	-	-	-	2.9
Lot 55	11	BH12/30	BH12/30_0.25	0.25-0.25	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	11	BH12/30	BH12/30_1.3	1.3-1.3	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 54	11	BH12/31	BH12/31_0.1	0.1-0.1	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 54	11	BH12/31	BH12/31_0.4	0.4-0.4	14/03/2012	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	-	<1
Lot 54	11	BH12/31	BH12/31_1.4	1.4-1.4	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 54	11	BH12/32	BH12/32_0.2	0.2-0.2	14/03/2012	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	1	<0.5	-	-	<0.5	-	-	-	-	1
Lot 54	11	BH12/32	BH12/32_1.2	1.2-1.2	14/03/2012	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	2	<0.5	-	-	<0.5	-	-	-	-	2.7
Lot 55	11	BH12/33	BH12/33_0.2	0.2-0.2	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	11	BH12/33	BH12/33_0.6	0.6-0.6	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 54	11	BH12/36	BH12/36_0.7	0.7-0.7	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 54	11	BH12/36	BH12/36_1.3	1.3-1.3	14/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 54	11	HA19/03	HA19/03_0.8	0.7-0.9	31/07/2019	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	0.7	<0.5	<20	<0.5	1.1	<0.5	<1	6.8	<0.5	-	-	0.8	<10	<1	<20	12.1
Lot 54	11	HA19/03	HA19/03_1.5	1.4-1.6	31/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 54	11	HA19/04	HA19/04_0.4	0.3-0.5	31/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 54	11	HA19/04	HA19/04_0.4	0.4-0.6	31/07/2019	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	0.7	<0.5	<1	0.6	<0.5	-	-	<0.5	<10	<1	<20	1.9
Lot 54	11	HA19/04	HA19/04_1.0	0.9-1.1	31/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	11	HA19/05	HA19/05_0.3	0.2-0.4	31/07/2019	-	-	-	<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 55	11	HA19/05	HA19/05_0.05	0-0.1	31/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	11	HA19/06	HA19/06_1.0	0.9-1.1	1/08/2019	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<1	1.1	<0.5	-	-	<0.5	<10	<1	<20	1.1
Lot 55	11	HA19/06	HA19/06_2.2	2.1-2.3	1/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 54	11	HA19/07	HA19/07_0.3	0.2-0.4	2/08/2019	-	-	-	<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 54	11	HA19/07	HA19/07_0.05	0-0.1	2/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	11	HA19/08	HA19/08_0.8	0.7-0.9	2/08/2019	-	-	-	<0.5	1.3	0.8	<0.5	-	<0.5	<0.5	2.4	<0.5	<20	0.9	4.8	<0.5	<1	25	<0.5	-	-	2.6	<10	<1	<20	52
Lot 55	11	HA19/08	HA19/08_1.2	1.1-1.3	2/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	11	HA19/09	HA19/09_0.8	0.7-0.9	2/08/2019	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	7.2	<0.5	<1	9.6	<0.5	-	-	1.4	<10	<1	<20	22
Lot 55	11	HA19/09	HA19/09_1.4	1.3-1.5	2/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	11	HA19/10	HA19/10_0.2	0.1-0.3	2/08/2019	-	-	-	<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
Road alignment	11	HA19/10	HA19/10_0.05	0-0.1	2/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02_0.5	0.5-0.5	19/09/2011	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	-	<1
Lot 56	11	MW11/02	MW11/02_2.3	2.3-2.3	19/09/2011	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	-	<1
Lot 55	11	MW11/03	MW11/03_0.8	0.8	6/10/2011	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	-	<1
Lot 55	11	MW11/03	D_061011_02	3	6/10/2011	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	-	<1

								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)	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	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	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	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 55	11	MW11/03	MW11/03_3.0	3	6/10/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 55	11	MW11/03	MW11/03_5.8	5.8	6/10/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 56	11	MW11/04	MW11/04_1.0	1-1	20/09/2011	<1	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	1	<0.5	<1	0.8	<0.5	-	-	<0.5	-	-	-	7.4
Lot 56	11	MW11/04	MW11/04_2.0	2-2	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 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 55	11	SB18/13	SB18/13_0.3_20180214	-0.3	14/02/2018	-	1.2	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	1.3	8	<0.5	-	15.6	-	-	-	1.9	-	-	-	29.2
Lot 55	11	SB18/13	SB18/13_0.3_20180214	0.3-0.3	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	11	SB18/13	SB18/13_0.9_20180214	-0.9	14/02/2018	-	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 55	11	SB18/13	SB18/13_0.9_20182014	0.9-0.9	14/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	11	SB18/14	SB18/14_0.3_2018	-0.3	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	11	SB18/14	SB18/14_0.3_180209	0.3-0.3	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	11	SB18/14	SB18/14_1.2_20180209	-1.2	9/02/2018	-	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	11	SB18/14	SB18/14_1.2_180209	1.2-1.2	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	11	SB18/14	SB18/14_2.4_180209	2.4-2.4	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 56	11	TP18/33	TP18/33_0.3_20180208	0.3-0.3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	TP18/33	TP18/33_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
Lot 56	11	TP18/33	TP18/33_1.2_20180208	1.2-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	TP18/33	TP18/33_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
Lot 56	11	TP18/33	TP18/33_3.0_20180208	3-3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	TP19/79	TP19/79_0.3	0.2-0.35	26/07/2019	-	-	-	1.9	2.5	2.2	1	-	0.8	<0.5	4.4	<0.5	<20	0.7	<0.5	<0.5	<1	1.5	<0.5	-	-	3.6	<10	<1	<20	18.4
Lot 56	11	TP19/79	TP19/79_1.2	1.1-1.3	26/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	11	TP19/80	TP19/80_0.5	0.5-0.6	26/07/2019	-	-	-	<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 62	13	TP19/50	TP19/50_0.1	0-0.2	26/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	13	TP19/54	TP19/54_0.1	0-0.2	1/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 62	14	TP19/36	TP19/36_0.4	0.3-0.5	30/07/2019	-	-	-	4.1	4.1	4.1	1.5	-	0.8	1.2	5.5	1.2	<20	0.9	<0.5	1.1	<1	0.8	<0.5	-	-	1.5	<10	<1	<20	19
Lot 62	14	TP19/36	TP19/36_1.6	1.4-1.6	30/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	BH12/28	D_160312_02	-0.05	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	BH12/28	T-160312-01	-0.05	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	BH12/28	BH12/28_0.05	0.05-0.05	16/03/2012	16	-	-	-	-	-	-	-	6.8	-	<5	<5	-	9.8	26	<5	<5	67	<5	-	-	34	-	-	-	190
Lot 58	15	BH12/28	BH12/28_1.4	1.4-1.4	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	15	BH12/38	D_160312_01	-1	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	15	BH12/38	BH12/38_1.4	1.4-1.4	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	15	BH12/38	BH12/38_1.0	1-1	16/03/2012	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 61	15	BH12/39	BH12/39_0.25	0.25-0.25	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	15	BH12/39	BH12/39_1.1	1.1-1.1	16/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	15	MW11/01	MW11/01_0.2	0.2-0.2	23/09/2011	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Road alignment	15	MW11/01	MW11/01_2.4	2.4-2.4	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 56	15	MW11/05	MW11/05_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 56	15	MW11/05	MW11/05_2.3	2.3-2.3	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 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 58	15	MW11/08	MW11/08_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 58	15	MW11/08	D_200901_01	3.2-3.2	20/09/2011	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 58	15	MW11/08	MW11/08_3.2	3.2-3.2	20/09/2011	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
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 61	15	MW11/10	MW11/10_0.450	0.45-0.45	21/09/2011	9.3	-	-	-	-	-	-	-	2.7	-	27	6.4	-	8	2.6	3.7	<1	67	<0.5	-	-	15	-	-	-	170
Lot 61	15	MW11/10	MW11/10_3.4	3.4-3.4	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 58	15	MW11/11	MW11/11_0.4	0.4-0.4	26/09/2011	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	0.6	<0.5	-	-	<0.5	-	-	-	1.2
Lot 58	15	MW11/11	MW11/11_2.2	2.2-2.2	26/09/2011	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 58	15	MW11/12	MW11/12_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 58	15	MW11/12	MW11/12_3.0	3-3	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	15	MW11/13	MW11/13_0.3	0.3-0.3	26/09/2011	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	<0.5	-	-	-	<1
Lot 61	15	MW11/13	MW11/13_3.6	3.6-3.6	26/09/2011	<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 61	15	MW11/15	MW11/15_1.3	1.3-1.3	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	15	MW11/15	MW11/15_3.0	3-3	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 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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

								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)	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	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	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 53	15	SB11B	SB11B_0.2	0.2-0.4	1/02/2018	-	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 53	15	SB11B	SB11B_1.0	0.9-1.1	1/02/2018	-	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	-	1.2	0.7	-	-	-	-
Lot 53	15	SB11B	SB11B_2.0	1.9-2	1/02/2018	-	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 53	15	SB12B	SB12B_1.0	0.9-1.1	1/02/2018	-	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 53	15	SB12B	SB12B_2.0	1.9-2	1/02/2018	-	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 53	15	SB13B	SB13B_0.5	0.4-0.6	1/02/2018	-	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	-	1	0.5	-	-	-	-
Lot 53	15	SB13B	SB13B_1.0	0.9-1.1	1/02/2018	-	2.3	1.7	-	-	-	-	-	1.1	<0.5	<0.5	3	<0.5	-	0.9	<0.5	<0.5	<2	1	<0.5	-	13.5	2.3	-	-	-	-
Lot 53	15	SB14B	SB14B_1.0	0.9-1.1	1/02/2018	-	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 53	15	SB15B	SB15B_1.0	0.9-1.1	1/02/2018	-	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 53	15	SB15B	SB15B_2.0	1.9-2	1/02/2018	-	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	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	<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	<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	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/17	TP18/17_0.3_20180208	-0.3	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
Lot 58	15	TP18/17	TP18/17_0.3_20180208	0.3-0.3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/17	TP18/17_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
Lot 58	15	TP18/17	TP18/17_1.2_20180208	1.2-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/17	TP18/17_2.7_20180208	2.7-2.7	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	15	TP18/21	QC18_101		6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	15	TP18/21	TP18/21_0.3	0.3-0.3	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	15	TP18/21	TP21_0.6	-0.6	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 62	15	TP18/21	TP18/21_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	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 62	15	TP18/21	TP18/21_1.2	1.2-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	15	TP18/21	TP18/21_2.37	2.37-2.37	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/30	TP18/30_0.3	0.3-0.3	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/30	TP18/30_1.2	-1.2	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 58	15	TP18/30	TP18/30_1.2	1.2-1.2	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP18/30	TP18/30_2.4	-2.4	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	-	-	-	<0.5	-	-	-	<0.5
Lot 58	15	TP18/30	TP18/30_2.4	2.4-2.4	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	<2	<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 53	15	TP19/09	TP19/09_0.4	0.4-0.6	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 53	15	TP19/09	TP19/09_0.6	0.5-0.7	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP19/10	TP19/10_0.3	0.2-0.4	1/08/2019	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<20	<0.5	1.1	<0.5	<1	<0.5	<0.5	-	-	<0.5	<10	<1	<20	1.1
Lot 53	15	TP19/11	TP19/11_0.4	0.3-0.5	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	<0.5	<0.5	-	-	<0.5	<10	<1	<20	<0.5
Lot 53	15	TP19/12	D01_170719	0.1-0.3	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 53	15	TP19/12	T01_170719	0.1-0.3	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 53	15	TP19/12	TP19/12_0.1	0.1-0.3	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 53	15	TP19/12	TP19/12_0.3	0.2-0.4	17/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	TP19/13	TP19/13_0.1	0.1-0.3	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 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 52	52	TP21/46	TP21/46_0.2	0.2	19/03/2021	-	-	-	-	<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 52	52	TP21/46	TP21/46_0.5	0.5	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

								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)	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	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	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 53	53	TP21/06	TP21/06-0.3	0.3	8/03/2021	-	-	-	-	<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 53	53	TP21/06	TP21/06-0.8	0.8	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/36	TP21/36_0.5	0.5	19/03/2021	-	-	-	-	<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 53	53	TP21/36	TP21/36_1.5	1.5	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/39	TP21/39_0.3	0.3	19/03/2021	-	-	-	-	<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 53	53	TP21/39	DUP09_210319	1.2	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/39	TP21/39_1.2	1.2	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/39	TRIP09_210319	1.2	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/41	TP21/41_1.0	1	29/03/2021	-	-	-	-	<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 53	53	TP21/41	TP21/41_2.0	2	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	54	TP21/30	TP21/30-1.0	1	9/03/2021	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	<0.5	-	-	-	<0.5
Lot 61	54	TP21/30	TP21/30-2.1	2.1	9/03/2021	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 54	54	TP21/30	TP21/30-2.1	2.1	9/03/2021	-	-	-	-	<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 54	54	TP21/48	DUP11_210330	0.2	30/03/2021	-	-	-	-	<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 54	54	TP21/48	TP21/48_0.2	0.2	30/03/2021	-	-	-	-	<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 54	54	TP21/48	TRIP 11_210330	0.2	30/03/2021	-	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 54	54	TP21/48	TP21/48_1.5	1.5	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	55	TP21/51	TP21/51_0.5	0.5	30/03/2021	-	-	-	-	<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 55	55	TP21/51	TP21/51_1.5	1.5	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	55	TP21/53	TP21/53_0.5	0.5	30/03/2021	-	-	-	-	<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 55	55	TP21/53	TP21/53_1.5	1.5	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/55	TP21/55_0.6	0.6	30/03/2021	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<1	0.7	<0.5	-	-	<0.5	<10	<1	<20	0.7
Lot 56	56	TP21/55	TP21/55_1.2	1.2	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/58	TP21/58_0.5	0.5	30/03/2021	-	-	-	-	<1	2.5	1.3	<1	-	<1	<1	2.1	<1	<20	<1	4.9	<1	<2	12	<1	-	-	6.3	<10	<2	<20	31.7
Lot 56	56	TP21/58	TP21/58_1.2	1.2	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/60	TP21/60_1.0	1	29/03/2021	-	-	-	-	<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 56	56	TP21/60	DUP10-210329	2	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/60	TP21/60_2.0	2	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/60	TRIP10_210329	2	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/32	TP21/32_1.0	1	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	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 58	58	TP21/33	TP21/33_0.5	0.5	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	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 58	58	TP21/33	TP21/33_1.4	1.4	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	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 58	58	TP21/34	TP21/34_0.4	0.4	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	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 58	58	TP21/34	TP21/34_0.6	0.6	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	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 58	58	TP21/35	TP21/32_0.3	0.3	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	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 58	58	TP21/35	TP21/35_0.6	0.6	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	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 58	58	TP21/35	DUP03_210310	1	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	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 58	58	TP21/35	TP21/35_1.0	1	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	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 58	58	TP21/35	TRIP03_210310	1	10/03/2021	-	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 58	58	TP21/63	TP21/63_0.2	0.2	29/03/2021	-	-	-	-	<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 58	58	TP21/63	TP21/63_1.5	1.5	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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)	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	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	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 59	59	TP21/42	TP21/42_0.2	0.2	15/03/2021	-	-	-	-	16	16	16	5.3	-	4	4.8	13	5.6	<20	5.3	1.5	3.4	<1	6.6	<0.5	-	-	7.8	<10	1.2	23	79.1
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	-	-	-	-	<0.5	1.2	0.7	<0.5	-	<0.5	<0.5	1.1	<0.5	<20	0.8	4.1	<0.5	<1	7.5	<0.5	-	-	1.4	<10	<1	<20	19.9
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	-	-	-	-	<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	59	TP21/66	TRIP06_210316	1	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	59	TP21/66	TP21/66_2.0	2	16/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	60	TP21/05	TP21/05-0.7	0.7	8/03/2021	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<1	0.6	<0.5	-	-	<0.5	<10	<1	<20	0.6
Lot 53	60	TP21/05	TP21/05-1.0	1	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	60	TP21/10	TP21/10-0.5	0.5	8/03/2021	-	-	-	-	<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 60	60	TP21/10	TP21/10-0.5	0.5	8/03/2021	-	-	-	-	<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 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	-	-	-	-	<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 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	-	-	-	-	<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 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	-	-	-	-	0.7	1.4	1	<0.5	-	<0.5	<0.5	1.7	<0.5	<20	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	1.3	<10	<1	<20	4.4
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	-	-	-	-	<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	1.1	23	<0.5
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	-	-	-	-	7.1	7.1	7.1	1.9	-	1.2	2	18	2	<20	8.2	21	1.2	<1	110	<0.5	-	-	18	<10	<1	<20	216.1
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	-	-	-	-	<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 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 61	61	TP21/29	TP21/29-0.7	0.7	9/03/2021	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 61	61	TP21/29	TP21/29-1.7	1.7	9/03/2021	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 61	61	TP21/31	DUP02_210309	0.9	9/03/2021	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 61	61	TP21/31	TP21/31-0.9	0.9	9/03/2021	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 61	61	TP21/31	TRIP02_210309	0.9	9/03/2021	-	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 61	61	TP21/31	TP21/31-2.0	2	9/03/2021	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5
Lot 61	61	TP21/85	TP21/85_0.4	0.4	18/03/2021	-	-	-	-	<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 61	61	TP21/85	TP21/85_2.0	2	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/86	TP21/86_0.5	0.5	18/03/2021	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	0.6	<0.5	<20	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	-	0.7	<10	<1	<20	1.3
Lot 61	61	TP21/86	TP21/86_1.5	1.5	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/87	TP21/87_1.0	1	18/03/2021	-	-	-	-	<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 61	61	TP21/87	TP21/87_1.5	1.5	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/25	TP21/25_0.1	0.1	11/03/2021	-	-	-	-	<0.5	1.2	0.7	<0.5	-	0.6	<0.5	1.2	<0.5	<20	<0.5	<0.5	<0.5	<1	2	<0.5	-	-	0.8	<10	<1	<20	5.3
Lot 62	62	TP21/25	TP21/25_1.0	1	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/26	DUP04_210311	0.6	11/03/2021	-	-	-	-	<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 62	62	TP21/26	TP21/26_0.6	0.6	11/03/2021	-	-	-	-	<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 62	62	TP21/26	TRIP04_210311	0.6	11/03/2021	-	-	-	-	<0.5	1.2	0.7	<0.5	-	<0.5	<0.5	1.2	<0.5	<20	<0.5	<0.5	<0.5	<1	1.9	<0.5	-	-	0.6	<10	<1	<20	4.4
Lot 62	62	TP21/26	TP21/26_1.1	1.1	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/27	TP21/27_0.3	0.3	11/03/2021	-	-	-	-	<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 62	62	TP21/27	TP21/27_0.8	0.8	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/28	TP21/28_0.2	0.2	11/03/2021	-	-	-	-	<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 62	62	TP21/28	TP21/28_2.0	2	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/82	TP21/82_0.5	0.5	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/82	TP21/82_1.2	1.2	17/03/2021	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	<0.5	<0.5	<1	0.9	<0.5	-	-	<0.5	<10	<1	<20	0.9
Lot 62	62	TP21/84	TP21/84_0.8	0.8	18/03/2021	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	0.6	<0.5	<20	<0.5	<0.5	<0.5	<1	1.1	<0.5	-	-	<0.5	<10	<1	<20	1.7
Lot 62	62	TP21/84	TP21/84_2.0	2	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/18	TP21/18-0.6	0.6	8/03/2021	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	0.6	<0.5	<0.5	<1	<0.5	<0.5	-	-	0.6	<10	<1	<20	1.2
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	-	-	-	-	0.8	1.4	1.1	<0.5	-	0.7	<0.5	0.9	<0.5	<20	0.9	<0.5	<0.5	<1	0.6	<0.5	-	-	1	<10	<1	<20	5.4
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	-	-	-	-	<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	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	-	-	-	-	<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	63	TP21/21	TP21/21-1.0	1	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	63	TP21/22	DUP01_210308	0.2	8/03/2021	-	-	-	-	<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	63	TP21/22	TP21/22-0.2	0.2	8/03/2021	-	-	-	-	<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	63	TP21/22	TRIP01_210308	0.2	8/03/2021	-	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	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	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	0.6	<0.5	<1	<0.5	<0.5	-	-	<0.5	<10	<1	<20	49.6
Lot 63	63	TP21/23	TP21/23-3.1	3.1	9/03/2021	-	-	-	-	<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	22
Lot 63	63	TP21/24	TP21/24-0.5	0.5	8/03/2021	-	-	-	-	<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	63	TP21/24	TP21/24-1.5	1.5	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	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)	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	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	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 63	63	TP21/74	TP21/74_1	1	15/03/2021	-	-	-	-	3.9	3.9	3.9	1.9	-	0.9	1.3	9	1.3	<20	2.6	2.7	0.8	<1	22	<0.5	-	-	5.5	<10	1.3	25	58.4
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	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	<0.5	<0.5	<20	<0.5	1.1	<0.5	<1	1.1	2	-	-	<0.5	<10	<1	<20	24.2
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	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	0.6	<0.5	<20	<0.5	3.9	<0.5	<1	4.1	<0.5	-	-	0.5	<10	1.2	24	16
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	Road	TP21/94	TP21/94_0.2	0.2	17/03/2021	-	-	-	-	<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
Road alignment	Road	TP21/94	TP21/94_0.6	0.6	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/83	TP19/83_1.0	0.9-1.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/83	TP19/83_3.0	2.9-3.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/84	TP19/84_1.0	0.9-1.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/84	TP19/84_2.0	1.9-2.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/85	TP19/85_1.0	0.9-1.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/85	TP19/85_2.0	1.9-2.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/85	TP19/85_3.0	2.9-3.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/87	TP19/87_1.0	0.9-1.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/87	TP19/87_2.0	1.9-2.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/87	D03_20191120	2.9-3.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/87	TP19/87_3.0	2.9-3.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 60	14	TP20/21	TP20/21_0.8	0.7-0.9	16/09/2020	-	-	-	-	<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
Lot 60	14	TP20/22	TP20/22_1.5	1.4-1.6	16/09/2020	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	0.6	<0.5	-	<0.5	2.6	<0.5	-	3	-	-	-	1.2	-	-	-	9.9
Road alignment	14	TP20/23	TP20/23_1.5	1.4-1.6	16/09/2020	-	-	-	-	1.3	1.9	1.6	<0.5	-	<0.5	0.7	6.8	<0.5	-	3.4	2.7	<0.5	-	4.8	-	-	-	8.2	-	-	-	36.1
Lot 63	14	TP20/24	TP20/24_1.0	0.9-1	30/09/2020	-	-	-	-	<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
Road alignment	14	TP20/25	TP20/25_0.7	0.7-0.8	7/10/2020	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	0.7	<0.5	-	<0.5	4.3	<0.5	-	2.1	-	-	-	<0.5	-	-	-	14.3
Lot 61	14	TP20/26a	TP20/26A_0.7	0.6-0.7	7/10/2020	-	-	-	-	12	12	12	2.8	-	3.9	2.3	19	1.6	-	2.4	1.4	1	-	7.6	-	-	-	12	-	-	-	74.7
Lot 58	14	TP20/27	TP20/27_0.45	0.35-0.45	7/10/2020	-	-	-	-	<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
Lot 58	14	TP20/28	TP20/28_1.55	1.45-1.55	16/10/2020	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	0.5	<0.5	-	<0.5	0.6	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	2.8
Lot 59	14	TP20/29a	TP20/29A_0.8	0.7-0.8	16/10/2020	-	-	-	-	<0.5	1.2	0.6	<0.5	-	<0.5	<0.5	0.8	<0.5	-	<0.5	4.5	<0.5	-	9.8	-	-	-	1	-	-	-	21.2
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	-	-	-	-	7.3	7.3	7.3	2.5	-	1.6	0.9	11	1.4	-	2.9	16	0.9	-	51	-	-	-	13	-	-	-	133.4
Road alignment	14	TP20/29c	TP20/29C_0.5	0.4-0.5	16/10/2020	-	-	-	-	<0.5	1.2	0.7	<0.5	-	<0.5	<0.5	1	<0.5	-	<0.5	2.4	<0.5	-	4.4	-	-	-	0.9	-	-	-	19
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	-	-	-	-	220	220	220	75	-	30	44	220	77	-	37	58	31	-	250	-	-	-	120	-	-	-	1354.7
Lot 59	14	TP20/30	TP20/30_0.5	0.4-0.6	16/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	14	TP20/31	TP20/31_0.55	0.45-0.55	16/10/2020	-	-	-	-	0.8	1.4	1.1	<0.5	-	0.6	<0.5	0.7	<0.5	-	0.6	<0.5	<0.5	-	0.6	-	-	-	0.8	-	-	-	4.7

Statistical Summary

Number of Results	64	75	75	17	156	156	156	193	33	310	243	310	310	106	310	310	310	241	310	241	2	34	310	106	106	106	275
Number of Detects	6	73	11	8	31	156	156	26	6	43	31	79	30	0	65	65	36	0	97	1	0	14	84	0	4	4	108
Minimum Concentration	<0.2	<0.5	<0.05	<0.1	<0.5	1.2	0.6	<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
Minimum Detect	0.5	0.71	0.6	0.1	0.6	1.2	0.6	0.5	0.6	0.1	0.1	0.2	0.3	ND	0.1	0.1	0.1	ND	0.1	2	ND	0.6	0.1	ND	1.1	23	0.2
Maximum Concentration	16	8.6	8.6	15	300	300	300	84	3.3	30	71	720	77	<50	93	58	39	<10	250	<5	<5	52.3	250	<10	<4	<50	2212.6
Maximum Detect	16	8.6	8.6	15	300	300	300	84	3.3	30	71	720	77	ND	93	58	39	ND	250	2	ND	52.3	250	ND	1.3	25	2212.6
Average Concentration	1.3	1.4	0.59	1.8	5.8	6.6	6.1	1.6	0.46	0.94	1	5.8	1.1	10	1.5	1.7	0.82	0.68	6.6	0.29		4.5	4.3	5	0.55	11	36
Median Concentration	0.5	1.2	0.25	0.1	0.25	1.2	0.6	0.25	0.25	0.25	0.25	0.25	0.25	10	0.25	0.25	0.25	0.5	0.25	0.25	2.5	0.25	0.25	5	0.5	10	0.5
Standard Deviation	2.7	1.1	1.3	4.3	31	31	31	8.4	0.6	3.6	5.5	44	6.4	1.5	6.4	5.7	3.4	0.58	24	0.33		11	20	0	0.2	3	174
Number of Guideline Exceedances	0	0	0	0	0	0	4	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	4	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

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																																						VOC			
				Total MAH	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2,4-trimethylbenzene	1,2-dibromo-3-chloropropane	1,2-dibromoethane	1,2-dichloroethane	1,2-dichloropropane	1,3,5-trimethylbenzene	1,3-dichloropropane	2,2-dichloropropane	2-butanone (MEK)	2-chlorotoluene	2-hexanone (MBK)	4-chlorotoluene	4-methyl-2-pentanone (MIBK)	Acetone	Allyl chloride	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane	Chloroethane
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	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	0.5	0.5	0.5	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 53	60	TP21/05	TP21/05-0.7	0.7	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	60	TP21/05	TP21/05-1.0	1	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 61	61	TP21/29	TP21/29-0.7	0.7	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/29	TP21/29-1.7	1.7	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/31	DUP02_210309	0.9	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/31	TP21/31-0.9	0.9	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/31	TRIP02_210309	0.9	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/31	TP21/31-2.0	2	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/85	TP21/85_0.4	0.4	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/85	TP21/85_2.0	2	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/86	TP21/86_0.5	0.5	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/86	TP21/86_1.5	1.5	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/87	TP21/87_1.0	1	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/87	TP21/87_1.5	1.5	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/25	TP21/25_0.1	0.1	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/25	TP21/25_1.0	1	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/26	DUP04_210311	0.6	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/26	TP21/26_0.6	0.6	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/26	TRIP04_210311	0.6	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/26	TP21/26_1.1	1.1	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/27	TP21/27_0.3	0.3	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/27	TP21/27_0.8	0.8	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/28	TP21/28_0.2	0.2	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/28	TP21/28_2.0	2	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/82	TP21/82_0.5	0.5	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/82	TP21/82_1.2	1.2	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/84	TP21/84_0.8	0.8	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/84	TP21/84_2.0	2	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	38	-	<5	<5	<5	15	<5	-	<5	-	-	<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	3.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	12	-	<0.5	<0.5	<0.5	5.4	<0.5	-	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

| | | |

	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	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 51	1	SB01	SB01_0.2-0.5	0.2-0.5	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	SB02	SB02_0.0-0.3	0-0.3	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	SB03	SB03_0.45-0.6	0.45-0.6	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	SB05	SB05_0.4-0.6	0.4-0.6	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	SB05	SB05_0.0-0.3	0-0.3	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	SB06	D091209-01	0.2-0.4	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	SB06	SB06_0.2-0.9	0.2-0.4	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	SB07	D091208_02	0.1-0.3	9/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	SB07	SB07_0.1-0.3	0.1-0.3	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	SB08	SB08_0.0-0.3	0-0.3	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	SB09	SB09_0.4-0.7	0.4-0.7	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	SB10	SB10_0.2-0.5	0.2-0.5	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	SB11	SB11_0.15-0.25	0.15-0.25	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	SB12	SB12_0.35-0.5	0.35-0.5	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	SB13	SB13_0.15-0.3	0.15-0.3	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	SB14	SB14_0.1-0.5	0.1-0.5	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	SB15	SB15_0.0-0.5	0-0.5	16/12/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	TP18/28	TP18/28_0.3	0.3-0.3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	TP18/28	TP18/28_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
Lot 52	1	TP18/28	TP18/28_1.2	1.2-1.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	TP18/28	TP18/28_2.2	-2.2	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
Lot 52	1	TP18/28	TP18/28_2.2	2.2-2.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	TP18/28	TP18/28_3.0	3-3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	TP19/01	DOI_050819	0.7-0.9	5/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	TP19/01	TP19/01_0.8	0.7-0.9	5/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	TP19/01	TP19/01_0.1	0-0.2	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	TP19/04	TP19/04_0.1	0-0.2	5/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	TP19/05	TP19/05_0.2	0.1-0.3	5/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	TP19/06	TP19/06_0.5	0.4-0.6	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 51	1	TP19/06	TP19/06_1.0	0.9-1.1	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	1	TP19/08	TP19/08_1.0	0.9-1.1	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	1	TP19/08	TP19/08_0.1	0-0.2	18/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	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	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)																												

Alternate_Name	Monitoring_Zone	Location_Code	Field_ID	Sample_Depth_Range	Sampled_Date_Time																									
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	3	SB18/24	MW(SB)18/24_0.3_180209	0.3-0.3	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	3	SB18/24	MW(SB)18/24_1.2_180209	1.2-1.2	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	3	SB18/24	MW(SB)18/24_3.0_180209	3-3	9/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	<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	<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	<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	<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	<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	<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	<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 62	3	TP18/20	TP18/20_0.45_20180208	-0.45	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
Lot 62	3	TP18/20	TP18/20_0.45_20180208	0.45-0.45	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	TP18/20	TP18/20_0.7_20180208	0.7-0.7	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	TP18/20	TP18/20_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
Lot 62	3	TP18/20	TP18/20_1.2_20180208	1.2-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	TP18/20	TP18/20_2.3_20180208	2.3-2.3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	<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	<5	-	-	<5	<5
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	<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	<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 62	3	TP19/27	TP19/27_0.6	0.5-0.7	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	-	<0.5
Lot 62	3	TP19/27	TP19/27_1.5	1.4-1.6	24/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	TP19/32	TP19/32_1.0	0.9-1.1	23/07/2019	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	-	-	-	-	<1	<1	-	<1	<1	<1	-	<1	<1	<1	-	<1
Lot 62	3	TP19/32	TP19/32_0.1	0-0.2	23/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	<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	-	<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	-	<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	-	<2.5
Lot 60	3	TP19/35	TP19/35_0.1	0-0.2	23/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	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	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)																												

Alternate_Name	Monitoring_Zone	Location_Code	Field_ID	Sample_Depth_Range	Sampled_Date_Time																										
Lot 64	4	MW12/01	MW12/01_0.15	0.15-0.15	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW12/01	MW12/01_2.5	2.5-2.5	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW12/01	MW12/01_2.0	2-2	27/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW12/20	MW12/20_0.4	0.4-0.4	6/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW12/20	MW12/20_2.4	2.4-2.4	6/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW12/20	MW12/20_2.0	2-2	6/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21_0.5	0.5-0.5	7/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21_1.4	1.4-1.4	7/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21_2.4	2.4-2.4	7/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21_3.5	3.5-3.5	7/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/03	MW20/03_0.8	0.7-0.9	13/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/03	MW20/03_3.0	2.9-3.1	13/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/03	MW20/03_6.0	5.9-6.1	13/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/04	MW20/04_1.0	0.9-1.1	13/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/04	MW20/04_3.5	3.4-3.6	13/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/04	MW20/04_4.5	4.4-4.6	13/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/05	MW20/05_3.5	3.4-3.6	13/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/06	MW20/06_6.0	5.8-6	14/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/07	MW20/07_6.0	5.8-6	14/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/13	D01_20200714		14/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/13	MW20/13_6.0	5.8-6	14/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/13	T01_20200714	5.8-6	14/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/17	MW20/17_3.0	2.9-3.1	9/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	SB18/23	MW(SB)18/23_0.3_20180208	0.3-0.3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	SB18/23	MW(SB)18/23_1.2_20180208	-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	SB18/23	MW(SB)18/23_1.2_20180208	1.2-1.2	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	SB18/23	MW(SB)18/23_3.0_20180208	3-3	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	SB5B	SB5B_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	<0.5	<0.5	<0.5	<5	-	-	<5	<5
Lot 64	4	SB5B	T03_050218	0.9-1.1	5/02/2018	<1	<1	<1	<1	-	<1	<1	<1	-	-	<1	<1	2	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	-	-	-	<1
Lot 64	4	SB5B	SB5B_4.0	3.9-4	5/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	TP18/26	TP18/26_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	<0.5	<0.5	<5	-	-	<5	<5
Road alignment	4	TP18/26	TP18/26_0.3	0.3-0.3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	TP18/26	TP18/26_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	<0.5	<0.5	<5	-	-	<5	<5
Road alignment	4	TP18/26	TP18/26_1.2	1.2-1.2	6/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	TP18/26	TP18/26_1.7	1.7-1.7	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	TP18/27_0.3	0.3-0.3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	QC18_102	1.2-1.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	TP18/27_1.2	1.2-1.2	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	TP18/27_1.8	-1.8	7/02/2018	<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	<0.5	<0.5	<5	-	-	<5	<5
Lot 64	4	TP18/27	TP18/27_1.8	1.8-1.8	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	QC18_103	3-3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP18/27	TP18/27_3.0	3-3	7/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/19	TP19/19_0.6	0.5-0.7	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/19	TP19/19_2.0	1.9-2.1	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/20	D02_160719	0.3-0.5	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/20	T02_160719	0.3-0.5	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/20	TP19/20_0.4	0.3-0.5	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/20	D01_150719	0-0.2	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/20	D01_160719	0-0.2	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/20	T01_160719	0-0.2	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/20	TP19/20_0.1	0-0.2	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/21	TP19/21_2.8	2.7-2.9	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/21	TP19/21_4.0	3.9-4.1	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/22	TP19/22_0.5	0.4-0.6	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	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	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 64	4	TP19/22	TP19/22_1.2	1.1-1.3	16/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/23	D01_150719	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/23	T01_150719	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/23	TP19/23_1.5	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/23	TP19/23_3.5	3.4-3.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/24	TP19/24_1.5	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/24	TP19/24_3.0	2.9-3.1	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/24	TP19/24_4.2	4.1-4.3	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/25	TP19/25_0.5	0.4-0.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/25	TP19/25_1.3	1.2-1.4	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/28	TP19/28_1.0	0.9-1.1	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/28	D01_190719	0-0.2	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/28	T01_190719	0-0.2	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/28	TP19/28_0.1	0-0.2	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/29	TP19/29_1.8	1.7-1.9	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/29	TP19/29_2.2	2.1-2.3	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/30	D01_220719	0.3-0.5	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/30	T01_220719	0.3-0.5	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/30	TP19/30_0.4	0.3-0.5	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	TP19/30	TP19/30_1.2	1.1-1.3	22/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/74	TP19/74_1.5	1.4-1.6	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/74	TP19/74_2.5	2.4-2.6	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/75	TP19/75_1.5	1.4-1.6	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/75	TP19/75_3.0	2.9-3.1	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/76	TP19/76_1.5	1.4-1.6	19/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/76	TP19/76_2.2	2.1-2.3	19/07/2019	<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 64	4	TP19/77	D02_150719	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/77	T02_150719	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/77	TP19/77_1.5	1.4-1.6	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/77	TP19/77_4.0	3.9-4.1	15/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW11/16	MW11/16_0.45	0.45-0.45	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW11/16	MW11/16_3.3	3.3-3.3	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW11/17	D_220911_01	1-1	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW11/17	MW11/17_1.0	1-1	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW11/17	T-220911-01	1-1	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW11/17	MW11/17_2.5	2.5-2.5	22/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/39	TP19/39_0.2	0.1-0.3	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/39	TP19/39_0.4	0.3-0.5	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/40	TP19/40_0.1	0.1-0.3	30/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/40	TP19/40_0.2	0.1-0.3	30/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/40	TP19/40_0.2	1.9-2.1	30/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/41	D01_290719	0.1-0.3	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/41	TO1_290719	0.1-0.3	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/41	TP19/41_0.2	0.1-0.3	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	TP19/41	TP19/41_0.4	0.3-0.5	29/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/01	BH11|01-0.1	0.1-0.2	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/01	BH11|01-0.8	0.8-0.9	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/01	DUP_01	0.8-0.9	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/01	BH11|01-1.5	1.5-1.6	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/02	BH11|02-0.1	0.1-0.2	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/02	BH11|02-1.4	1.4-1.5	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/03	BH11|03-0.1	0.1-0.2	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/03	BH11|03-1.5	1.5-1.6	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	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	0.5	5	0.5
Clyde WARP SSTL (Direct Contact - Commercial)																												
Clyde WARP SSTL (Direct Contact - Construction Worker)																												
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Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m 4-6m																												
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Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m 0-0.99m																												
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NEPM (1999) HIL D - Commercial/Industrial																												
NEPM (1999) HSL D Comm/Indust - Asbestos																												
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																												

Alternate_Name	Monitoring_Zone	Location_Code	Field_ID	Sample_Depth_Range	Sampled_Date_Time																										
Lot 53	53	TP21/06	TP21/06-0.3	0.3	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/06	TP21/06-0.8	0.8	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/36	TP21/36_0.5	0.5	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/36	TP21/36_1.5	1.5	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/39	TP21/39_0.3	0.3	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/39	DUP09_210319	1.2	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/39	TP21/39_1.2	1.2	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/39	TRIP09_210319	1.2	19/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/41	TP21/41_1.0	1	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	53	TP21/41	TP21/41_2.0	2	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	54	TP21/30	TP21/30-1.0	1	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	54	TP21/30	TP21/30-2.1	2.1	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 54	54	TP21/48	DUP11_210330	0.2	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 54	54	TP21/48	TP21/48_0.2	0.2	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 54	54	TP21/48	TRIP 11_210330	0.2	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 54	54	TP21/48	TP21/48_1.5	1.5	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	55	TP21/51	TP21/51_0.5	0.5	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	55	TP21/51	TP21/51_1.5	1.5	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	55	TP21/53	TP21/53_0.5	0.5	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 55	55	TP21/53	TP21/53_1.5	1.5	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/55	TP21/55_0.6	0.6	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/55	TP21/55_1.2	1.2	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/58	TP21/58_0.5	0.5	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/58	TP21/58_1.2	1.2	30/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/60	TP21/60_1.0	1	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/60	DUP10-210329	2	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/60	TP21/60_2.0	2	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	56	TP21/60	TRIP10_210329	2	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/32	TP21/32_1.0	1	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/33	TP21/33_0.5	0.5	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/33	TP21/33_1.4	1.4	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/34	TP21/34_0.4	0.4	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/34	TP21/34_0.6	0.6	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/35	TP21/32_0.3	0.3	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/35	TP21/35_0.6	0.6	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/35	DUP03_210310	1	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/35	TP21/35_1.0	1	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/35	TRIP03_210310	1	10/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/63	TP21/63_0.2	0.2	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	58	TP21/63	TP21/63_1.5	1.5	29/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 53	60	TP21/05	TP21/05-0.7	0.7	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	60	TP21/05	TP21/05-1.0	1	8/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 61	61	TP21/29	TP21/29-0.7	0.7	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/29	TP21/29-1.7	1.7	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/31	DUP02_210309	0.9	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/31	TP21/31-0.9	0.9	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/31	TRIP02_210309	0.9	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/31	TP21/31-2.0	2	9/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/85	TP21/85_0.4	0.4	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/85	TP21/85_2.0	2	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/86	TP21/86_0.5	0.5	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/86	TP21/86_1.5	1.5	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/87	TP21/87_1.0	1	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	61	TP21/87	TP21/87_1.5	1.5	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/25	TP21/25_0.1	0.1	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/25	TP21/25_1.0	1	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/26	DUP04_210311	0.6	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/26	TP21/26_0.6	0.6	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/26	TRIP04_210311	0.6	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/26	TP21/26_1.1	1.1	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/27	TP21/27_0.3	0.3	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/27	TP21/27_0.8	0.8	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/28	TP21/28_0.2	0.2	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/28	TP21/28_2.0	2	11/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/82	TP21/82_0.5	0.5	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/82	TP21/82_1.2	1.2	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/84	TP21/84_0.8	0.8	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	62	TP21/84	TP21/84_2.0	2	18/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	<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	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	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	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)																												

Alternate_Name	Monitoring_Zone	Location_Code	Field_ID	Sample_Depth_Range	Sampled_Date_Time																									
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	Road	TP21/94	TP21/94_0.2	0.2	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	Road	TP21/94	TP21/94_0.6	0.6	17/03/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/83	TP19/83_1.0	0.9-1.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/83	TP19/83_3.0	2.9-3.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/84	TP19/84_1.0	0.9-1.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/84	TP19/84_2.0	1.9-2.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/85	TP19/85_1.0	0.9-1.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/85	TP19/85_2.0	1.9-2.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/85	TP19/85_3.0	2.9-3.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/87	TP19/87_1.0	0.9-1.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/87	TP19/87_2.0	1.9-2.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/87	D03_20191120	2.9-3.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	TP19/87	TP19/87_3.0	2.9-3.1	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 61	14	TP20/26a	TP20/26A_0.7	0.6-0.7	7/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	14	TP20/27	TP20/27_0.45	0.35-0.45	7/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	14	TP20/28	TP20/28_1.55	1.45-1.55	16/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	14	TP20/31	TP20/31_0.55	0.45-0.55	16/10/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary

Number of Results	67	67	67	67	50	1	67	67	16	66	67	51	51	50	51	51	67	67	51	67	67	67	50	67	16	16	50	67
Number of Detects	0	0	0	0	0	0	0	0	0	0	2	0	3	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	<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
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	<1	<5	<5	<5	<5	<5	<1	2	<0.5	<1	<1	<5	<5	<1	<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	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration	0.31	2	0.31	0.31	0.25		0.31	2	0.47	0.3	0.32	0.25	0.3	0.25	0.25	0.25	0.31	0.31	0.25	0.31	0.31	0.31	0.25	2	0.47	0.47	2.5	2
Median Concentration	0.25	2.5	0.25	0.25	0.25	0.5	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	0.3	0.93	0.3	0.3	0		0.3	0.93	0.6	0.3	0.31	0.035	0.26	0	0.035	0.035	0.3	0.3	0.035	0.3	0.3	0.3	0	0.93	0.6	0.6	0	0.93
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 | | | | | |

| | OCs | | | | | | | | | | | | | | | | | | | | | | | | | | OPs | | | | | | | | | | | | | | | | | | | | | | | | | | PCBs | | | | | | | | Semivolatile Organic Compounds | | | | | | | | | | | | | | | | | | |

| | | | | | 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	-	-	-
TP19/01_0.1 AS	TP19/01	0.2	Normal	18/07/2019	1	Chrysotile and amosite asbestos detected.	Nil	Nil
TP19/01_0.1 BS	TP19/01	0.2	Normal	18/07/2019	1	No asbestos detected at the reporting limit of 0.001% w/w.*Organic fibre detected.No trace asbestos detected.	Nil	Nil
TP19/32_0.1 AS	TP19/32	0.1	Normal	19/07/2019	3	Chrysotile asbestos detected.	Nil	Nil
TP19/32_0.1 BS	TP19/32	0.1	Normal	19/07/2019	3	AF:Chrysotile and amosite asbestos detected in fibre cement fragments.Approximate raw weight of AF = 0.029gEstimated asbestos content in AF = 0.0044g*Total estimated asbestos concentration in AF = 0.00066% w/w*No asbestos detected at the reporting limit of 0.001% w/w.*Organic fibre detected.No trace asbestos detected.	Nil	AF:Chrysotile and amosite asbestos detected in fibre cement fragments.No asbestos detected at the reporting limit of 0.001% w/w.*
TP19/21_ACM2.0	TP19/21	2	Normal	16/07/2019	4	Chrysotile asbestos detected.	Nil	Nil
TP19/21_2.0 AS	TP19/21	2	Normal	19/07/2019	4	Chrysotile asbestos detected.	Nil	Nil
TP19/21_2.0 BS	TP19/21	2	Normal	19/07/2019	4	FA:Chrysotile and amosite asbestos detected in soft fibrous plaster-like material.Approximate Raw weight of FA = 0.20gEstimated asbestos content in FA = 0.061g*AF:Chrysotile asbestos detected in fibre cement fragments.Approximate raw weight of AF = 0.033gEstimated asbestos content in AF = 0.0049g*Total estimated asbestos content in FA and AF = 0.066gTotal estimated asbestos concentration in FA and AF = 0.0097% w/w*Organic fibre detected.No trace asbestos detected.	FA:Chrysotile and amosite asbestos detected in soft fibrous plaster-like material.	AF:Chrysotile asbestos detected in fibre cement fragments.
TP19/23_ACM2.5	TP19/23	2.5	Normal	15/07/2019	4	Chrysotile; amosite and crocidolite asbestos detected.	Nil	Nil
TP19/25_2.5 BS	TP19/25	2.5	Normal	19/07/2019	4	No asbestos detected at the reporting limit of 0.001% w/w.*Organic fibre detected.No trace asbestos detected.	Nil	Nil
TP19/68_1.0 AS	TP19/68	1	Normal	19/07/2019	4	Chrysotile asbestos detected.	Nil	Nil
TP19/68_1.0 BS	TP19/68	1	Normal	19/07/2019	4	No asbestos detected at the reporting limit of 0.001% w/w.*Organic fibre detected.No trace asbestos detected.	Nil	Nil
TP19/74_1.5 AS	TP19/74	1.5	Normal	19/07/2019	4	Chrysotile asbestos detected.	Nil	Nil
TP19/74_1.5 BS	TP19/74	1.5	Normal	19/07/2019	4	FA:Chrysotile and amosite asbestos detected in weathered fibre cement fragments.Approximate Raw weight of FA = 0.11gEstimated asbestos content in FA = 0.034g*AF:Chrysotile and amosite asbestos detected in the form of loose fibre bundles.Approximate raw weight of AF = 0.020g*Estimated asbestos content in AF = 0.018g*Total estimated asbestos content in FA and AF = 0.052g*Total estimated asbestos concentration in FA and AF = 0.0098% w/w*Organic fibre detected.No trace asbestos detected.	FA:Chrysotile and amosite asbestos detected in weathered fibre cement fragments.	AF:Chrysotile and amosite asbestos detected in the form of loose fibre bundles.
TP19/75_0.5	TP19/75	0.5	Normal	19/07/2019	4	No asbestos detected.Synthetic mineral fibre detected.No respirable fibres detected.	Nil	Nil
TP19/75_1.5	TP19/75	1.5	Normal	19/07/2019	4	No asbestos detected at the reporting limit of 0.01% w/w.Organic fibre detected.No respirable fibres detected.	Nil	Nil
TP19/76_2.2 AS	TP19/76	2.2	Normal	19/07/2019	4	Chrysotile asbestos detected.	Nil	Nil
TP19/76_2.2 BS	TP19/76	2.2	Normal	19/07/2019	4	AF:Chrysotile asbestos detected in fibre cement fragments and in the form of loose fibre bundles.Approximate raw weight of AF = 0.21g*Estimated asbestos content in AF = 0.040g*Total estimated asbestos concentration in AF = 0.0069% w/w*Organic fibre detected.No trace asbestos detected.	Nil	AF:Chrysotile asbestos detected in fibre cement fragments and in the form of loose fibre bundles.
TP19/81_1.0 AS	TP19/81	1	Normal	19/07/2019	4	Chrysotile and amosite asbestos detected.	Nil	Nil
TP19/81_1.0 BS	TP19/81	1	Normal	19/07/2019	4	No asbestos detected at the reporting limit of 0.001% w/w.*Organic fibre detected.No trace asbestos detected.	Nil	Nil
TP21/01_0.2	TP21/01	0.2	Normal	18/03/2021	1	No	Nil	Nil
TP21/01_0.2 ACM	TP21/01	0.2	Normal	18/03/2021	1	Yes	Nil	Nil
TP21/01_1.0	TP21/01	1	Normal	18/03/2021	1	No	Nil	Nil
TP21/01_0.2 ACM	TP21/01	0.2	Normal	18/03/2021	1	Yes	Nil	Nil
TP21/01_1.0	TP21/01	1	Normal	18/03/2021	1	No	Nil	Nil
TP21/02_0.2	TP21/02	0.2	Normal	18/03/2021	1	No	Nil	Nil
TP21/02_0.5	TP21/02	0.5	Normal	18/03/2021	1	No	Nil	Nil
TP21/03_0.3	TP21/03	0.3	Normal	18/03/2021	1	No	Nil	Nil
TP21/03_1.2	TP21/03	1.2	Normal	18/03/2021	1	No	Nil	Nil
TP21/04_0.1	TP21/04	0.1	Normal	18/03/2021	1	No	Nil	Nil
TP21/04_0.5	TP21/04	0.5	Normal	18/03/2021	1	Yes	Nil	Nil
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
TP21/92_0.4	TP21/92	0.4	Normal	18/03/2021	1	Yes	Nil	Nil

Statistical Summary

Number of Results	9	0	1
Number of Detects	9	0	1
Minimum Concentration	0.001	99999	0.001
Minimum Detect	0.001	ND	0.001
Maximum Concentration	0.21	0	0.001
Maximum Detect	0.21	ND	0.001
Average Concentration	0.063		
Median Concentration	0.01		0.001
Standard Deviation	0.088		

						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	gs	%w/w	%w/w	Comment	gs	gs	gs	gs	gs	gs	gs	gs	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**	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
TP19/01_0.1 AS	TP19/01	0.2	Normal	18/07/2019	1	-	ND	0.086	ND	160x70x7	113	-	-	11000	113	-	-	-	Nil	Nil	Nil
TP19/01_0.1 BS	TP19/01	0.2	Normal	18/07/2019	1	Nil	ND	ND	ND	-	ND	ND	ND		551	ND	ND	ND	Organic fibres detected.	No respirable fibres detected.	Nil
TP19/32_0.1 AS	TP19/32	0.1	Normal	19/07/2019	3	-	ND	0.071	ND	145x40x4	94	-	-	11000	94	-	-	-	Nil	Nil	Nil
TP19/32_0.1 BS	TP19/32	0.1	Normal	19/07/2019	3	Nil	0.0291	ND	0.0007	-	ND	ND	0.0044		662	0.0044	ND	ND	Organic fibres detected.	No respirable fibres detected.	Nil
TP19/21_ACM2.0	TP19/21	2	Normal	16/07/2019	4	Nil	ND	ND	ND	110x70x5	-	-	-		55	-	-	-	Nil	Nil	Nil
TP19/21_2.0 AS	TP19/21	2	Normal	19/07/2019	4	-	ND	0.750	ND	100x50x5	990.6	-	-	11000	51	-	-	-	Nil	Nil	Nil
TP19/21_2.0 BS	TP19/21	2	Normal	19/07/2019	4	Nil	0.0325	ND	0.0097	-	ND	ND	0.0658		681	0.0049	0.0609	0.203	Organic fibres detected.	No respirable fibres detected.	Nil
TP19/23_ACM2.5	TP19/23	2.5	Normal	15/07/2019	4	Nil	ND	ND	ND	90x70x3	-	-	-		97	-	-	-	Nil	Nil	Nil
TP19/25_2.5 BS	TP19/25	2.5	Normal	19/07/2019	4	Nil	ND	ND	ND	-	ND	ND	ND		630	ND	ND	ND	Organic fibres detected.	No respirable fibres detected.	Nil
TP19/68_1.0 AS	TP19/68	1	Normal	19/07/2019	4	-	ND	0.086	ND	200x100x7	113	-	-	11000	113	-	-	-	Nil	Nil	Nil
TP19/68_1.0 BS	TP19/68	1	Normal	19/07/2019	4	Nil	ND	ND	ND	-	ND	ND	ND		793	ND	ND	ND	Organic fibres detected.	No respirable fibres detected.	Nil
TP19/74_1.5 AS	TP19/74	1.5	Normal	19/07/2019	4	-	ND	0.126	ND	170x70x7	166	-	-	11000	166	-	-	-	Nil	Nil	Nil
TP19/74_1.5 BS	TP19/74	1.5	Normal	19/07/2019	4	Nil	0.0201	ND	0.0098	-	ND	ND	0.052		529	0.0181	0.0339	0.113	Organic fibres detected.	No respirable fibres detected.	Nil
TP19/75_0.5	TP19/75	0.5	Normal	19/07/2019	4	Nil	ND	ND	ND	140x60x10	-	-	-		41	-	-	-	Nil	No respirable fibres detected.	Synthetic mineral fibres detected.
TP19/75_1.5	TP19/75	1.5	Normal	19/07/2019	4	Nil	ND	ND	ND	-	ND	ND	ND		54	ND	ND	ND	Organic fibres detected.	No respirable fibres detected.	Nil
TP19/76_2.2 AS	TP19/76	2.2	Normal	19/07/2019	4	-	ND	0.786	ND	120x70x7	62	-	-	11000	1037.3	-	-	-	Nil	Nil	Nil
TP19/76_2.2 BS	TP19/76	2.2	Normal	19/07/2019	4	Nil	0.211	ND	0.0069	-	ND	ND	0.0401		580	0.0401	ND	ND	Organic fibres detected.	No respirable fibres detected.	Nil
TP19/81_1.0 AS	TP19/81	1	Normal	19/07/2019	4	-	ND	0.101	ND	140x60x7	133	-	-	11000	133	-	-	-	Nil	Nil	Nil
TP19/81_1.0 BS	TP19/81	1	Normal	19/07/2019	4	Nil	ND	ND	ND	-	ND	ND	ND		589	ND	ND	ND	Organic fibres detected.	No respirable fibres detected.	Nil
TP21/01_0.2	TP21/01	0.2	Normal	18/03/2021	1	-	ND	ND	ND	-	0	ND	ND	11000	573	ND	ND	ND	Yes	-	-
TP21/01_0.2 ACM	TP21/01	0.2	Normal	18/03/2021	1	Chrysotile	ND	0.00003	ND	140x25x5	4	0.0033	ND	11000	4	ND	ND	ND	No	-	1
TP21/01_1.0	TP21/01	1	Normal	18/03/2021	1	-	ND	ND	ND	-	0	ND	ND	11000	479	ND	ND	ND	Yes	-	-
TP21/02_0.2	TP21/02	0.2	Normal	18/03/2021	1	-	ND	ND	ND	-	0	ND	ND	11000	623	ND	ND	ND	Yes	-	-
TP21/02_0.5	TP21/02	0.5	Normal	18/03/2021	1	-	ND	ND	ND	-	0	ND	ND	11000	570	ND	ND	ND	Yes	-	-
TP21/03_0.3	TP21/03	0.3	Normal	18/03/2021	1	-	ND	ND	ND	-	0	ND	ND	11000	691	ND	ND	ND	Yes	-	-
TP21/03_1.2	TP21/03	1.2	Normal	18/03/2021	1	-	ND	ND	ND	-	0	ND	ND	11000	516	ND	ND	ND	Yes	-	-
TP21/04_0.1	TP21/04	0.1	Normal	18/03/2021	1	-	ND	ND	ND	-	0	ND	ND	11000	731	ND	ND	ND	Yes	-	-
TP21/04_0.5	TP21/04	0.5	Normal	18/03/2021	1	Chrysotile	ND	0.00017	ND	-	0.013	ND	ND	11000	780	ND	ND	ND	Yes	-	-
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	-	-
TP21/92_0.4	TP21/92	0.4	Normal	18/03/2021	1	Chrysotile and amosite	ND	0.0225	ND	-	27	0.027	ND	11000	548	ND	ND	ND	Yes	-	-

Statistical Summary

Number of Results	25	40	40	40	11	40	40	40		40	40	40	40	0	21	16
Number of Detects	25	4	10	4	11	31	12	14		40	14	12	12	0	21	16
Minimum Concentration	99999	0	0	0	90	0	0	0		4	0	0	0	99999	99999	1
Minimum Detect	ND	0.0201	3.33333E-05	0.0007	90	0.013	0.0033	0.0044		4	0.0044	0.0339	0.113	ND	ND	1
Maximum Concentration	0	0.211	0.785757576	0.0098	200	990.6	0.027	0.0658		1037.3	0.0401	0.0609	0.203	0	0	1
Maximum Detect	ND	0.211	0.785757576	0.0098	200	990.6	0.027	0.0658		1037.3	0.0401	0.0609	0.203	ND	ND	1
Average Concentration		0.0073	0.051	0.00068	138	46	0.001	0.0054		486	0.0023	0.0032	0.011			
Median Concentration		0	0	0	140	0	0	0		560.5	0	0	0			1
Standard Deviation		0.034	0.17	0.0024	32	166	0.0049	0.016		280	0.0079	0.013	0.042			

ERM

	Per- and Polyfluoroalkyl Subst									PFOS and PFOA																					Organic			
	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)	Perfluorodecanoic acid (PFDA)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorododecanoic acid (PFDoA)	Perfluorononanoic acid (PFNA)	Perfluorooctanesulfonamide (PFOSA)	Perfluorononanesulfonic acid (PFNS)	Perfluoropropanesulfonic acid (PFPrS)	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	Sum of US EPA PFAS (PFOS + PFOA)*
	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	5	5	5	5	5	5	50	10	5	5	5	5	10	5	5	10	10	5	5	5	5	5	5	5	5	5	5	5	5	5	0.005	0.005	0.005	0.005
CRC Care (2011) Direct Contact HSL D - Comm/Ind																																		
CRC Care (2011) Direct Contact Intrusive Maint. Worker																																		
NEPM (1999) HIL D - Commercial/Industrial																																		
NEPM (1999) HSL D Comm/Indust - VI Sand 0 to <1 m																																		
NEPM (1999) HSL D Comm/Indust - VI Sand 1 to <2 m																																		
NEPM (1999) HSL D Comm/Indust - VI Sand 2 to <4 m																																		
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																																		
PFAS NEMP (2018) - Industrial Commercial (Direct Contact)									20000		50000																							
VI Intrusive Mnt. Worker Sand 0-<2 m - CRC CARE (2011)																																		
VI Intrusive Mnt. Worker Sand 2-<4 m - CRC CARE (2011)																																		

Monitoring_Zone	Location_Code	Field_ID	Sample_Depth_Avg	Sampled_Date_Time	Sample_Type																																			
1	TP19/01	TP19/01_0.1	0.1	18/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
2	TP19/14	TP19/14_3.0	3	18/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
3	TP19/18	TP19/18_0.3	0.3	17/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
3	TP19/33	TP19/33_0.3	0.3	24/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	5.5	5.5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	0.0055	0.0055
3	TP19/33	DOI_240719	0.3	24/07/2019	Field_D	<5	<5	<5	<5	<5	<5	<50	<10	7.7	7.7	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	0.0077	0.0077
3	TP19/33	T01_240719	0.3	24/07/2019	Interlab_D	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	5.4	5.4	5.2	4.3	<0.2	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<1	<0.2	0.9	<0.2	<0.2	<0.2	0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	-	-	-	-
3	TP19/34	TP19/34_0.3	0.25	24/07/2019	Normal	<5	<5	<5	<5	<5	<5	237.7	197.8	72	72	5.8	<5	<10	120	17	<10	<10	<5	<5	<5	<5	17	<5	<5	<5	<5	<5	<5	5.9	<5	<0.005	<0.005	0.0778	0.0778
4	TP19/20	TP19/20_0.4	0.4	16/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
4	TP19/20	D02_160719	0.4	16/07/2019	Field_D	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
4	TP19/20	T02_160719	0.4	16/07/2019	Interlab_D	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	-	-	-	-
4	TP19/24	TP19/24_1.5	1.5	15/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	18	18	18	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	0.018	0.018
4	TP19/25	TP19/25_0.5	0.5	15/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	11	11	11	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	0.011	0.011
4	TP19/30	TP19/30_0.4	0.4	22/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
4	TP19/30	D01_220719	0.4	22/07/2019	Field_D	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
4	TP19/30	T01_220719	0.4	22/07/2019	Interlab_D	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	-	-	-	-
5	TP19/40	TP19/40_0.1	0.2	30/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
6	TP19/45	TP19/45_0.1	0.1	25/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
8	TP19/07	TP19/07_0.1	0.1	2/08/2019	Normal	<5	<5	<5	<5	<5	<5	<50	35	35	35	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	0.035	0.035
11	HA19/03	HA19/03_0.05	0.05	31/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
11	HA19/07	HA19/07_0.05	0.05	2/08/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	19	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
11	TP19/79	TP19/79_0.1	0.1	26/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
14	TP19/36	TP19/36_0.1	0.1	30/07/2019	Normal	<5	<5	<5	<5	<5	<5	214	<10	<5	<5	<5	<5	<10	<5	170	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	44	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
14	TP19/61	TP19/61_0.4	0.4	29/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
14	TP19/69	TP19/69_1.0	1	30/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
14	TP19/70	TP19/70_0.2	0.2	30/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
14	TP19/71	TP19/71_0.2	0.2	30/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
14	TP19/72	TP19/72_0.2	0.2	29/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
14	TP19/73	TP19/73_0.4	0.4	29/07/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005
15	TP19/10	TP19/10_0.3	0.3	1/08/2019	Normal	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.005	<0.005	<0.005	<0.005

Statistical Summary

Number of Results	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	26	26	26	26
Number of Detects	0	0	0	0	0	0	3	5	7	7	1	0	0	1	3	0	0	0	0	0	1	1	0	0	1	0	0	1	0	1	0	0	0	6	6
Minimum Concentration	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	<0.005	<0.005	<0.005	<0.005
Minimum Detect	ND	ND	ND	ND	ND	ND	5.4	5.4	5.2	4.3	5.8	ND	ND	120	17	ND	ND	ND	ND	ND	0.9	17	ND	ND	0.2	ND	ND	44	ND	5.9	ND	ND	ND	0.0055	0.0055
Maximum Concentration	<5	<5	<5	<5	<5	<5	237.7	197.8	72	72	5.8	<5	<10	120	170	<10	<10	<5	<5	<5	<5	17	<5	<5	<5	<5	<5	44	<5	5.9	<5	<0.005	<0.005	0.0778	0.0778
Maximum Detect	ND	ND	ND	ND	ND	ND	237.7	197.8	72	72	5.8	ND	ND	120	170	ND	ND	ND	ND	ND	0.9	17	ND	ND	0.2	ND	ND	44	ND	5.9	ND	ND	ND	0.0778	0.0778
Average Concentration	2.3	2.3	2.3	2.3	2.3	2.3	36	13	7.1	7	2.4	2.3	4.5	6.3	9.1	4.5	4.5	2.3	2.3	2.3	2.3	2.8	2.3	2.3	2.3	2.3	2.3	3.7	2.3	2.4	2.3	0.0025	0.0025	0.0079	0.0079
Median Concentration	2.5	2.5	2.5	2.5	2.5	2.5	25	5	2.5	2.5	2.5	2.5	5	2.5	2.5	5	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	0.0025	0.0025	0.0025	0.0025
Standard Deviation	0.7	0.7	0.7	0.7	0.74	0.74	53	36	14	14	0.99	0.7	1.5	22	31	1.5	1.5	0.74	0.62	0.74	0.67	2.8	0.74	0.74	0.73	0.74	0.7	7.8	0.74	1	0.74	0	0	0.016	0.016
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
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

	Dioxin-Like PCBs														Dioxins & Furans (PCDD-F)																
	PCB 105	PCB 114	PCB 123	PCB 126	PCB 156	PCB 157	PCB 167	PCB 169	PCB 189	PCB 77	PCB 81	WHO(2005)-PCB TEQ (lower)	WHO(2005)-PCB TEQ (medium)	WHO(2005)-PCB TEQ (upper)	1234678-HpCDD	1234678-HpCDF	1234789-HpCDF	123478-HxCDD	123478-HxCDF	123678-HxCDD	123678-HxCDF	123789-HxCDD	123789-HxCDF	12378-PeCDF	234678-HxCDF	23478-PeCDF	2378-TCDD (13C12)	2378-TCDF	sum HeptaCDD	sum HexaCDD
	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg
EQL		0.1	0.1	0.1		0.1					0.1					0.1			0.1				0.1		0.1		0.1			
USEPA (2019) RSL - Industrial Soil (Commercial Workers)																															
4	329	15.9	8.16	2.74	115	30.3	37.4	<2.41	10.4	110	2.26	0.32	0.36	0.39	3360	539	41.4	4.08	7.08	72.6	3.19	16.4	<1.11	2.09	2.32	1.54	0.954	2.04	5810	405
4	561	14.4	6.93	3.89	162	44	41.7	<2.42	12.4	201	2.94	0.45	0.49	0.52	3550	94.1	15.6	3.31	4.14	43.8	2.73	14	<2.66	3.08	1.28	1.3	0.491	1.47	6240	981
7	56.3	<4.68	<3.98	<5.08	<21.9	<4.48	<11	<11.9	<3.98	46.3	<3.88	0.01	0.44	0.88	44.1	<2.59	<1.89	<2.39	<1.99	<2.39	<1.99	<2.39	<1.99	<2.19	<1.99	<2.19	<0.9	<1.59	81.7	-
7	79	5.11	<3.7	<4.72	35	8.84	13.1	<11.1	3.99	86.4	<3.61	0.02	0.42	0.82	93.7	4.9	<1.76	<2.22	<1.85	5.87	<2.26	5.27	<1.85	<2.04	<1.85	<2.04	<0.83	<1.48	179	34.2
9	28.7	<2.9	<2.47	<3.14	<13.6	<2.77	<6.78	<7.4	<2.47	17.5	<2.4	0.00262	0.273	0.543	6.37	<1.6	<1.17	<1.48	<1.23	<1.48	<1.23	<1.48	<1.23	<1.36	<1.23	<1.36	<0.555	<0.986	14.2	2.76
10	412	19.2	13.7	8.34	144	40.4	61.4	<11.7	9.98	355	8.06	0.92	1.1	1.27	430	5.3	<1.85	5.5	<1.95	10.2	<1.95	14.8	<1.95	<2.14	<1.95	<2.14	<0.876	<1.56	733	170
11	56.2	2.8	1.65	3.89	82.4	31	20.7	<2.35	11.2	20.4	<0.765	0.401	0.472	-	196	15.6	0.604	2.46	1.06	6.33	1.35	5.29	<0.392	0.784	0.94	0.816	0.654	1.17	-	-
11	743	25.6	8.22	8.42	96.3	26.4	24.5	<7.72	17.8	1090	26.6	1	1.12	1.24	123	42.9	2.29	1.61	2.08	5.45	1.58	3.24	<1.29	<1.41	2.9	<1.41	4.12	1.14	222	39.8
12	17.9	1.14	1.85	<2.99	17.8	7.49	13.6	<2.38	47.4	9.31	<0.773	0.00551	0.376	-	43.6	7.05	0.599	1.1	0.858	2.38	0.737	2.3	<0.396	0.59	0.514	0.553	0.29	0.806	-	-
14	271	<6.67	7.61	10.7	148	46.2	67.8	<12	23.7	76	<3.89	1.11	1.29	1.47	217	39	3.39	3.44	3.44	8.95	3.19	8.76	<2	<2.2	3.79	<2.2	<0.898	2.16	363	83.2
14	72.3	4.82	<3.79	<4.83	26	6.06	<10.4	<11.4	<3.79	46.1	<3.69	0.01	0.43	0.84	238	5.1	<1.8	<2.27	<1.89	5.86	<1.89	5.81	<1.89	<2.08	<1.89	<2.08	<0.85	<1.51	406	47.8

Statistical Summary

Number of Results	11	11	11	11	11	11	11	11	11	11	11	11	11	9	11	11	11	11	11	11	11	11	11	11	11	11	11	9	8
Number of Detects	11	8	7	6	9	9	8	0	8	11	4	11	11	9	11	9	6	7	6	9	6	9	0	4	6	4	5	6	9	8
Minimum Concentration	17.9	1.14	1.65	2.74	<13.6	<2.77	<6.78	<2.35	<2.47	9.31	<0.765	0.00262	0.273	0.39	6.37	<1.6	0.599	1.1	0.858	<1.48	0.737	<1.48	<0.392	0.59	0.514	0.553	0.29	0.806	14.2	2.76
Minimum Detect	17.9	1.14	1.65	2.74	17.8	6.06	13.1	ND	3.99	9.31	2.26	0.00262	0.273	0.39	6.37	4.9	0.599	1.1	0.858	2.38	0.737	2.3	ND	0.59	0.514	0.553	0.29	0.806	14.2	2.76
Maximum Concentration	743	25.6	13.7	10.7	162	46.2	67.8	<12	47.4	1090	26.6	1.11	1.29	1.47	3550	539	41.4	5.5	7.08	72.6	3.19	16.4	<2.66	3.08	3.79	<2.2	4.12	2.16	6240	981
Maximum Detect	743	25.6	13.7	10.7	162	46.2	67.8	ND	47.4	1090	26.6	1.11	1.29	1.47	3550	539	41.4	5.5	7.08	72.6	3.19	16.4	ND	3.08	3.79	1.54	4.12	2.16	6240	981
Average Concentration	239	8.7	5	4.4	77	22	27	3.8	13	187	4.5	0.39	0.62	0.89	755	69	6.2	2.3	2.1	15	1.6	7.1	0.76	1.2	1.5	0.99	0.81	1.1	1561	220
Median Concentration	79	4.82	1.99	2.74	82.4	26.4	20.7	3.86	10.4	76	1.94	0.32	0.44	0.84	196	7.05	0.925	1.61	0.995	5.87	1.13	5.29	0.925	1.04	0.975	1.04	0.449	0.806	363	65.5
Standard Deviation	247	8.5	4.1	3.2	60	17	23	2.2	13	316	7.6	0.44	0.36	0.37	1341	159	12	1.6	2	23	0.98	5.6	0.35	0.74	1.1	0.29	1.1	0.55	2542	333
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

														PCDD-F and PCB TEQ (WHO 2005)			Indicator PCB							Dioxins
						sum HeptaCDF	sum HexaCDF	sum PentaCDD	sum PentaCDF	sum TetraCDD	sum Tetra- bis OctaCDD/F	sum Tetra- bis OctaCDF	sum TetraCDF	WHO-TEQ0.5	WHO(2005)-PCDD/F TEQ (lower)	WHO(2005)-PCDD/F TEQ (medium)	WHO(2005)-PCDD/F TEQ (upper)	WHO(2005)-PCDD/F+PCB TEQ (Lower Bound)	WHO(2005)-PCDD/F+PCB TEQ inc. 1/2 BG	WHO(2005)-PCDD/F+PCB TEQ (upper)	PCB 101	PCB 118	PCB 138	PCB 153	PCB 180	PCB 28	PCB 52	12378-PeCDD
						ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	pg/g
EQL														0.1														
USEPA (2019) RSL - Industrial Soil (Commercial Workers)																			220									
Monitoring_Zone	**Location_Code**	**Field_ID**	**Sample_Depth_Avg**	**Sampled_Date_Time**	**Sample_Type**																							
4	TP19/24	TP19/24_1.5	1.5	15/07/2019	Normal	2810	15.5	174	21.2	38.7	55,200	7420	13.5	58.5	67.3	67.3	67.4	67.6	67.7	67.8	0.93	0.6 - 0.604	1.27	0.88	0.9	0.85	0.61	1.82
4	TP19/29	TP19/29_1.8	1.8	22/07/2019	Normal	372	74.3	528	15.4	310	34,000	811	18.3	49	53.7	53.8	53.9	54.1	54.3	54.5	0.16	0.526	1.21	0.73	1.05	0.26	0.15	1.41
7	TP19/63	TP19/63_0.1	0.1	24/07/2019	Normal	-	-	17.4	-	23.2	777	4.22	4.22	-	0.64	2.9	5.17	0.64	3.35	6.05	<0.49	<0.139	<0.36	<0.58	<0.15	0.52	0.31	-
7	TP19/66	TP19/66_0.5	0.5	25/07/2019	Normal	9.2	7.54	5.12	7.29	1.9	5190	28.3	4.26	5.7	5.13	6.47	7.81	5.15	6.89	8.63	<0.45	0.164	0.38	<0.54	0.23	0.39	<0.28	-
9	TP19/47	TP19/47_0.3	0.3	29/07/2019	Normal	-	-	-	-	0.869	260	-	-	1.64	0.136	1.54	2.94	0.139	1.81	3.49	<0.302	<0.0863	<0.222	<0.358	<0.0925	0.465	<0.188	<0.74
10	TP19/43	TP19/43_0.3	0.3	25/07/2019	Normal	12.2	-	68.4	-	39.8	10,600	16	3.84	11.9	12.3	13.6	14.8	13.2	14.7	16.1	1.31	0.909	1.95	1.26	0.669	2.21	1.79	-
11	HA19/10	HA19/13_0.5	0.5	31/07/2019	Normal	-	-	-	-	-	-	-	-	-	8.13	-	8.17	8.53	8.59	8.64	0.145	0.13	1.26	0.473	0.607	<0.0804	0.0794	1.6
11	TP19/80	TP19/80_0.5	0.55	26/07/2019	Normal	98.9	40.2	9.2	12.5	8.98	1960	279	11.3	-	9.2	9.5	9.8	10.2	10.6	11	0.346	0.575	0.94	0.523	1.14	0.626	0.308	-
12	HA19/13	HA19/13_0.1	0.1	2/08/2019	Normal	-	-	-	-	-	-	-	-	-	2.83	-	2.87	2.84	3.04	3.25	<0.0971	0.0456	0.508	0.648	9.32	0.0919	<0.0604	0.77
14	TP19/61	TP19/61_0.4	0.4	29/07/2019	Normal	76	21.4	34.1	12.5	31.2	3160	199	28.4	9.17	8.52	9.43	10.3	9.63	10.7	11.8	0.58	0.612	2.04	1.4	3.3	0.74	0.39	1.85
14	TP19/72	TP19/72_0.2	0.2	29/07/2019	Normal	47.4	158	14.2	308	8.7	5250	566	33.9	6.17	4.87	6.78	8.7	4.88	7.21	9.54	<0.46	0.152	0.34	<0.55	0.24	0.748 - 0.75	0.33	<1.14

Statistical Summary

Number of Results	7	6	8	6	9	9	8	8	7	11	9	11	11	11	11	11	11	11	11	11	11	11	11	7
Number of Detects	7	6	8	6	9	9	8	8	7	11	9	11	11	11	11	6	9	9	7	9	10	8	5	
Minimum Concentration	9.2	7.54	5.12	7.29	0.869	260	4.22	3.84	1.64	0.136	1.54	2.87	0.139	1.81	3.25	<0.0971	0.0456	<0.222	<0.358	<0.0925	<0.0804	<0.0604	<0.74	
Minimum Detect	9.2	7.54	5.12	7.29	0.869	260	4.22	3.84	1.64	0.136	1.54	2.87	0.139	1.81	3.25	0.145	0.0456	0.34	0.473	0.23	0.0919	0.0794	0.77	
Maximum Concentration	2810	158	528	308	310	55200	7420	33.9	58.5	67.3	67.3	67.4	67.6	67.7	67.8	1.31	0.909	2.04	1.4	9.32	2.21	1.79	1.85	
Maximum Detect	2810	158	528	308	310	55200	7420	33.9	58.5	67.3	67.3	67.4	67.6	67.7	67.8	1.31	0.909	2.04	1.4	9.32	2.21	1.79	1.85	
Average Concentration	489	53	106	63	51	12933	1165	15	20	16	19	17	16	17	18	0.4	0.35	0.93	0.63	1.6	0.63	0.38	1.2	
Median Concentration	76	30.8	25.75	13.95	23.2	5190	239	12.4	9.17	8.13	9.43	8.7	8.53	8.59	9.54	0.23	0.164	0.94	0.523	0.669	0.52	0.308	1.41	
Standard Deviation	1031	57	179	120	98	18970	2544	11	23	23	24	22	23	22	22	0.39	0.3	0.68	0.41	2.7	0.59	0.5	0.62	
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	

ERM

							ASLP	OCP		Per- and Polyfluoroalkyl Subst										PFOS and PFOA											
										Epichlorohydrin	Final pH	Initial pH	Leachate Fluid	pH (Leachate fluid)	pH (AUS ZHE - off)	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)	Perfluorodecanoic 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	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)																										7													
NEPM (1999) GIL - Marine Water																																							
NEPM (2013) - Marine Water																																							
NEPM (2013) - Recreational										5																													
NHMRC (2019) Recreational Water																										2		10											
PFAS NEMP 2018 Table 5 Interim marine 95%																											0.13	220											
Monitoring_Zone	**Location_Code**	**Field_ID**	**Sample_Depth_Avg**	**Sampled_Date_Time**	**Sample_Type**																																		
11	HA19/03	HA19/03_0.05	0.05	31/07/2019	Normal	-	7.6	7.9	4	7	-	-	-	<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
11	HA19/03	HA19/03_0.8	0.8	31/07/2019	Normal	-	6.8	6.1	4	7	6.8	<0.001	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	HA19/07	HA19/07_0.1	0.1	2/08/2019	Normal	-	7.6	7.1	4	7	-	-	-	<0.05	<0.05	<0.05	<0.05	0.03	<0.01	1.1	1.05	0.68	0.6	0.09	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	0.03	<0.05	<0.01	0.08	<0.01	<0.01
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
4	TP19/19	TP19/19_0.6	0.6	16/07/2019	Normal	-	6.4	9.1	1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/20	TP19/20_0.4	0.4	16/07/2019	Normal	-	5	8.5	1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/21	TP19/21_2.8	2.8	16/07/2019	Normal	-	6.9	9.3	1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/22	TP19/22_0.5	0.5	16/07/2019	Normal	-	5.3	8.4	1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/23	TP19/23_1.5	1.5	15/07/2019	Normal	-	5.4	10	4	7	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/24	TP19/24_1.5	1.5	15/07/2019	Normal	-	8.4	7.6	4	7	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	0.56	0.56	0.56	0.48	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.01	0.08	<0.01	<0.01
4	TP19/24	TP19/24_3.0	3	15/07/2019	Normal	-	5.4	9.4	4	7	8.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/25	TP19/25_0.5	0.5	16/07/2019	Normal	-	8.2	8.1	4	7	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	0.35	0.29	0.27	0.24	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	<0.01	<0.05	<0.01	0.03	0.03	<0.01
4	TP19/25	TP19/25_1.3	1.3	15/07/2019	Normal	-	5.4	9.8	4	7	8.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/28	TP19/28_0.1	0.1	19/07/2019	Normal	-	5.1	7.3	1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/29	TP19/29_1.8	1.8	22/07/2019	Normal	-	5.2	7	1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/30	TP19/30_1.2	1.2	22/07/2019	Normal	-	5.1	6.8	1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/31	TP19/31_1.2	1.2	22/07/2019	Normal	-	5.6	7.8	1	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																																						
Number of Results						2	19	19	19	19	4	1	1	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Number of Detects						0	19	19	19	19	4	0	0	0	0	0	0	1	0	6	6	7	7	2	0	0	0	0	0	0	1	0	0	5	2	0
Minimum Concentration						<0.2	4.5	4.8	1	5.1	6.8	<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
Minimum Detect						ND	4.5	4.8	1	5.1	6.8	ND	ND	ND	ND	ND	ND	0.03	ND	0.16	0.14	0.01	0.01	0.01	ND	ND	ND	ND	ND	ND	0.03	ND	ND	0.01	0.02	ND
Maximum Concentration						<0.2	9.8	10	4	7	8.6	<0.001	<0.001	<0.05	<0.05	<0.05	<0.05	0.03	<0.01	1.1	1.05	0.68	0.6	0.09	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	0.03	<0.05	<0.01	0.08	0.03	<0.01
Maximum Detect						ND	9.8	10	4	7	8.6	ND	ND	ND	ND	ND	ND	0.03	ND	1.1	1.05	0.68	0.6	0.09	ND	ND	ND	ND	ND	ND	0.03	ND	ND	0.08	0.03	ND
Average Concentration							6.4	8	2.7	6.2	8.1			0.025	0.025	0.025	0.025	0.0086	0.005	0.39	0.36	0.3	0.26	0.018	0.005	0.025	0.005	0.005	0.025	0.025	0.0086	0.025	0.005	0.036	0.011	0.005
Median Concentration						0.1	5.6	8.1	4	7	8.45	0.0005	0.0005	0.025	0.025	0.025	0.025	0.005	0.005	0.32	0.26	0.26	0.24	0.005	0.005	0.025	0.005	0.005	0.025	0.025	0.005	0.025	0.005	0.03	0.005	0.005
Standard Deviation							1.5	1.4	1.5	0.96	0.85			0	0	0	0	0.0094	0	0.36	0.35	0.24	0.21	0.032	0	0	0	0	0	0	0.0094	0	0	0.033	0.01	0
Number of Guideline Exceedances						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	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	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ERM

										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	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																																				
11	HA19/03	HA19/03_0.05	0.05	31/07/2019	Normal	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	HA19/03	HA19/03_0.8	0.8	31/07/2019	Normal	-	-	-	-	-	-	-	-	<20	<20	<20	<20	<40	<60	18 - 200	<1000	290	300	<100	590	<1000	<1000	290	90	200	490	<100	-	<5	<0.5	20	<5	20	<10	10	<0.1	<10	30	<0.1
11	HA19/07	HA19/07_0.1	0.1	2/08/2019	Normal	0.09	0.08	0.08	<0.01	<0.01	<0.01	0.02	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/19	TP19/19_0.6	0.6	16/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	-	1200	2300	<200	3500	-	-	1700	-	1600	3300	<100	3300	<10	<5	<10	-	-	<10	<10	<1	80	120	-
4	TP19/20	TP19/20_0.4	0.4	16/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	<100	<200	<200	<200	-	-	<50	-	<100	<100	<100	<100	<10	<5	<10	-	-	50	60	<1	30	470	-
4	TP19/21	TP19/21_2.8	2.8	16/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57	-	700	1500	<200	2200	-	-	800	-	1200	2000	<100	2000	<10	<5	<10	-	-	<10	<10	<1	50	70	-
4	TP19/22	TP19/22_0.5	0.5	16/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<100	<200	<200	<200	-	-	<50	-	<100	<100	<100	<100	<10	<5	<10	-	-	<10	40	<1	120	130	-
4	TP19/23	TP19/23_1.5	1.5	15/07/2019	Normal	-	-	-	-	-	-	-	-	50	470	60	100	210	310	<100 - 36	1400	1000	3200	<200	4200	1700	810	1200	1200	2400	3600	<100	-	<10	<5	50	-	-	<10	20	<1	1000	970	-
4	TP19/24	TP19/24_1.5	1.5	15/07/2019	Normal	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/24	TP19/24_3.0	3	15/07/2019	Normal	-	-	-	-	-	-	-	-	<20	<20	30	<20	<20	<60	<100 - 60	<1000	700	<200	<200	700	<1000	<1000	860	860	<100	860	<100	-	<10	6	<10	-	-	<10	40	<1	120	760	-
4	TP19/25	TP19/25_0.5	0.5	15/07/2019	Normal	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.03	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/25	TP19/25_1.3	1.3	15/07/2019	Normal	-	-	-	-	-	-	-	-	30	1600	40	100	170	280	<100 - 17	2900	1100	6900	<200	8000	3300	1400	1400	1400	5700	7100	<100	-	<10	<5	50	-	-	<10	10	<1	1800	640	-
4	TP19/28	TP19/28_0.1	0.1	19/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<100	<200	<200	<200	-	-	<50	-	<100	<100	<100	<100	<10	7	20	-	-	40	10	<1	130	2300	-
4	TP19/29	TP19/29_1.8	1.8	22/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<100	<200	<200	<200	-	-	<50	-	<100	<100	<100	<100	<10	<5	<10	-	-	<10	<10	<1	10	230	-
4	TP19/30	TP19/30_1.2	1.2	22/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<100	<200	<200	<200	-	-	<50	-	<100	<100	<100	<100	<10	<5	<10	-	-	<10	<10	<1	<10	410	-
4	TP19/31	TP19/31_1.2	1.2	22/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<100	<200	<200	<200	-	-	<50	-	<100	<100	<100	<100	<10	<5	20	-	-	<10	<10	<1	<10	2200	-

Statistical Summary

Number of Results	7	7	7	7	7	7	7	7	4	4	4	4	4	4	12	4	12	12	12	12	4	4	12	4	12	12	12	8	12	12	12	1	1	12	12	12	12	12	1
Number of Detects	1	2	1	0	0	0	4	0	2	2	3	2	2	2	7	2	6	5	0	6	2	2	6	4	5	6	0	2	0	2	5	0	1	2	7	0	9	12	0
Minimum Concentration	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<20	<20	<20	<20	<20	<60	<1	<1000	<100	<200	<100	<200	<1000	810	<50	90	<100	<100	<100	<100	<5	<0.5	<10	<5	20	<10	<10	<0.1	<10	30	<0.1
Minimum Detect	0.09	0.02	0.08	ND	ND	ND	0.02	ND	30	470	30	100	170	280	2	1400	290	300	ND	590	1700	810	290	90	200	490	ND	2000	ND	6	20	ND	20	40	10	ND	10	30	ND
Maximum Concentration	0.09	0.08	0.08	<0.01	<0.01	<0.01	0.04	<0.05	50	1600	60	100	210	310	200	2900	1200	6900	<200	8000	3300	1400	1700	1400	5700	7100	<100	3300	<10	7	50	<5	20	50	60	<1	1800	2300	<0.1
Maximum Detect	0.09	0.08	0.08	ND	ND	ND	0.04	ND	50	1600	60	100	210	310	200	2900	1200	6900	ND	8000	3300	1400	1700	1400	5700	7100	ND	3300	ND	7	50	ND	20	50	60	ND	1800	2300	ND
Average Concentration	0.017	0.018	0.016	0.005	0.005	0.005	0.018	0.025	25	523	35	55	103	163	28	1325	441	1242	96	1649	1500	803	533	888	954	1471	50	700	4.8	3	16			12	18	0.46	280	694	
Median Concentration	0.005	0.005	0.005	0.005	0.005	0.005	0.02	0.025	20	240	35	55	95	155	17.75	950	170	100	100	345	1100	655	157.5	1030	50	270	50	50	5	2.5	5	2.5	20	5	10	0.5	65	440	0.05
Standard Deviation	0.032	0.028	0.028	0	0	0	0.014	0	19	750	21	52	102	153	34	1132	467	2068	14	2468	1327	424	628	577	1689	2201	0	1253	0.72	1.8	17			16	19	0.13	552	784	
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	4	2	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	12	11	12	1	0	12	12	11	12	12	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	2	2	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	0	0	2	7	0	9	12	0

	OCs																						OPs																											
	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Azinophos methyl	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Fenitrothion	Fenthion	Malathion	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Parathion	Phorate	Pirimiphos-methyl	Pyrazophos	Ronnel	Terbufos
	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	mg/L	µg/L	µg/L	µg/L
EQL	0.1	0.1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	10	2	2	20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0.02	2	2	2
Clyde SSTL PFAS - Intrusive Maintenance Worker (Direct Contact)																																														
NEPM (1999) GIL - Marine Water																																														
NEPM (2013) - Marine Water														0.004										0.009																					
NEPM (2013) - Recreational			3					90									100	3		3000		300		100		40	50	70	40	40	70	70	700	7	50	20		10	200		0.9	200		9
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																																												
11	HA19/03	HA19/03_0.05	0.05	31/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	HA19/03	HA19/03_0.8	0.8	31/07/2019	Normal	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<2	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.02	<2	<2	<2
11	HA19/07	HA19/07_0.1	0.1	2/08/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	TP19/33	TP19/33_0.3	0.3	24/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	TP19/35	TP19/35_0.1	0.1	23/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/19	TP19/19_0.6	0.6	16/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/20	TP19/20_0.4	0.4	16/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/21	TP19/21_2.8	2.8	16/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/22	TP19/22_0.5	0.5	16/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/23	TP19/23_1.5	1.5	15/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/24	TP19/24_1.5	1.5	15/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/24	TP19/24_3.0	3	15/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/25	TP19/25_0.5	0.5	15/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/25	TP19/25_1.3	1.3	15/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/28	TP19/28_0.1	0.1	19/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/29	TP19/29_1.8	1.8	22/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/30	TP19/30_1.2	1.2	22/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/31	TP19/31_1.2	1.2	22/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary

Number of Results	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Number of Detects	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	0	0	0	0	0	0	0	0	0
Minimum Concentration	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<2	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.02	<2	<2	<2
Minimum Detect	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<10	<2	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.02	<2	<2	<2
Maximum Detect	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration																																																
Median Concentration	0.05	0.05	0.05	0.05	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	5	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.01	1	1	1
Standard Deviation																																															
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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
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	0	0	0	0	0	0	0	0	0

				Organic				PAH/Phenols																																PC			
	Tokuthion	Tetrachlorvinphos	Trichloronate	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)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242
	µg/L	mg/L	µg/L	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	ug/l	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	2	0.002	2	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
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		1							200	2000				3000																				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 | | | | | | | | | | | | | | | | | | |

	PCBs				Pesticides		SVOC							
	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	Bolstar (Sulprofos)	Merphos	4,6-Dinitro-o-cyclohexyl phenol	Coumaphos	Demeton-O	Demeton-S	EPN	Ethoprop	Fensulfothion	Hexachlorobenzene
	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	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														
NEPM (2013) - Marine Water														
NEPM (2013) - Recreational					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													
11	HA19/03	HA19/03_0.05	0.05	31/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-
11	HA19/03	HA19/03_0.8	0.8	31/07/2019	Normal	<5	<5	<5	<1	<2	<0.002	<100	<20	<2	<20	<2	<2	<2	<0.1
11	HA19/07	HA19/07_0.1	0.1	2/08/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	TP19/33	TP19/33_0.3	0.3	24/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	TP19/35	TP19/35_0.1	0.1	23/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/19	TP19/19_0.6	0.6	16/07/2019	Normal	-	-	-	-	-	-	<100	-	-	-	-	-	-	-
4	TP19/20	TP19/20_0.4	0.4	16/07/2019	Normal	-	-	-	-	-	-	<100	-	-	-	-	-	-	-
4	TP19/21	TP19/21_2.8	2.8	16/07/2019	Normal	-	-	-	-	-	-	<100	-	-	-	-	-	-	-
4	TP19/22	TP19/22_0.5	0.5	16/07/2019	Normal	-	-	-	-	-	-	<100	-	-	-	-	-	-	-
4	TP19/23	TP19/23_1.5	1.5	15/07/2019	Normal	-	-	-	-	-	-	<100	-	-	-	-	-	-	-
4	TP19/24	TP19/24_1.5	1.5	15/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/24	TP19/24_3.0	3	15/07/2019	Normal	-	-	-	-	-	-	<100	-	-	-	-	-	-	-
4	TP19/25	TP19/25_0.5	0.5	15/07/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	TP19/25	TP19/25_1.3	1.3	15/07/2019	Normal	-	-	-	-	-	-	<100	-	-	-	-	-	-	-
4	TP19/28	TP19/28_0.1	0.1	19/07/2019	Normal	-	-	-	-	-	-	<100	-	-	-	-	-	-	-
4	TP19/29	TP19/29_1.8	1.8	22/07/2019	Normal	-	-	-	-	-	-	<100	-	-	-	-	-	-	-
4	TP19/30	TP19/30_1.2	1.2	22/07/2019	Normal	-	-	-	-	-	-	<100	-	-	-	-	-	-	-
4	TP19/31	TP19/31_1.2	1.2	22/07/2019	Normal	-	-	-	-	-	-	<100	-	-	-	-	-	-	-

Statistical Summary

Number of Results	1	1	1	1	1	1	12	1	1	1	1	1	1	1
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<5	<5	<5	<1	<2	<0.002	<100	<20	<2	<20	<2	<2	<2	<0.1
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<5	<5	<5	<1	<2	<0.002	<100	<20	<2	<20	<2	<2	<2	<0.1
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration							50							
Median Concentration	2.5	2.5	2.5	0.5	1	0.001	50	10	1	10	1	1	1	0.05
Standard Deviation							0							
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

	BTEX								Naphthalene	TRH NEPM (1999)							TRH NEPM (2013)							TRH	TRH Silica Gel Cleanup								
	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylenes (sum of m,p & o)	Xylene Total	BTEX	Naphthalene	TRH C6-C9 Fraction	TRH >C6-C10 Fraction	TRH >C10-C16 Fraction	TRH >C16-C34 Fraction	TRH >C34-C40 Fraction	TRH >C10-C16 Fraction less N	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	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 C6-C10 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH C6-C10 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
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/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	50	100	50	50	100	100	100	100	50	100
ANZG (2018) TV - Marine water (95%)	700[a]	180[b]	80	350[a]	200[a]				70[a]																								
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 - IMW	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 52	1		MW94/3	MW94/3	1/08/1999	<1	<1	<1	-	-	-	<1	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	26/08/1999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	1/12/2000	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	300	400	100	420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	13/12/2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	1/01/2004	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	7/01/2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	1/03/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	16/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	13/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	14/09/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	29/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	30/03/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	27/09/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	1/09/2007	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	13/09/2007	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	26/02/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	27/02/2008	<1	<2	<1	-	-	-	<2	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	13/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	13/11/2008	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	21/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	21/04/2009	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	19/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	19/11/2009	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	25/11/2010	<1	<1	<1	<1	<2	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	6/10/2011	<1	<1	<1	<1	<2	-	<3	<6	-	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	6/12/2012	<1	<1	<1	<1	<2	-	<3	<6	-	<5	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1			MW94/3	12/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	12/12/2013	<1	<1	<1	<1	<2	-	<3	<6	-	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1			MW94/3	22/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1			MW94/3	9/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1		MW94/3	MW94/3	9/12/2014	<1	<1	<1	<1	<2	-	<3	<6	-	<20	<20	-	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1			MW94/3	19/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	MW94/3		MW94/3	19/08/2016	<1	<1	<1	<1	<2	-	<3	<6	-	<10	<20	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1			MW94/3	16/12/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	MW94/3		MW94/3	16/12/2016	<1	<1	<1	<1	<2	-	<3	<6	-	<10	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1			MW94/3	29/05/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	MW94/3		MW94/3	29/05/2017	<1	<2	<2	<2	<2	-	<2	<1	-	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1			MW94/3	11/12/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	D03 111217		MW94/3	11/12/2017	<1	<2	<2	<2	<2	-	<2	<1	-	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	MW94/3		MW94/3	11/12/2017	<1	<2	<2	<2	<2	-	<2	<1	-	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	TD2 111217		MW94/3	11/12/2017	<1	<1	<1	<1	<2	-	<2	<1	-	<10	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	300	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1			MW94/3	25/06/2018	<1	<2	<2	<2	<2	-	<2	<1	-	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	MW94/3		MW94/3	7/12/2018	<1	<2	<2	<2	<2	-	<2	<1	-	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100		
Lot 52	1			MW94/3	6/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	D04 060619		MW94/3	6/06/2019	<1	<2	<2	<2	<2	-	<2	<1	-	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100		
Lot 52	1	MW94/3		MW94/3	6/06/2019	<1	<2	<2	<2	<2	-	<2	<1	-	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100		
Lot 52	1			MW94/3	21/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 52	1	D02_20191121		MW94/3	21/11/2019	<1	<2	<2	<2	<2	-	<2	<1	-	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100		
Lot 52	1	MW94/3		MW94/3	21/11/2019	<1	<2	<2	<2	<2	-	<2	<1	-	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100		
Lot 60	2		MW12/04	MW12/04	23/03/2012	<1	<1	<1	<1	<2	-	<3	<6	-	<0.05	<20	-	<50	<100	-	<50	<50	<20	<20	<50	<50	<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	<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	<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	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3		BH341	BH341	22/06/2010	<1	<1	<1	<1	<2	-	<3	<6	-	<20	<20	-	<50	300	350	<100	375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3		BH341	BH341	23/11/2010	<1	<1	<1	<1	<2	-	<3	<6	-	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3		BH341	BH341	9/06/2011	<1	<1	<1	<1	<2	-	<3	<6	-	-	<20	-	60	800	850	<100	900 - 910	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3		BH341	BH341	7/10/2011	<1	<1	<1	<1	<2	-	<3	<6	-	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	D_071011-02		BH341	7/10/2011	<1	<1	<1	<1	<2	-	<3	<6	-	<1	<20	-	60	-	-	-	<100 - 60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	T_071011_02		BH341	7/10/2011	<1	<5	<2	<2	<2	-	<2	<1	-	<1	<20	-	270	2340	2630	290	2900	<20	<20	470	-	2220	2840	150	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3		BH341	BH341	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		BH341	BH341	7/12/2012	<1	<1	<1	<1	<2	-	<3	<6	-	<5	<20	-	<50	700	750	<100	700 - 775	<20	<20	90	90	600	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3		BH341	BH341	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		BH341	BH341	5/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	BH341		BH341	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		BH341	BH341	26/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	BH341		BH341	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	BH341	BH341	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	BH341	BH341	26/05/2014	<1	<2	<2	<2	<2	-	<2	<1	-	<5	<20	-	1780	14,000	17,760	3760	19,500 - 19,540	<20	<20	3640	3640	15,800	21,000	1510	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3		BH341	BH341	8/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	BH341		BH341	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	BH341		BH341	25/11/2015	<1	<1	<1	<1	<2	-	<3	<6	-	<10	<20	-	110	1100	-	100	1300	<20	<20	240	240	1000	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3		MW11/18	MW11/18	5/10/2011	<1	<1	<1	<1	<2	-	<3	<6	-	<1	<20	-	90	-	-	-	<100 - 90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	DUP_10	MW11/18	MW11/18	13/06/2012	<1	<1	<1	<1	<2	-	<3	<6	-	<5	<20	-	70	200	250	<100	300 - 320	<20	<20	<50	<50	200	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	MW11/18		MW11/18	13/06/2012	<1	<1	<1	<1	<2	-	<3	<6	-	<5	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	DUP_07	MW11/18	MW11/18	10/12/2012	<1	<1	<1	<1	<2	-	<3	<6	-	<5	<20	-	<50	200	250	<100	200 - 275	<20	<20	60	60	200	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	MW11/18		MW11/18	10/12/2012	<1	<1	<1	<1	<2	-	<3	<6	-	<5	<20	-	50	200	250	<100	300	<20	<20	70	70	100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	TRIP_04	MW11/18	MW11/18	10/12/2012	<1	<2	<2	<2	<2	-	<2	<1	-	<5	-	<20	<50	<100	<150	<50	<50	<20	<20	<100	-	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	DUP_05	MW11/18	MW11/18	24/06/2013	<1	<1	<1	<1	<2	-	<3	<6	-	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	MW11/18		MW11/18	24/06/2013	<1	<1	<1	<1	<2	-	<3	<6	-	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	TRIP-05	MW11/18	MW11/18	24/06/2013	<1	<2	<2	<2	<2	-	<2	<1	-	<5	<20	-	<50	100	125	<50	100 - 150	<20	<20	<100	-	120	120	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3		MW11/18	MW11/18	11/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	DUP_05	MW11/18	MW11/18	11/12/2013	<1	<1	<1	<1	<2	-	<3	<6	-	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	MW11/18		MW11/18	11/12/2013	<1	<1	<1	<1	<2	-	<3	<6	-	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	TRIP_05	MW11/18	MW11/18	11/12/2013	<1	<2	<2	<2	<2	-	<2	<1	-	<5	<20	-	<50	210	310	100	310 - 335	<20	<20	<100	<100	240	240	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3		MW11/18	MW11/18	28/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	DUP-05_280514	MW11/18	MW11/18	28/05/2014	<1	<1	<1	<1	<2	-	<3	<6	-	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	MW11/18		MW11/18	28/05/2014	<1	<1	<1	<1	<2	-	<3	<6	-	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	TRIP_05_280514	MW11/18	MW11/18	28/05/2014	<1	<2	<2	<2	<2	-	<2	<1	-	<5	<20	-	<50	160	210	50	210 - 235	<20	<20	<100	<100	180	180	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	DUP_05_101214	MW11/18	MW11/18	10/12/2014	<1	<1	<1	<1	<2	-	<3	<6	-	<20	<20	-	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	MW11/18	MW11/18	MW11/18	10/12/2014	<1	<1	<1	<1	<2	-	<3	<6	-	<20	<20	-	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	MW11/18	MW11/18	MW11/18	13/08/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	MW11/18	MW11/18	MW11/18	12/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	3	MW11/18	MW11/18	MW11/18	22/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW11/19	MW11/19	MW11/19	4/10/2011	<1	<1	<1	<1	<2	-	<3	<6	-	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW11/19	MW11/19	MW11/19	8/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3		MW11/19	MW11/19	18/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW11/19	MW11/19	MW11/19	18/08/2016	<1	<1	<1	<1	<2	-	<3	<6	-	<10	<20	<20	<50	<100	-	<100	<100	20	20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3		MW11/19	MW11/19	22/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW11/19	MW11/19	MW11/19	22/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW11/20	MW11/20	MW11/20	5/10/2011	<1	<1	<1	<1	<2	-	<3	<6	-	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3		MW11/20	MW11/20	18/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW11/20	MW11/20	MW11/20	18/08/2016	<1	<1	<1	<1	<2	-	<3	<6	-	<10	<20	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW11/20	MW11/20	MW11/20	13/08/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW11/20	MW11/20	MW11/20	6/12/2018	<1	<2	<2	<2	<2	-	<2	<1	-	<5	<20	-	110	<100	-	180	290	<20	<20	110	110	140	250	<100	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3		MW11/20	MW11/20	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW11/20

	BTEX							Naphthalene	TRH NEPM (1999)							TRH NEPM (2013)							TRH	TRH Silica Gel Cleanup									
	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylenes (sum of m,p & o)	Xylene Total	BTEX	Naphthalene	TRH C6-C9 Fraction	TRH >C6-C10 Fraction	TRH >C10-C16 Fraction	TRH >C16-C34 Fraction	TRH >C34-C40 Fraction	TRH >C10-C40	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	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 C6-C10 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH C6-C9 Silica Gel Cleanup	TRH >C9-C16 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C34-C40 Silica Gel Cleanup
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/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	50	50	100	100	100	100	50	50	100
ANZG (2018) TV - Marine water (95%)	700[a]	180[b]	80	350[a]	200[a]				70[a]																							
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 - IMW	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 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	<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	<50	<100
Lot 63	3		MW12/03	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	3	MW12/03	MW12/03	4/12/2020	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	<50	<100
Road alignment	3		MW18/24	19/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	3	MW18/24_180219	MW18/24	19/02/2018	258	8	134	12	306	-	318	718	17	2470	-	890	1340	-	<50	2230	2570	1850	1120	1100	1160	2280	<100	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	1/12/2000	<1	<1	<1	-	-	-	<3	<6	-	<20	-	290	1500	1800	300	2090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	14/12/2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	1/06/2001	<1	<1	<1	-	-	-	<3	<6	-	<20	-	280	1400	1450	<100	1730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	25/06/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	1/12/2003	<1	<1	<1	-	-	-	<3	<6	-	<20	-	160	492	542	<100	702	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	22/12/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	1/03/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	400	1260	1310	<100	1710	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	15/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	13/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	14/09/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	260	1800	2117	317	2377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	30/09/2005	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	1/03/2006	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3		MW98/4	23/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	23/03/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	380	1160	1210	<100	1590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	28/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	27/09/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3		MW98/4	28/09/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	28/09/2006	<1	<1	<1	-	-	-	<3	<6	<1	<20	-	140	1600	1930	330	2070	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	1/09/2007	<1	<1	<1	-	-	-	<3	<6	<1	<20	-	90	500	550	<100	640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	13/09/2007	<1	<1	<1	-	-	-	<1	<4	<1	<20	-	90	500	550	<100	640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	25/02/2008	<1	<1	<1	-	-	-	<1	<4	<1	-	-	-	-	1150	-	1290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3		MW98/4	13/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	13/11/2008	<1	<1	<1	-	-	-	<1	<4	<1	<20	-	160	1000	1050	<100	1210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3		MW98/4	21/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	21/04/2009	<1	<1	<1	-	-	-	<1	<4	<1	<20	-	120	1400	1450	<100	1570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3		MW98/4	17/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	17/11/2009	<1	<1	<1	-	-	-	<1	<4	<1	30	-	150	1800	1850	<100	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	25/06/2010	<1	<1	<1	-	-	-	<3	<6	-	<20	-	110	1300	1350	<100	1460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	25/11/2010	<1	<1	<1	<1	<2	-	<3	<6	-	<20	-	110	1300	1350	<100	1460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	8/06/2011	<1	<1	<1	<1	<2	-	<3	<6	-	<20	-	260	2000	2050	<100	2300 - 2310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	4/10/2011	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	740	-	-	-	740 - 7700	-	-	-	-	-	-	-	-	-	-	-	6900	-	100	-
Lot 62	3	MW98/4	MW98/4	8/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	14/06/2012	<1	<1	<1	<1	<2	-	<3	<6	<5	<20	-	160	2000	2050	<100	2200 - 2210	<20	<20	590	590	1800	-	<100	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	10/12/2012	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	220	1900	1950	<100	2100 - 2170	<20	<20	530	530	1400	-	<100	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	24/06/2013	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	130	1500	1630	<100	1600 - 1680	<20	<20	460	460	1400	-	<100	-	-	-	-	-	-	-	-	-
Lot 62	3		MW98/4	10/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	10/12/2013	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	100	1600	1650	<100	1700 - 1750	<20	<20	480	480	1300	-	<100	-	-	-	-	-	-	-	-	-
Lot 62	3		MW98/4	27/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	27/05/2014	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	50	600	650	<100	700	<20	<20	190	190	500	-	<100	-	-	-	-	-	-	-	-	-
Lot 62	3		MW98/4	10/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	10/12/2014	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	400	1600	-	<100	2000	<20	<20	680	680	1500	-	<100	-	-	-	-	-	-	-	-	-
Lot 62	3		MW98/4	17/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	17/08/2016	<1	<1	<1	<1	<2	-	<3	-	<10	<20	<20	<50	500	-	<100	500	<20	<20	180	180	400	-	<100	-	-	-	-	-	-	-	-	-
Lot 62	3		MW98/4	14/12/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	14/12/2016	<1	<1	<1	<1	<2	-	<3	-	<10	-	<20	<50	500	-	<100	500	<20	<20	220	220	400	-	<100	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	6/12/2018	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	210	830	-	<50	1510	<20	<20	360	360	1130	1680	190	-	-	-	-	-	-	-	-	-
Lot 62	3		MW98/4	7/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	7/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	12/06/2019	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	100	390	-	<50	490	<20	<20	210	210	290	500	<100	-	<100	<50	<100	<50	<100	<100	<50	<100
Lot 62	3		MW98/4	25/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	25/11/2019	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	150	600	-	160	910	<20	<20	290	290	590	880	<100	-	<100	<50	<100	<50	<100	<100	<50	<100
Lot 62	3		MW98/4	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	3	MW98/4	MW98/4	3/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	250	600	-	<50	850	<20	<20	380	380	480	860	<100	-	<100	<50	<100	<50	<100	<100	<50	<100
Lot 64	4	BH116	BH116	22/06/2010	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<50	1900	1950	<100	1975	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	23/11/2010	<1	<1	<1	<1	<2	-	<3	<6	-	<20	-	<50	1900	2100	200	2125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	9/06/2011	<1	<1	<1	<1	<2	-	<3	<6	-	<20	-	50	2100	2300	200	2350 - 2400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	7/10/2011	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	70	-	-	-	<100 - 70	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 64	4	BH116	BH116	7/12/2011	<1	<1	<1	<1	<2	-	<3 - 1.5	<10 - 3	<5	<20	-	210	-	-	-	210 - 4700	<20	<20	550	550	4200	-	400	-	-	-	-	-	3400	-	1100	-
Lot 64	4	BH116	BH116	19/06/2012	<1	<1	<1	<1	<2	-	<3	<6	<5	<20	-	<50	1300	1350	<100	1300 - 1375	<20	<20	<50	<50	1500	-	<100	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	13/12/2012	<1	<1	<1	<1	<2	-	<3	<6	<5	<20	-	120	1900	2400	500	2500 - 2520	<20	<20	310	310	1900	-	100	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	18/06/2013	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	1000	1050	<100	1000 - 1075	<20	<20	110	110	1000	-	<100	-	-	-	-	-	-	-	-	-
Lot 64	4	DUP 02	BH116	18/06/2013	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	1000	1050	<100	1000 - 1075	<20	<20	120	120	1100	-	<100	-	-	-	-	-	-	-	-	-
Lot 64	4	TRIP 02	BH116	18/06/2013	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	140	2790	3350	560	3490	<20	<20	350	-	3000	3620	270	-	-	-	-	-	-	-	-	-
Lot 64	4		BH116	5/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	5/12/2013	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	1200	1250	<100	1200 - 1275	<20	<20	90	90	1300	-	<100	-	-	-	-	-	-	-	-	-
Lot 64	4		BH116	26/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	26/05/2014	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	50	1700	2200	500	2250 - 2300	<20	<20	180	180	1900	-	300	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	8/12/2014	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	2100	-	200	2300	<20	<20	180	180	3000	-	500	-	-	-	-	-	-	-	-	-
Lot 64	4	DUP_02 081214	BH116	8/12/2014	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	170	2100	-	200	2500	<20	<20	310	310	3000	-	500	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	24/06/2015	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	400	-	<100	400	<20	<20	<50	<50	400	-	<100	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	25/11/2015	<1	<1	<1	<1	<2	-	<3	<6	<10	<20	-	<50	500	-	<100	500	<20	<20	<50	<50	500	-	<100	-	-	-	-	-	-	-	-	-
Lot 64	4	DD4_251115_TT	BH116	25/11/2015	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	640	-	<50	640	<20	<20	<100	<100	620	620	<100	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	17/08/2016	<1	<1	<1	<1	<2	-	<3	-	<10	<20	<20	<50	800	-	300	1100	<20	<20	<50	<50	1100	-	200	-	-	-	-	-	-	-	-	-
Lot 64	4		BH116	14/12/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	14/12/2016	<1	<1	<1	<1	<2	-	<3	-	<10	-	<20	<50	500	-	200	700	<20	<20	60	60	600	-	100	-	-	-	-	-	-	-	-	-
Lot 64	4	DD1_141216HB	BH116	14/12/2016	<1	<1	<1	<1	<2	-	<3	-	<10	-	<20	<50	1100	-	300	1400	<20	<20	170	170	1200	-	200	-	-	-	-	-	-	-	-	-
Lot 64	4		BH116	24/05/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	24/05/2017	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	1140	-	160	1300	<20	<20	<100	<100	1180	1280	100	-	-	-	-	-	-	-	-	-
Lot 64	4		BH116	6/12/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	6/12/2017	<1	<2	<2	<2	<2	-	<2	<1	<5	110	-	520	3440	-	1730	5690	50	50	950	950	4190	6350	1210	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	5/12/2018	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	910	-	520	1430	<20	<20	<100	<100	1230	1570	340	-	<100	<50	<100	500	590	260	450	240	140
Lot 64	4	DD2_20181205	BH116	5/12/2018	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	1060	-	670	1730	<20	<20	<100	<100	1480	1920	440	-	<100	<50	<100	450	520	210	380	240	140
Lot 64	4		BH116	22/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	BH116	BH116	22/11/2019	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	880	22,200	-	14,400	37,500	40	40	2790	2790	28,300	41,400	10,300	-	1040	240	1040	10,700	12,200	6440	7940	4040	3230
Lot 64	4	BH116	BH116	21/07/2020	<1	<1	<1	<1	<2	-	<3	-	<2	-	<20	7400	35,000	-	41,000	83,400	<20	<20	13,000	13,000	48,000	80,000	19,000	-	-	5200	9400	22,800	-	4600	6000	13,000	11,000
Lot 64	4	BH116	BH116	4/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	<20	-	230	2290	-	1220	3740	<20	<20	340	340	3090	4160	730	-	<100	<50	<100	410	470	220	350	190	120
Road alignment	4	BH210	BH210	22/06/2010	<1	2	<1	-	-	-	<3	4.5	-	20	-	410	<100	<200	<100	510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	QC01	BH210	22/06/2010	<1	2	<1	-	-	-	<3	4.5	-	20	-	470	<100	<200	<100	570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	BH210	BH210	23/11/2010	<1	<1	<1	<1	<2	-	<3	<6	-	40	-	620	200	250	<100	870	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	BH210	BH210	9/06/2011	<1	<1	<1	<1	<2	-	<3	<6	-	<20	-	210	<100	<200	<100	200 - 310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	BH210	BH210	7/10/2011	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	220	-	-	-	200 - 220	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Road alignment	4	BH210	BH210	7/12/2012	<1	<1	<1	<1	<2	-	<3	<6	<5	<20	-	120	<100	<200	<100	100 - 220	<20	<20	110	110	<100	-	<100	-	-	-	-	-	-	-	-	-
Road alignment	4		BH210	5/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	BH210	BH210	5/12/2013	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	100	300	350	<100	400 - 450	<20	<20	280	280	<100	-	<100	-	-	-	-	-	-	-	-	-
Road alignment	4		BH210	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	BH210	BH210	20/07/2020	<1	<1	<1	<1	<2	-	<3	-	<1	-	<20	710	<100	-	<100	710	<20	<20	120	120	<100	120	<100	-	<50	<50	<100	-	-	<100	<100	<100	<100
Road alignment	4	D01_20200720	BH210	20/07/2020	<1	<1	<1	<1	<2	-	<3	-	<1	-	<20	580	<100	-	<100	580	<20	<20	<50	<50	<100	<100	<100	-	<50	<50	<100	-	-	<100	<100	<100	<100
Road alignment	4	20201204_T02	BH210	4/12/2020	<1	<1	<1	<1	<2	-	<3	-	<1	-	<20	430	<100	-	<100	430	<20	<20	390	390	430	390	<100	-	<50	<50	<100	-	-	<100	<100	<100	<100
Road alignment	4		BH210	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Road alignment	4	BH210	BH210	4/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	<20	-	310	<100	-	<50	310	<20	<20	210	210	<100	310	<100	-	<100	<50	<100	<50	<100	<100	<50	<100	<100
Road alignment	4	20201204_D02	BH210	4/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	<20	-	320	<100	-	<50	320	<20	<20	220	220	<100	220	<100	-	<100	<50	<100	<50	<100	<100	<50	<100	<100
Lot 64	4	DUP01	MW12/01	22/03/2012	17	380	4	6	12	-	17 - 18	418 - 420	5.6 - 23	450	-	6100	-	-	-	6100 - 52,000	460	70	11,000	11,000	40,000	-	5400	-	-	-	-	-	36,000	-	10,000	-
Lot 64	4	MW12/01	MW12/01	22/03/2012	16	350	4	5	11	-	16 - 17	387 - 390	5 - 21	420	-	6900	-	-	-	6900 - 63,000	430	70	13,000	13,000	49,000	-	5900	-	-	-	-	-	43,000	-	13,000	-
Lot 64	4	TRIP 01	MW12/01	22/03/2012	14	270	2	4	6	-	10	296	<3.9 - 5	610	-	6520	-	-	-	6520 - 36,600	620	320	8630	-	25,300	33,900	<100	-	-	-	-	-	28,000	-	2120	-
Lot 64	4	MW12/20	M

	BTEX								Naphthalene	TRH NEPM (1999)							TRH NEPM (2013)							TRH	TRH Silica Gel Cleanup								
	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylenes (sum of m,p & o)	Xylene Total	BTEX	Naphthalene	TRH C6-C9 Fraction	TRH >C6-C10 Fraction	TRH >C10-C16 Fraction	TRH >C16-C34 Fraction	TRH >C34-C40 Fraction	TRH >C10-C16 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	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 C6-C10 Silica gel Cleanup	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
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/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	50	50	100	100	100	100	50	100
ANZG (2018) TV - Marine water (95%)	700[A]	180[B]	80	350[B]	200[A]				70[A]																							
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 - IMW	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 62	4	MW12/21	MW12/21	22/03/2012	<1	<1	<1	<1	<2	-	<3	<6	<0.05	<20	-	<50	-	-	-	<50 - 300	<20	<20	<50	<50	300	-	<100	-	-	-	-	-	-	100	-	200	-
Lot 62	4	MW12/21	MW12/21	18/06/2012	<1	<1	<1	<1	<2	-	<3	<6	<5	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	11/12/2012	<1	<1	<1	<1	<2	-	<3	<6	<5	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 62	4	DUP_08	MW12/21	24/06/2013	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	200	250	<100	200 - 275	<20	<20	<50	<50	300	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	24/06/2013	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	200	250	<100	200 - 275	<20	<20	<50	<50	300	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 62	4		MW12/21	10/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	10/12/2013	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	200	250	<100	200 - 275	<20	<20	<50	<50	200	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 62	4		MW12/21	27/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	D08_270514	MW12/21	27/05/2014	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	300	350	<100	300 - 375	<20	<20	<50	<50	300	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	27/05/2014	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	300	350	<100	300 - 375	<20	<20	50	50	300	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 62	4		MW12/21	10/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	10/12/2014	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	400	-	<100	400	<20	<20	<50	<50	500	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	25/06/2015	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	26/11/2015	<1	<1	<1	<1	<2	-	<3	<6	<10	<20	-	<50	<100	-	<100	<100	<20	<20	<50	<50	100	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 62	4		MW12/21	18/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	18/08/2016	<1	<1	<1	<1	<2	-	<3	<6	<10	<20	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	15/12/2016	<1	<1	<1	<1	<2	-	<3	<6	<10	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-
Lot 62	4		MW12/21	29/05/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	29/05/2017	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	130	-	<50	130	<20	<20	<100	<100	170	170	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	21/06/2018	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	D01_2018214	MW12/21	4/12/2018	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 62	4	MW12/21	MW12/21	4/12/2018	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 62	4		MW12/21	6/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	6/06/2019	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 62	4		MW12/21	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	D01_20191120	MW12/21	20/11/2019	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 62	4	MW12/21	MW12/21	20/11/2019	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 62	4		MW12/21	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	3/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	120	-	70	190	<20	<20	<100	<100	170	170	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 62	4		MW18/23	19/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4		MW18/23	19/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	QC18/200	MW18/23	19/02/2018	<1	<1	<1	<1	<2	-	<3	-	<10	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW18/23_180219	MW18/23	19/02/2018	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 62	4	MW18/23	MW18/23	5/12/2018	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	80	100	-	230	410	<20	<20	<100	<100	260	260	<100	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4		MW18/23	6/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW18/23	MW18/23	6/06/2019	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	130	110	-	360	600	<20	<20	150	150	360	630	120	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 62	4		MW18/23	25/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW18/23	MW18/23	25/11/2019	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	<100	-	160	160	<20	<20	<100	<100	160	160	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 62	4	MW18/23	MW18/23	2/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	120	-	<50	120	<20	<20	<100	<100	110	110	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4		MW20/01A	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/01A	MW20/01A	20/07/2020	<1	<1	<1	<1	2	3	-	5	-	<10 - 2	-	<20	100	1600	-	500	2200	30	30	280	280	1800	2280	200	-	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4		MW20/01A	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/01A	MW20/01A	3/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	<20	-	210	310	-	<50	520	<20	<20	260	260	270	530	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4		MW20/01B	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/01B	MW20/01B	20/07/2020	<1	<1	1	3	5	-	8	-	<10 - 3	-	50	<50	<100	-	<100	<100	80	70	<50	<50	<100	<100	<100	-	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4		MW20/01B	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/01B	MW20/01B	3/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	<20	-	240	150	-	<50	390	<20	<20	250	250	140	390	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4		MW20/02A	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/02A	MW20/02A	20/07/2020	<1	<1	<1	<1	<2	-	<3	-	<1	-	<20	420	<100	-	<100	420	<20	<20	410	410	<100	410	<100	-	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4		MW20/02A	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/02A	MW20/02A	3/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	<20	-	80	<100	-	<50	80	<20	<20	<100	<100	<100	<100	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4		MW20/02B	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/02B	MW20/02B	20/07/2020	<1	<1	<1	<1	<2	-	<3	-	<1	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	<100	<100	-	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4		MW20/02B	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/02B	MW20/02B	3/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	<20	-	280	<100	-	<50	280	<20	<20	290	290	<100	290	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4		MW20/03	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/03	MW20/03	21/07/2020	14	<1	6	8	3	-	11	-	<1	-	330	3600	9400	-	14,600	610	580	5100	5100	8600	14,500	800	-	-	940	2000	3640	-	2400	1800	300	<100
Lot 64	4		MW20/03	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/03	MW20/03	4/12/2020	22	<2	18	<2	9	-	9	49	12.3 - 14	170	-	710	2190	-	<50	2900	230	180	1050	1040	1830	2880	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4		MW20/04	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/04	MW20/04	21/07/2020	<1	<1	<1	<1	<2	-	<3	-	<1	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	<100	<100	-	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4		MW20/04	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/04	MW20/04	4/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	<20	-	320	720	-	<50	1040	<20	<20	460	460	620	1080	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4	20201204_D01	MW20/04	4/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	<20	-	210	480	-	<50	690	<20	<20	330	330	370	700	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4	20201204_T01	MW20/04	4/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	<20	-	300	680	-	<50	980	<20	<20	450	450	550	1000	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4		MW20/05	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/05	MW20/05	21/07/2020	4	6	2	2	4	-	6	-	<10 - 2	-	<20	430	1600	-	100	2130	<20	<20	690	690	1400	2090	<100	-	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4		MW20/05	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/05	MW20/05	4/12/2020	18	<2	5	<2	<2	<2	<2	23	<5 - 1.3	40	-	220	520	-	<50	740	50	30	290	290	420	710	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4		MW20/06	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/06	MW20/06	21/07/2020	2	10	1	1	<2	-	<3	-	<10 - 65	-	60	21,000	16,000	-	3900	40,900	130	120	22,000	22,000	8200	33,400	3200	-	-	11,000	15,000	22,700	-	11,000	4800	700	700
Lot 64	4		MW20/07	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/07	MW20/07	21/07/2020	4	7	3	6	14	-	19	-	20 - 25	-	170	5500	14,000	-	4300	23,800	330	300	7300	7280	15,000	25,100	2800	-	-	1700	2900	8100	-	4600	5000	1800	1100
Lot 64	4		MW20/07	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/07	MW20/07	4/12/2020	2	4	2	4	10	-	14	22	13 - 14.9	100	-	3410	5850	-	1550	10,800	130	110	4220	4210	6230	11,300	820	-	290	140	300	2340	2570	1480	1820	720	450
Lot 64	4		MW20/08	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/08	MW20/08	20/07/2020	<1	<1	<1	<1	<2	-	<3	-	<1	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	<100	<100	-	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4		MW20/08	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/08	MW20/08	4/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	<20	-	270	300	-	<50	570	<20	<20	290	290	300	590	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4		MW20/09	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/09	MW20/09	20/07/2020	<1	<1	<1	<1	<2	-	<3	-	<1	-	<20	410	300	-	1900	2610	<20	<20	410	410	1600	2710	700	-	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4		MW20/09	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/09	MW20/09	4/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	<20	-	240	650	-	<50	890	<20	<20	280	280	680	960	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4		MW20/10	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/10	MW20/10	20/07/2020	<1	<1	<1	<1	<2	-	<3	-	<1	-	30	460	1100	-	400	1960	30	30	610	610	1000	1810	200	-	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4		MW20/10	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/10	MW20/10	4/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	30	-	380	870	-	<50	1250	30	30	530	530	750	1280	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4	20201404_D03	MW20/10	4/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<50	30	-	340	410	-	<50	750	30	30	420	420	320	740	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4		MW20/11	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/11	MW20/11	20/07/2020	<1	<1	<1	<1	<2	-	<3	-	<1	-	<20	150	1300	-	700	2150	<20	<20	160	160	1000	1560	400	-	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4		MW20/11	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/11	MW20/11	3/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	<20	-	280	760	-	60	1100	<20	<20	340	340	730	1070	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4		MW20/12	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	D02_20200720	MW20/12	20/07/2020	<1	<1	<1	<1	<2	-	<3	-	<1	-	<20	<50	300	-	100	400	<20	<20	50	50	300	350	<100	-	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4	MW20/12	MW20/12	20/07/2020	<1	<1	<1	<1	<2	-	<3	-	<1	-	<20	180	800	-	400	1380	<20	<20	140	140	1000	1240	100	-	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4		MW20/12	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/12	MW20/12	3/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	<20	-	130	390	-	<50	520	<20	<20	170	170	360	530	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4		MW20/13	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/13	MW20/13	21/07/2020	42	25	56	68	95	-	160	-	50 - 57	-	710	1700	4800	-	400	6900	1100	810	2100	2050	4300	6600	200	-	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4		MW20/13	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/13	MW20/13	4/12/2020	9	<2	51	<2	<2	<2	<2	60	116 - 225	350	-	1330	4700	-	240	6270	540	480	1790	1560	4440	6230	<100	-	<100	190	210	360	330	120	120	50	<100
Lot 64	4		MW20/14	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/14	MW20/14	20/07/2020	<1	<1	<1	<1	<2	-	<3	-	<1	-	<20	<50	1100	-	200	1300	<20	<20	<50	<50	800	800	<100	-	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4		MW20/14	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/14	MW20/14	4/12/2020	<1	<2	<2	<2	<2	-	<2	<1	<1	<20	-	170	440	-	<50	610	<20	<20	200	200	430	630	<100	-	<100	<50	<100	<50	<100	<100	<100	<50	<100	
Lot 64	4		MW20/15	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/15	MW20/15	20/07/2020	<1	<1	<1	<1	<2	-	<3	-	<1	-	<20	<50	<100	-	1900	1900	<20	<20	<50	<50	1300	2000	700	-	-	<50	<50	<100	-	<100	<100	<100	<100
Lot 64	4	T01_20200720	MW20/15	20/07/2020	<1	<2	<2	<2	<2	-	<2	<1

	BTEX							Naphthalene	TRH NEPM (1999)							TRH NEPM (2013)							TRH	TRH Silica Gel Cleanup									
	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylenes (sum of m,p & o)	Xylene Total	BTEX	Naphthalene	TRH C6-C9 Fraction	TRH >C6-C10 Fraction	TRH >C10-C16 Fraction	TRH >C16-C34 Fraction	TRH >C34-C40 Fraction	TRH >C10-C40	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	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 C6-C10 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH C6-C9 Silica Gel Cleanup	TRH >C9-C10 Silica Gel Cleanup	TRH >C10-C16 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	50	50	100	100	100	50	100	100	100	100
ANZG (2018) TV - Marine water (95%)	700[a]	180[a]	80	350[a]	200[a]				70[a]																								
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 - IMW	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 | | | | | | | | | | | | | | | | | | |

	BTEX							Naphthalene	TRH NEPM (1999)							TRH NEPM (2013)							TRH	TRH Silica Gel Cleanup									
	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylenes (sum of m,p & o)	Xylene Total	BTEX	Naphthalene	TRH C6-C9 Fraction	TRH >C6-C10 Fraction	TRH >C10-C16 Fraction	TRH >C16-C34 Fraction	TRH >C34-C40 Fraction	TRH >C10-C40 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	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 C6-C10 Silica Gel Cleanup	TRH >C10-C40 Silica Gel Cleanup	TRH >C16-C34 Silica Gel Cleanup	TRH >C34-C40 Silica Gel Cleanup	TRH >C29-C36	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	50	50	50	100	100	100	100	100
ANZG (2018) TV - Marine water (95%)	700[A]	180[B]	80	350[A]	200[A]				70[A]																							
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 - IMW	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 | | | | | | | | | | | | | | | | | | |

	BTEX							Naphthalene	TRH NEPM (1999)						TRH NEPM (2013)						TRH	TRH Silica Gel Cleanup								
	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylenes Sum of m,p & o	Xylene Total	BTEX	Naphthalene	TRH C6-C9 Fraction	TRH >C6-C10 Fraction	TRH >C10-C16 Fraction	TRH >C16-C34 Fraction	TRH >C34-C40 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	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 >C6-C10 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-C16	TRH >C16-C34	TRH >C34-C40
	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	1	1	1	1	2	3	1	1	0.05	20	20	50	100		50	50	20	20	50	50	100	100	100	50	50	50	100	100	100	50	50	100	100	100
ANZG (2018) TV - Marine water (95%)	700[A]	180[B]	80	350[A]	200[A]				70[A]																								
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 - IMW	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 58	15	D01_20181206	MW11/08	6/12/2018	<1	<1	<1	<1	<2	-	<3	-	<10	-	<20	<50	<100	-	1300	1300	<20	<20	<50	<50	1300	-	400	1700	-	-	-	-	-	-	-	-
Lot 58	15	MW11/08	MW11/08	6/12/2018	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	130	<100	-	520	650	<20	<20	130	130	430	760	200	-	-	-	-	-	-	-	-	-
Lot 58	15	T01_20181206	MW11/08	6/12/2018	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	100	<100	-	560	660	<20	<20	<100	<100	430	640	210	-	-	-	-	-	-	-	-	-
Lot 58	15		MW11/08	7/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	MW11/08	MW11/08	7/06/2019	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	<100	-	400	400	<20	<20	<100	<100	400	400	<100	<100	<50	<100	<50	<100	<100	<100	<50	<100
Lot 58	15	MW11/08	MW11/08	12/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15		MW11/08	22/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	MW11/08	MW11/08	22/11/2019	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	100	<100	-	740	840	<20	<20	120	120	540	940	280	-	<100	<50	<100	<50	<100	<100	<100	<50	<100
Lot 60	15	MW11/09	MW11/09	5/10/2011	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 61	15	D 051011 01	MW11/10	5/10/2011	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 61	15	MW11/10	MW11/10	5/10/2011	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 61	15	MW11/10	MW11/10	13/06/2012	<1	<1	<1	<1	<2	-	<3	<6	<5	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 61	15	MW11/10	MW11/10	10/12/2012	<1	<1	<1	<1	<2	-	<3	<6	<5	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 61	15	MW11/10	MW11/10	25/06/2013	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 61	15		MW11/10	11/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	15	MW11/10	MW11/10	11/12/2013	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 61	15		MW11/10	27/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	15	MW11/10	MW11/10	27/05/2014	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 61	15		MW11/10	10/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	15	MW11/10	MW11/10	10/12/2014	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 58	15	D 061011 01	MW11/11	6/10/2011	2	<1	2	2	<2	-	<3 - 3	<10 - 6	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 58	15	MW11/11	MW11/11	6/10/2011	2	<1	2	1	<2	-	<3 - 2	<10 - 6	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 58	15	T 061011 01	MW11/11	6/10/2011	2	<1	2	2	<2	-	<3 - 3	<10 - 6	<1	<20	-	100	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 58	15	MW11/12	MW11/12	4/10/2011	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 58	15		MW11/12	19/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 58	15	MW11/12	MW11/12	19/08/2016	<1	<1	<1	<1	<2	-	<3	-	<10	<20	<20	<50	100	-	<100	100	<20	<20	<50	<50	100	-	<100	-	-	-	-	-	-	-	-	-
Lot 61	15	MW11/13	MW11/13	6/10/2011	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 60	15	MW11/14	MW11/14	4/10/2011	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 61	15	MW11/15	MW11/15	4/10/2011	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 61	15		MW11/15	19/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	15	MW11/15	MW11/15	19/08/2016	<1	<1	<1	<1	<2	-	<3	-	<10	<20	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 63	15	MW12/02	MW12/02	23/03/2012	<1	<1	<1	<1	<2	-	<3	<6	<0.05	<20	-	<50	-	-	-	<50	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	<100	-	<100	-
Lot 63	15	DUP_03	MW12/02	19/06/2012	<1	<1	<1	<1	<2	-	<3	<6	<5	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 63	15	MW12/02	MW12/02	19/06/2012	<1	<1	<1	<1	<2	-	<3	<6	<5	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 63	15	TRIP-03	MW12/02	19/06/2012	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	<100	<150	<50	<50	<20	<20	<100	-	<100	<100	<100	-	-	-	-	-	-	-	-	-
Lot 63	15	MW12/02	MW12/02	7/12/2012	<1	<1	<1	<1	<2	-	<3	<6	<5	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 63	15	MW12/02	MW12/02	19/06/2013	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 63	15		MW12/02	5/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW12/02	MW12/02	5/12/2013	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 63	15		MW12/02	26/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW12/02	MW12/02	26/05/2014	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 63	15		MW12/02	8/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW12/02	MW12/02	8/12/2014	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	<100	-	<100	<100	<20	<20	<50	<50	100	-	<100	-	-	-	-	-	-	-	-	-
Lot 53	15	MW94/19	MW94/19	1/08/1999	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW94/19	MW94/19	25/08/1999	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	1/12/2000	<1	<1	<1	-	-	-	<3	<6	-	<20	-	70	800	1400	600	1470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	1/06/2001	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	25/06/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	1/12/2003	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	22/12/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	1/03/2005	<1	<1	<1	-	-	-	<3	<6	<1	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	14/09/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	21/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15		MW94/2	23/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	23/03/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	30	245	295	<100	325	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15		MW94/2	26/09/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	26/09/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	1/09/2007	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	300	350	<100	370	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	13/09/2007	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	300	350	<100	375	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	28/02/2008	<1	<1	<1	-	-	-	<1	<4	-	<20	-	70	400	450	<100	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15		MW94/2	13/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	13/11/2008	<1	<1	<1	-	-	-	<1	<4	-	<20	-	60	500	550	<100	610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15		MW94/2	22/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	22/04/2009	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	100	150	<100	175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	QC1.2	MW94/2	22/04/2009	<1	<2	<2	<2	<3	-	<4	<5	-	<20	-	100	800	1090	290	1190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15		MW94/2	20/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	20/11/2009	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	25/06/2010	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	25/11/2010	<1	<1	<1	<1	<2	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	10/06/2011	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	<50	900	1400	500	1400 - 1425	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	5/10/2011	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100	-
Lot 56	15	MW94/2	MW94/2	13/06/2012	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	10/12/2012	<1	<1	<1	<1	<2	-	<3	<6	<5	<20	-	80	900	1200	300	1280 - 1300	<20	<20	150	150	1000	-	<100	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	25/06/2013	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	200	250	<100	200 - 275	<20	<20	<50	<50	200	-	<100	-	-	-	-	-	-	-	-	-
Lot 56	15		MW94/2	12/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	12/12/2013	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 56	15		MW94/2	27/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	27/05/2014	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	300	350	<100	300 - 375	<20	<20	<50	<50	300	-	<100	-	-	-	-	-	-	-	-	-
Lot 56	15		MW94/2	9/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	9/12/2014	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	200	-	<100	200	<20	<20	<50	<50	300	-	<100	-	-	-	-	-	-	-	-	-
Lot 56	15		MW94/2	19/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	15	MW94/2	MW94/2	19/08/2016	<1	<1	<1	<1	<2	-	<3	<6	<10	<20	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	1/12/2003	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	370	420	<100	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	22/12/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	1/03/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	370	420	<100	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	24/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	1/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	14/09/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	29/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	30/03/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	3/10/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	1/09/2007	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	13/09/2007	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	25/02/2008	<1	<1	<1	-	-	-	<1	<4	-	-	-	-	-	<200	-	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	14/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	14/11/2008	<1	<1	<1	-	-	-	<1	<4	-	<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	-	-	-	<1	<4	-	<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	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	QC05	MW94/4	19/11/2009	<1	<1	<1	-	-	-	<1	<4	-	<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	MW94/4	25/11/2010	<1	<1	<1	<1	<2	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	8/06/2011	<1	<1	<1	<1	<2	-	<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	<6	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	-	<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	<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	-	<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	-	<10	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 59	15	D02_290517	MW94/4	29/05/2017	<1	<2	<2	<2	<2	-	<2	<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	-	<2	<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	+	<10	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-
Lot 59	15		MW94/4	11/12/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	D02_111217	MW94/4	11/12/2017	<1	<2	<2	<2	<2	-	<2	<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	-	<2	<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	<1	<5	<20	-	210	160	-	360	730	<20	<20	220	220	410	800	170	-	-	-	-	-	-	-	-	-
Lot 59	15	D03_

	BTEX							Naphthalene	TRH NEPM (1999)							TRH NEPM (2013)							TRH	TRH Silica Gel Cleanup								
	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylenes (sum of m,p & o)	Xylene Total	BTEX	Naphthalene	TRH C6-C9 Fraction	TRH >C6-C10 Fraction	TRH >C10-C16 Fraction	TRH >C16-C34 Fraction	TRH >C34-C40 Fraction	TRH >C10-C40 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	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 >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
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/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	50	100	50	50	50	100	100	100	50	100
ANZG (2018) TV - Marine water (95%)	700[#]	180[#]	80	350[#]	200[#]				16[#]																								
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 - IMW	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	7/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 59	15	MW94/4	MW94/4	7/06/2019	<1	<2	<2	<2	<2	-	<2	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	<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	<1	<5	<20	-	<50	<100	-	530	530	<20	<20	<100	<100	380	580	200	-	<100	<50	<100	<100	<50	<100	<100
Lot 63	15	MW94/5	MW94/5	1/01/2004	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	5/01/2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	1/03/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	13/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	14/09/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	28/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	31/03/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	29/09/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	1/09/2007	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	27/09/2007	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	22/02/2008	<1	<1	<1	-	-	-	<1	<4	-	<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	-	-	-	<1	<4	-	<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	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	17/11/2009	<1	<1	<1	-	-	-	<1	<4	-	<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	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	9/06/2011	<1	<1	<1	<1	<2	-	<3	<6	-	<20	-	<50	<100	<200	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	7/10/2011	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	<50	-	-	-	<50	-	-	-	-	-	-	-	-	-	-	-	<100	-	<100
Lot 53	15	MW95/10	MW95/10	1/07/2000	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	26/07/2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	1/01/2004	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	5/01/2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	16/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	1/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	14/09/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	**272**	**322**	<100	**342**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/10	28/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	31/03/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	29/09/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	22/02/2008	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/10	17/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	17/11/2008	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/10	16/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	22/04/2009	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	17/11/2009	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/10	18/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	22/06/2010	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	23/11/2010	<1	<1	<1	<1	<2	-	<3	<6	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	9/06/2011	<1	<1	<1	<1	<2	-	<3	<6	-	<20	-	**50**	<100	<200	<100	**<100 - 150**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	19/06/2012	<1	<1	<1	<1	<2	-	<3	<6	<1	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	19/06/2013	<1	<1	<1	<1	<2	-	<3	<6	<5	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-
Lot 53	15		MW95/10	5/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	5/12/2013	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-
Lot 53	15		MW95/10	20/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	20/05/2014	<1	<1	<1	<1	<2	-	<1	<4	<20	<20	-	<50	<100	<200	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-
Lot 53	15		MW95/10	5/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	5/12/2014	<1	<1	<1	<1	<2	-	<3	<6	<20	<20	-	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-
Lot 53	15		MW95/11	14/12/2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	1/01/2004	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	1/03/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	16/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	13/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	14/09/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	31/03/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	**110**	**60**	**130**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	1/09/2007	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	27/09/2007	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	22/02/2008	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/11	14/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	14/11/2008	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/11	22/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	22/04/2009	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	1/01/2004	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	5/01/2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	1/03/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	16/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	1/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	14/09/2005	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	**639**	**689**	<100	**709**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	28/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	31/03/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	29/09/2006	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	1/09/2007	<1	<1	<1	-	-	-	<3	<6	-	<20	-	<40	<100	<200	<100	<240	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	27/09/2007	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	22/02/2008	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/12	14/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	14/11/2008	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/12	22/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	22/04/2009	<1	<1	<1	-	-	-	<1	<4	-	<20	-	<50	<100	<200	<100	<250	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary

Number of Results	596	596	596	459	459	1	596	518	443	539	80	593	546	295	546	595	397	397	397	389	397	175	397	1	74	104	104	105	74	151	104	151	104
Number of Detects	44	11	45	57	38	0	55	44	56	44	33	206	258	141	126	329	64	62	171	165	233	129	62	1	2	7	7	7	12	7	21	11	18	9
Minimum Concentration	<1	<1	<1	<1	<2	<3	<1	<1	<0.05	<20	<20	30	<100	110	<50	<0	<20	<20	<50	<50	<100	<100	<100	1700	<100	<50	<50	<50	<100	<100	<100	<50	<100	
Minimum Detect	2	2	1	1	2	ND	3	4.5	4	20	20	30	100	110	50	80	20	20	50	50	100	110	100	1700	290	140	210	360	330	100	120	50	120	
Maximum Concentration	258	380	134	68	306	<3	318	718	271	2470	710	21000	35000	20960	41000	83400	2570	1850	22000	22000	49000	80000	19000	1700	1040	11000	15000	22800	12200	43000	7940	13000	11000	
Maximum Detect	258	380	134	68	306	ND	318	718	271	2470	710	21000	35000	20960	41000	83400	2570	1850	22000	22000	49000	80000	19000	1700	1040	11000	15000	22800	12200	43000	7940	13000	11000	
Average Concentration	1.6	2.4	1.4	1.2	2.3		2.7	7.2	14	25	32	327	728	778	260	1326	47	39	616	562	1109	2399	207		67	210	337	850	294	1065	336	354	209	
Median Concentration	0.5	0.5	0.5	0.5	1	1.5	1.5	3	2.5	10	10	25	50	100	50	160	10	10	50	50	180	460	50	1700	50	25	50	25	50	50	50	50	50	
Standard Deviation	11	24	6.5	3.4	15		15	42	34	116	89	1250	2315	1814	1908	4992	174	136	1903	1822	4570	8079	1172		118	1196	1750	3557	1449	5189	1187	1725	1120	
Number of Guideline Exceedances	20	3	29	0	1	0	0	0	39	0	0	0	0	0	0	0	397	0	397	389	397	0	397	0	0	0	0	0	0	0	0	0	0	
Number of Guideline Exceedances(Detects Only)	20	3	29	0	1	0	0	0	39	0	0	0	0	0	0	0	397	0	397	389	397	0	397	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-oxygenates | | | | MNA | | | | | | | | | OCP | | Inorganics | | Metals | | | | | | | | | | | | | |

| | Field | | | | | | | | | | | | | | | Ether-oxygenates | | | | | MNA | | | | | | | | | OCP | | Inorganics | | Metals | | | | | | | | | | | | | | |

| | Field | | | | | | | | | | | | | | Ether-oxygenates | | | | MNA | | | | | | | | | OCP | | Inorganics | | Metals | | | | | | | | | | | | | |

| | Field | | | | | | | | | | | | | | | Ether-oxygenates | | | | MNA | | | | | | | | | OCP | | Inorganics | | Metals | | | | | | | | | | | | | | |

| | Field | | | | | | | | | | | | | | | Ether-oxygenates | | | | MNA | | | | | | | | | OCP | | Inorganics | | Metals | | | | | | | | | | | | | | |

| | Field | | | | | | | | | | | | | | | Ether-oxygenates | | | | MNA | | | | | | | | OCP | | Inorganics | | Metals | | | | | | | | | | | | | | |

| | Field | | | | | | | | | | | | | | Ether-oxygenates | | | | MNA | | | | | | | | | OCP | | Inorganics | | Metals | | | | | | | | | | | | | |

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	Per- and Polyfluoroalkyl Subst													PFOS and PFOA																													
	1H,1H,2H,2H-perfluorooctanesulfonic acid	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-ethyl perfluorooctanesulfonamidoacetic acid	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE	N-Methyl perfluorooctane sulfonamide (NMeFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohaptane sulfonic acid (PFHpS)	Sum of PFAS	Sum of PFAS (WA DER List)	Sum of PFAS 7 std PFOS	PFOS	Perfluorooctanoate	4:2 fluorotelomer sulfonic acid (4:2 FTS)	6:2 fluorotelomer Sulfonate (6:2 FS)	8:2 fluorotelomer sulfonate	10:2 fluorotelomer sulfonic acid (10:2 FTS)	N-Ethyl perfluorooctane sulfonamidoacetic acid BR	N-Methyl perfluorooctane sulfonamidoacetic acid	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid	Perfluoropentanoic acid	Perfluorodecanesulfonic acid (PFDS)	Perfluorohexanesulfonic acid (PFHxS)	Perfluoroundecanoic acid (PFUnA)	Perfluorododecanoic acid (PFDoA)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorooctanoic acid (PFOA)	Perfluorodecanoic acid (PFDoA)	Perfluorononanoic acid (PFNA)	Perfluorooctanesulfonic acid (PFOS)	Perfluoropropanesulfonic acid (PFPrS)	Sum of emim.ads PFAS (PFHxS + PFOS + PFOA)*	Sum of US EPA PFAS (PFOS + PFOA)*	Perfluorodecanesulfonamide (PFDSA)
	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	0.01	0.01	0.01	0.01	0.01		0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.01	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 - IMW																																									
NEPM (2013) - Marine Water																																									
NEPM (2013) - Recreational																																									
NHMRC (2019) HBGV - Recreational Water											2	2	10														2															
PFAS NEMP 2020 Interim Marine 95%												0.13	220																													
PFAS NEMP 2020 Interim Marine 99%												**0.00023**	**19**																													

Lot ID	AEC	Field_ID	Location_Code	Sampled_Date_Time																																								
Lot 62	4	MW12/21	MW12/21	22/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	18/06/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	11/12/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	DUP_08	MW12/21	24/06/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	24/06/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4		MW12/21	10/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	10/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4		MW12/21	27/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	D08_270514	MW12/21	27/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	27/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4		MW12/21	10/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	10/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	25/06/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	26/11/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4		MW12/21	18/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	18/08/2016	-	-	<0.00005	-	-	-	-	<0.05	-	-	-	-	**0.52**	0.11	<0.01	<0.05	<0.01	-	-	-	0.06	<0.05	-	<0.01	0.25	<0.01	<0.01	0.15	0.2	0.05	<0.01	<0.01	<0.01	0.03	-	-	-	<0.05
Lot 62	4	MW12/21	MW12/21	15/12/2016	-	-	-	-	-	<0.05	-	-	-	-	-	-	**0.47**	0.12	<0.01	<0.05	<0.01	-	<0.05	-	0.05	0.09	-	<0.01	0.23	<0.01	<0.01	0.14	0.2	0.06	<0.01	<0.01	<0.01	0.03	-	-	-	<0.05
Lot 62	4		MW12/21	29/05/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	29/05/2017	-	<0.05	-	-	<0.05	<0.05	<0.05	0.07	<0.02	1.63	1.53	0.73	**0.39**	0.13	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	0.09	<0.1	-	<0.02	0.34	<0.05	<0.02	0.22	0.24	0.12	<0.05	<0.05	<0.02	0.03	-	-	-	<0.02
Lot 62	4	MW12/21	MW12/21	21/06/2018	-	<0.12	-	-	<0.12	<0.12	<0.12	0.08	<0.05	1.94	1.86	0.97	**0.5**	0.19	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	<0.2	-	<0.05	0.47	<0.05	<0.05	0.28	0.32	<0.05	<0.12	<0.05	<0.05	<0.05	-	-	-	<0.05
Lot 62	4	D01_2018214	MW12/21	4/12/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	4/12/2018	-	<0.12	-	-	<0.12	<0.12	<0.12	0.09	<0.05	3.06	2.97	1.78	**1.01**	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.18	<0.2	-	<0.05	0.77	<0.05	<0.05	0.32	0.42	0.11	<0.12	<0.05	<0.05	<0.05	-	-	-	<0.05
Lot 62	4		MW12/21	6/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	6/06/2019	-	-	-	<0.12	<0.12	<0.12	<0.12	0.06	<0.05	1.53	1.47	0.68	**0.28**	0.13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.2	-	<0.05	0.4	<0.05	<0.05	0.21	0.23	0.14	<0.12	<0.05	<0.05	<0.05	-	-	-	<0.05
Lot 62	4		MW12/21	20/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	D01_20191120	MW12/21	20/11/2019	-	-	-	<0.12	<0.12	<0.12	<0.12	0.06	<0.05	1.52	1.46	0.75	**0.4**	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.2	-	<0.05	0.35	<0.05	<0.05	0.18	0.24	0.08	<0.12	<0.05	<0.05	<0.05	-	-	-	<0.05
Lot 62	4	MW12/21	MW12/21	20/11/2019	-	-	-	<0.12	<0.12	<0.12	<0.12	0.06	<0.05	1.52	1.46	0.7	**0.36**	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.2	-	<0.05	0.34	<0.05	<0.05	0.19	0.24	0.11	<0.12	<0.05	<0.05	<0.05	-	-	-	<0.05
Lot 62	4		MW12/21	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW12/21	MW12/21	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW18/23	19/02/2018	-	<0.05	-	-	<0.05	<0.05	<0.05	<0.01	<0.01	0.25	0.25	0.02	**0.01**	<0.01	<0.01	<0.05	<0.01	<0.01	<0.05	<0.05	0.01	-	-	<0.01	0.01	<0.01	<0.01	0.04	0.08	0.1	<0.01	<0.01	<0.01	<0.01	-	-	-	<0.05
Lot 62	4		MW18/23	19/02/2018	-	-	-	-	-	-	-	-	-	-	0.14	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	-	-	-	<0.05	-	-	<0.05	0.06	0.08	-	-	-	-	-	-	-	-
Lot 62	4	QC18/200	MW18/23	19/02/2018	-	<0.05	-	-	<0.05	<0.05	<0.05	<0.01	<0.01	0.25	0.25	0.02	**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	0.04	0.08	0.1	<0.01	<0.01	<0.01	<0.01	-	-	-	<0.05
Lot 62	4	MW18/23_180219	MW18/23	19/02/2018	-	-	-	-	-	-	-	-	-	-	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	<0.05	-	-	<0.05	0.06	0.08	-	-	-	-	-	-	-	-
Lot 62	4	MW18/23	MW18/23	5/12/2018	-	<0.12	-	-	<0.12	<0.12	<0.12	<0.05	<0.05	0.62	0.62	0.22	**0.1**	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	0.12	<0.05	<0.05	0.1	0.12	0.11	<0.12	<0.05	<0.05	<0.05	-	-	-	<0.05
Lot 62	4		MW18/23	6/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW18/23	MW18/23	6/06/2019	-	-	-	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	1.81	1.75	0.65	**0.25**	0.18	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.2	-	<0.05	0.4	<0.05	<0.05	0.31	0.22	0.32	<0.12	<0.05	<0.05	0.06	-	-	-	<0.05
Lot 62	4		MW18/23	25/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW18/23	MW18/23	25/11/2019	-	-	-	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	1.07	1.07	0.35	**0.09**	0.18	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	<0.05	0.26	<0.05	<0.05	0.16	0.26	0.12	<0.12	<0.05	<0.05	<0.05	-	-	-	<0.05
Lot 62	4	MW18/23	MW18/23	2/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/01A	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,01A	MW20/01A	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/01A	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,01A	MW20/01A	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/01B	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,01B	MW20/01B	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/01B	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,01B	MW20/01B	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/02A	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,02A	MW20/02A	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/02A	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,02A	MW20/02A	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/02B	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,02B	MW20/02B	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/02B	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,02B	MW20/02B	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/03	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,03	MW20/03	21/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/03	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,03	MW20/03	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/04	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,04	MW20/04	21/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/04	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,04	MW20/04	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	20201204_D01	MW20/04	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	20201204_T01	MW20/04	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/05	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,05	MW20/05	21/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/05	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,05	MW20/05	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/06	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,06	MW20/06	21/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/07	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,07	MW20/07	21/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/07	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,07	MW20/07	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/08	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,08	MW20/08	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/08	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,08	MW20/08	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/09	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,09	MW20/09	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/09	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,09	MW20/09	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/10	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,10	MW20/10	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/10	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20,10	MW20/10	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	20201404_D03	MW20/10	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/11	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/11	MW20/11	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/11	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/11	MW20/11	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/12	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	D02_20200720	MW20/12	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/12	MW20/12	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/12	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/12	MW20/12	3/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/13	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/13	MW20/13	21/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/13	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/13	MW20/13	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/14	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/14	MW20/14	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/14	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/14	MW20/14	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW20/15	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW20/15	MW20/15	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	Per- and Polyfluoroalkyl Subst													PFOS and PFOA																										
	1H,1H,2H,2H-perfluorooctanesulfonic acid	N-Ethyl perfluorooctanesulfonamide (EtFOSA)	N-ethyl perfluorooctanesulfonamidoacetic acid	N-Ethyl perfluorooctanesulfonamide (NEtFOSA)	N-Ethyl perfluorooctanesulfonamidoethanol (EtFOSE	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	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 (EtFOSAA)	N-Methyl perfluorooctane sulfonamidoacetic acid	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid	Perfluoropentanoic acid	Perfluorodecanesulfonic acid (PFDS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorononanoic acid (PFNA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnA)	Perfluorobutanoic acid (PFBA)	Perfluorononanoic acid (PFNA)	Perfluorononanesulfonic acid (PFNS)	Perfluoropropanesulfonic acid (PFPrS)	Sum of enviro.wh PFAS (PFHxS + PFOS + PFOA)*	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
EQL	100	0.05	0.00005	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	0.01	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	0.02
ANZG (2018) TV - Marine water (95%)																																							
Clyde WARP SSTL - GW VI - Commercial																																							
Clyde WARP SSTL - GW VI - Construction																																							
Clyde WARP SSTL - GW VI - IMW																																							
NEPM (2013) - Marine Water																																							
NEPM (2013) - Recreational																																							
NHMRC (2019) HBGV - Recreational Water													2	2	10													2												
PFAS NEMP 2020 Interim Marine 95%														0.13	220																								
PFAS NEMP 2020 Interim Marine 99%														**0.00023**	**19**																								

Lot ID	AEC	Field_ID	Location_Code	Sampled_Date_Time																																						
Lot 64	4	MW94/6	MW94/6	7/01/2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	1/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	14/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	23/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	28/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	27/09/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	28/09/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	1/12/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	19/12/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	1/09/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	13/09/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	17/09/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	22/02/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	13/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	13/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	17/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	21/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	18/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	19/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	25/06/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	25/11/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	8/06/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	7/10/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	13/06/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	6/12/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	24/06/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	10/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	10/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	27/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	27/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	10/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	10/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	25/06/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	26/11/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	17/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	15/12/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	15/12/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	29/05/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	29/05/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	13/12/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	5/12/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	13/12/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	7/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	7/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	22/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	22/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4		MW94/6	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	20/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 64	4	MW94/6	MW94/6	4/12/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	1/07/2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	25/07/2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	1/06/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	25/06/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	1/12/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	22/12/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	1/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	15/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	2/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	14/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	23/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	28/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	27/09/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	1/12/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	19/12/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	1/09/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	13/09/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	22/02/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	22/02/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4		MW94/7	13/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	13/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4		MW94/7	21/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	21/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4		MW94/7	17/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	17/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	25/06/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	25/11/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	8/06/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	6/10/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4	MW94/7	MW94/7	14/06/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 62	4		MW94/7	21/06/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5		MW11/16	5/10/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	D_041011_01	MW11/17	4/10/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW11/17	MW11/17	4/10/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW11/17	MW11/17	13/06/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW11/17	MW11/17	10/12/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5		MW11/17	22/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW11/17	MW11/17	22/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW98/5	MW98/5	1/12/2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW98/5	MW98/5	14/12/2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW98/5	MW98/5	1/06/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW98/5	MW98/5	27/06/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW98/5	MW98/5	1/12/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW98/5	MW98/5	17/12/2003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 61	5	MW98/5	MW98/5	1/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/04	BH11/04	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	BH11/06	BH11/06	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	5/10/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	8/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.02	<0.02	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	12/06/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	6/12/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	26/06/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11		MW11/02	12/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	12/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11		MW11/02	27/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	27/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11		MW11/02	5/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	5/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	-	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	25/11/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11		MW11/02	19/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	19/08/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11		MW11/02	16/12/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	16/12/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11		MW11/02	29/05/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	D01_290517	MW11/02	29/05/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	29/05/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11		MW11/02	13/12/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	11/12/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	25/06/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	T04 250618	MW11/02	25/06/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	6/12/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11		MW11/02	7/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	7/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	D02_120619	MW11/02	12/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11	MW11/02	MW11/02	12/06/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 56	11		MW

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	Per- and Polyfluoroalkyl Subst													PFOS and PFOA																										
	1H,1H,2H,2H-perfluorooctanesulfonic acid	N-Ethyl perfluorooctanesulfonamide (EtFOSA)	N-ethyl perfluorooctanesulfonamidoacetic acid	N-Ethyl perfluorooctanesulfonamide (NEtFOSA)	N-Ethyl perfluorooctanesulfonamidoethanol (EtFOSE	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	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 FS)	8:2 fluorotelomer sulfonate	10:2 fluorotelomer sulfonic acid (10:2 FTS)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	N-Methyl perfluorooctane sulfonamidoacetic acid	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid	Perfluoropentanoic acid	Perfluorodecanesulfonic acid (PFDS)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorononanoic acid (PFNA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorodecanoic acid (PFDA)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorododecanoic acid (PFDoA)	Perfluorooctanoic acid (PFOA)	Perfluorodecanoic acid (PFDoA)	Perfluorononanoic acid (PFNA)	Perfluorononanesulfonic acid (PFNS)	Perfluoropropanesulfonic acid (PFPrS)	Sum of enviro.wh PFAS (PFHxS + PFOS + PFOA)*	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
EQL	100	0.05	0.00005	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	0.01	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	0.02
ANZG (2018) TV - Marine water (95%)																																								
Clyde WARP SSTL - GW VI - Commercial																																								
Clyde WARP SSTL - GW VI - Construction																																								
Clyde WARP SSTL - GW VI - IMW																																								
NEPM (2013) - Marine Water																																								
NEPM (2013) - Recreational																																								
NHMRC (2019) HBGV - Recreational Water													2	2	10												2														
PFAS NEMP 2020 Interim Marine 95%														0.13	220																										
PFAS NEMP 2020 Interim Marine 99%														**0.00023**	**19**																										

Lot ID	AEC	Field_ID	Location_Code	Sampled_Date_Time																																						
~~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	13/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	MW94/5	MW94/5	22/02/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	12/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	BH94/5	MW94/5	12/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	22/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	22/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	17/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15		MW94/5	18/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	22/06/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	23/11/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	9/06/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 63	15	MW94/5	MW94/5	7/10/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	1/07/2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	26/07/2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	1/01/2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	5/01/2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	16/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	1/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	14/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	28/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	29/09/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	22/02/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/10	17/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	17/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/10	16/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	22/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	17/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/10	18/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	22/06/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	23/11/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	9/06/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	19/06/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	13/12/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	19/06/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/10	5/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	5/12/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/10	20/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	20/05/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/10	5/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/10	MW95/10	5/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	14/12/2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	1/01/2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	1/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	16/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	14/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	31/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	29/09/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	1/09/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	27/09/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	22/02/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	14/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/11	22/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/11	MW95/11	22/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	1/01/2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	5/01/2004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	1/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	16/03/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	1/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	14/09/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	28/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	31/03/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	29/09/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	1/09/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	27/09/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	22/02/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/12	14/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	14/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15		MW95/12	22/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lot 53	15	MW95/12	MW95/12	22/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary																																								
Number of Results	1	21	5	16	37	46	37	37	37	38	41	42	56	58	51	57	51	41	42	38	52	49	1	47	52	47	48	52	52	51	47	47	47	48	1	1	1	1	47
Number of Detects	0	0	0	0	0	0	0	19	6	35	38	37	48	43	0	4	3	0	0	0	32	4	1	0	47	0	0	41	44	38	0	0	0	17	0	0	0	0	0
Minimum Concentration	<100	<0.05	<0.00005	<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	<0.01	0.028	0.0559	<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
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	0.02	0.01	0.12	0.12	0.02	0.01	0.01	ND	0.01	0.11	ND	ND	ND	0.01	0.028	0.0559	ND	0.01	ND	ND	0.01	0.02	0.01	ND	ND	ND	0.02	ND	ND	ND	ND	ND
Maximum Concentration	<100	<0.12	<0.00005	<0.12	<0.12	<0.12	<0.12	0.49	<0.05	7.18	6.87	2.78	1.51	0.56	<0.05	0.19	0.34	<0.05	<0.05	<0.05	0.69	0.4	0.0559	<0.05	1.3	<0.05	<0.05	1.07	0.91	0.78	<0.12	<0.05	<0.05	0.06	<0.01	<0.01	<0.01	<0.01	<0.05
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	0.49	0.04	7.18	6.87	2.78	1.51	0.56	ND	0.19	0.34	ND	ND	ND	0.69	0.4	0.0559	ND	1.3	ND	ND	1.07	0.91	0.78	ND	ND	ND	0.06	ND	ND	ND	ND	ND
Average Concentration		0.037	0.000025	0.04	0.038	0.036	0.038	0.11	0.018	1.4	1.3	0.63	0.27	0.091	0.02	0.032	0.029	0.023	0.018	0.018	0.12	0.07		0.013	0.32	0.013	0.013	0.13	0.17	0.095	0.029	0.013	0.013	0.023					0.019
Median Concentration	50	0.025	0.000025	0.025	0.025	0.025	0.025	0.025	0.02	1.295	1.31	0.665	0.185	0.03	0.025	0.025	0.025	0.025	0.025	0.0175	0.035	0.05	0.0559	0.01	0.255	0.01	0.01	0.04	0.125	0.05	0.025	0.01	0.01	0.025	0.005	0.005	0.005	0.005	0.025
Standard Deviation		0.017	0	0.018	0.017	0.016	0.017	0.14	0.0093	1.5	1.4	0.63	0.31	0.13	0.009	0.031	0.049	0.006	0.0076	0.0076	0.17	0.06		0.0082	0.32	0.0082	0.0082	0.19	0.17	0.14	0.022	0.0082	0.0082	0.015					0.0074
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	2	56	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	2	48	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:Moderate reliability
#2:Low reliability
#3:High reliability. DGV may not protect key test species from chronic toxicity (this refers to experimental ch
#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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OPs | | | | | | | | | | | | | | | | | | |

| | Microbiology | | | OCs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OPs | | | | | | | | | | | | | | | | | | |

| | Microbiology | | | OCs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OPs | | | | | | | | | | | | | | | | | | |

| | | Microbiology | | | OCs | | | | | | | | | | | | | | | | | | | | | | | | | | OPs | | | | | | | | | | | | | | | | | | |

| | Microbiology | | | OCs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OPs | | | | | | | | | | | | | | | | | | |

| | Microbiology | | | OCs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OPs | | | | | | | | | | | | | | | | | | |

| | Microbiology | | | OCs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OPs | | | | | | | | | | | | | | | | | | |

| | PAH/Phenols | | |

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| | PAH/Phenols | | |

					Canister Sampling - Field Data	Ether-oxygenates	Permanent Gases				Pressure		TRH Aliphatic/Aromatic Split												BTEX						Naphthalene
					Temperature - As Received	Vacuum - As received	Methyltributyl Ether	Carbon Dioxide (free)	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	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	Naphthalene
					°C	mg/m3	ug/m3	mg/m³	mg/m³	mg/m³	mg/m³	kPaa	kPaa	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	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv	ppmv
EQL					0.1	0.03	180	0.005	0.0005	0.005	0.1	0.1	0.1	16.5	20	25	20	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	0.1
Clyde WARP SSTL - SV VI - Commercial 0.15m															76000	4200		4200				4200			830		18						14
Monitoring_Zone	**Field_ID**	**Location_Code**	**Sampled_Date_Time**																														
10	SV19/08	SV19/08	28/08/2019	21	1.54	<180	1.53 - 27,500	<0.001[#1]	<0.01[#1]	18 - 235,000	96.9	102	<16.5	<20	<25	<20	<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	<0.1
11	SV19/06	SV19/06	28/08/2019	21	1.8	<180	0.583 - 10,500	<0.001[#1]	<0.01[#1]	19 - 249,000	96	102	<16.5	96.8	103	168	95.9	229	0.37	<0.19	2.57	3.08	1.88	<2.5	2.18	0.431	<0.19	0.529	<0.22	<0.43	<0.65	0.88
2	SV19/04	SV19/04	28/08/2019	21	1.83	<180	0.456 - 8190	0.003 - 34	<0.01[#1]	12.3 - 160,000	96	102	<16.5	ok	<25	<20	<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	<0.1
3	D01_280819	SV19/03*	28/08/2019	21	1.3	<360[#1]	9.82 - 176,000	<0.001[#1]	<0.01[#1]	10.8 - 142,000	97.7	102	384	1390	2970	3690	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]	6.76
3	SV19/03		28/08/2019	21	1.24	<360[#1]	9.52 - 171,000	<0.001[#1]	<0.01[#1]	10.9 - 142,000	98	102	374	1360	2890	3630	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]	5.55
3	SV19/05	SV19/05	28/08/2019	21	1.89	<3600[#1]	7.66 - 138,000	<0.001[#1]	<0.01[#1]	11.6 - 152,000	95.7	102	15,200	57,300	5350	49,700	<600[#1]	<740[#1]	328	<3.8[#1]	280	609	123	<50[#1]	<28[#1]	383	<3.8[#1]	162	<4.4[#1]	15.6	15.6	6.39
3	SV19/10	SV19/10	28/08/2019	21	0.5	<180	1.54 - 27,700	0.0039 - 45	<0.01[#1]	12.7 - 166,000	100	102	<16.5	<20	<25	<20	<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	<0.1
5	SV19/09	SV19/09	28/08/2019	21	1.95	<180	0.531 - 9560	<0.001[#1]	<0.01[#1]	20.8 - 272,000	95.6	102	<16.5	<20	<25	<20	<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	<0.1
9	SV19/07	SV19/07	28/08/2019	21	1.39	<180	2.25 - 40,400	<0.001[#1]	<0.01[#1]	18.1 - 236,000	97.5	102	177	1790	2290	3160	1560	2570	12.3	0.228	390	403	339	87.5	87.5	14.3	0.273	43.8	0.69	14.1	14.8	20.5
Statistical Summary																																	
Number of Results					9	9	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Number of Detects					9	9	0	9	2	0	9	9	9	4	5	5	5	4	4	5	1	5	5	5	3	4	5	1	5	1	2	2	5
Minimum Concentration					21	0.5	<180	0.456	<0.001	<0.01	10.8	95.6	102	<16.5	<20	<25	<20	<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	<0.1
Minimum Detect					21	0.5	ND	0.456	0.003	ND	10.8	95.6	102	177	96.8	103	168	95.9	229	0.37	0.228	2.57	3.08	1.88	26.2	2.18	0.431	0.273	0.529	0.69	14.1	14.8	0.88
Maximum Concentration					21	1.95	<3600	176000	45	<0.01	272000	100	102	15200	57300	5350	49700	1560	2570	328	<3.8	390	609	339	87.5	87.5	383	<3.8	162	<4.4	15.6	15.6	20.5
Maximum Detect					21	1.95	ND	176000	45	ND	272000	100	102	15200	57300	5350	49700	1560	2570	328	0.228	390	609	339	87.5	87.5	383	0.273	162	0.69	15.6	15.6	20.5
Average Concentration					21	1.5	300	33827	4.4	0.005	97452	97	102	1797	7746	1517	6710	452	735	38	0.33	108	146	79	19	18	45	0.34	29	0.43	3.5	3.7	4.5
Median Concentration					21	1.54	90	13850.77	0.0005	0.005	83006.35	96.9	102	8.25	728.4	103	168	95.9	229	0.37	0.095	2.57	3.08	1.88	1.25	2.18	0.431	0.095	0.529	0.11	0.215	0.325	0.88
Standard Deviation					0	0.46	564	36013	8.8	0	26018	1.4	0	5028	20037	1947	16208	591	976	109	0.59	146	219	114	28	28	127	0.59	53	0.69	6.4	6.5	6.7
Number of Guideline Exceedances					0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Number of Guideline Exceedances(Detects Only)					0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1

| | | | | Iso-propanol | SVOC | | | | | | VOC | | | | | |

	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
EQL	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 0.15m																						
Monitoring_Zone **Field_ID** **Location_Code** **Sampled_Date_Time**																						
10 SV19/08 SV19/08 28/08/2019	<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
11 SV19/06 SV19/06 28/08/2019	<0.02	<0.23	1.13	<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	0.185	<0.22	<0.0051
2 SV19/04 SV19/04 28/08/2019	<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* 28/08/2019	<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 28/08/2019	<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 SV19/05 SV19/05 28/08/2019	<4[#1]	<4.6[#1]	2900	<5[#1]	<3.4[#1]	<3.6[#1]	<7.6[#1]	<7[#1]	1090	1940	6490	<1.8[#1]	<4.2[#1]	<5[#1]	<6.8[#1]	<3[#1]	<4[#1]	<4.6[#1]	<5.6[#1]	<3.6[#1]	<4.4[#1]	<2.55[#1]
3 SV19/10 SV19/10 28/08/2019	<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
5 SV19/09 SV19/09 28/08/2019	<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
9 SV19/07 SV19/07 28/08/2019	<0.2[#1]	<0.23	49.2	<0.25	<0.17	<0.18	<0.38	<0.35	3.89	6.73	34.2	0.227	<0.21	<0.25[#1]	<0.34	<0.15	<0.2	<0.23	<0.28	<0.18	<0.22	<0.128[#1]
Statistical Summary																						
Number of Results	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Number of Detects	0	0	5	0	0	0	0	0	2	2	4	5	0	0	0	0	0	0	0	2	0	0
Minimum Concentration	<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
Minimum Detect	ND	ND	1.13	ND	ND	ND	ND	ND	3.89	6.73	34.2	0.18	ND	ND	ND	ND	ND	ND	ND	0.185	ND	ND
Maximum Concentration	<4	<4.6	2900	<5	<3.4	<3.6	<7.6	<7	1090	1940	6490	<1.8	<4.2	<5	<6.8	<3	<4	<4.6	<5.6	19.8	<4.4	<2.55
Maximum Detect	ND	ND	2900	ND	ND	ND	ND	ND	1090	1940	6490	0.862	ND	ND	ND	ND	ND	ND	ND	19.8	ND	ND
Average Concentration	0.28	0.38	328	0.42	0.28	0.3	0.63	0.58	122	216	733	0.36	0.35	0.36	0.57	0.25	0.33	0.38	0.47	2.5	0.37	0.18
Median Concentration	0.01	0.115	1.13	0.125	0.085	0.09	0.19	0.175	0.1	0.09	0.115	0.196	0.105	0.125	0.17	0.075	0.1	0.115	0.14	0.09	0.11	0.00255
Standard Deviation	0.65	0.72	964	0.78	0.53	0.56	1.2	1.1	363	646	2159	0.37	0.66	0.81	1.1	0.47	0.63	0.72	0.88	6.5	0.69	0.41
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
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

APPENDIX B REMEDIATION TRIALS DATASET

	BTEX							Naphthalene	TRH NEPM (1999)						TRH NEPM (2013)							Inorganics				Metals		pH
	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	Kjeldahl Nitrogen Total	Moisture Content (dried @ 103°C)	Nitrite + Nitrate as N (Sol.)	Nitrogen (Total)	Phosphorus	Potassium	pH (Lab)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	pH units
EQL	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	50	100	20	1	0.1	20	2	10	0.1
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) > 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) Management Limits - Commercial/Industrial (coarse)															700		1000		3500		10000							
Monitoring_Zone	**Location_Code**	**Field_ID**	**Sampled_Date_Time**	**Sample_Type**																								
10	NUTRIENTS 3	Nutrients 3	7/11/2019	Normal	<0.2	<0.5	0.6	<0.5	<0.5	<0.5	0.6	10	31	-	1080	8150	2530	11,800	45	44	1950	1940	9170	12,200	1100	470	19.2	<0.1	470	334	80	8
9	NUTRIENTS 1	NUTRIENTS 1	6/11/2019	Normal	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	20	-	210	130	<100	340	29	29	300	300	<100	300	<100	260	17.6	0.2	260	101	70	-
9	NUTRIENTS 2	NUTRIENTS 2	6/11/2019	Normal	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	180	360	<100	540	<10	<10	230	230	360	590	<100	340	15.3	0.3	340	214	30	-
9	NUTRIENTS 4	NUTRIENTS 4	11/11/2019	Normal	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	73	-	470	5700	5600	96	11,396	670	670	7400	7327	2800	10,200	<100	-	17	-	-	-	-	-
9	NUTRIENTS 5	NUTRIENTS 5	11/11/2019	Normal	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	140	-	450	4700	2800	110	7610	680	680	5600	5460	1500	7100	<100	-	22	-	-	-	-	-
Statistical Summary																												
Number of Results	5	5	5	5	5	5	3	5	3	2	5	5	5	5	5	5	5	5	5	5	5	3	5	3	3	3	3	1
Number of Detects	0	0	1	0	0	0	1	3	2	2	5	5	3	5	4	4	5	5	4	5	1	3	5	2	3	3	3	1
Minimum Concentration	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.2	<1	<10	450	180	130	96	340	<10	<10	230	230	<100	300	<100	260	15.3	<0.1	260	101	30	8
Minimum Detect	ND	ND	0.6	ND	ND	ND	0.6	10	20	450	180	130	96	340	29	29	230	230	360	300	1100	260	15.3	0.2	260	101	30	8
Maximum Concentration	<0.2	<0.5	0.6	<0.5	<0.5	<0.5	0.6	140	31	470	5700	8150	2530	11800	680	680	7400	7327	9170	12200	1100	470	22	0.3	470	334	80	8
Maximum Detect	ND	ND	0.6	ND	ND	ND	0.6	140	31	470	5700	8150	2530	11800	680	680	7400	7327	9170	12200	1100	470	22	0.3	470	334	80	8
Average Concentration	0.08	0.17	0.24	0.17	0.19	0.21	0.27	45	19		2374	3408	567	6337	286	286	3096	3051	2776	6078	260	357	18	0.18	357	216	60	
Median Concentration	0.1	0.25	0.25	0.25	0.25	0.25	0.1	10	20	460	1080	2800	96	7610	45	44	1950	1940	1500	7100	50	340	17.6	0.2	340	214	70	8
Standard Deviation	0.027	0.11	0.22	0.11	0.082	0.055	0.29	61	13		2629	3453	1098	5626	356	356	3246	3196	3734	5455	470	106	2.5	0.13	106	117	26	
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1	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	3	0	1	0	0	0	0	0	0	0	0	0

		Inorganic		TRH Silica Gel Cleanup							BTEX							Naphthalene						TRH NEPM (2013)						
	Hydrocarbon Utilising Bacteria	Total Carbon	Conductivity (1:5 aqueous extract at 25Â°C as rec.)	TRH >C10-C14 Silica Gel Cleanup	TRH >C10-C16 Silica Gel Cleanup	TRH >C10-C36 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	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
	CFU/g	%	US/CM	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	20	50	50	50	100	50	100	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.5	20	20	50	50	50	10	10	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) Management Limits - Commercial/Industrial (coarse)																								700		1000		3500		10000

Location_Code	Field_ID	Sampled_Date_Time	Sample_Type																											
SP1	SP1A	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	1	1.3	2.3	-	1.4	100	2300	1100	150	3550	300	300	2500	2498.6	660	3160	<100
SP1	SP1B	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	0.4	0.3	1.2	1.5	-	2.7	140	3100	1300	180	4580	420	420	3400	3397.3	740	4140	<100
SP1	D01_20191120	20/11/2019	Field_D	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	<0.2	1.4	4.5	5.9	-	2.2	120	1100	400	62	1562	360	350	1200	1197.8	220	1420	<100
SP1	D02_20191120	20/11/2019	Field_D	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	<0.2	0.5	<0.4	<0.6	-	1.6	87	2100	1000	140	3240	300	300	2300	2298.4	630	2930	<100
SP1		6/12/2019	Normal	470,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	SP1A	6/12/2019	Normal	-	0.8	580	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1400	660	110	2170	75	75	1500	1500	470	1970	<100
SP1	SP1B	6/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1100	590	100	1790	<20	<20	1300	1300	420	1720	<100
SP1	SP1	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	SP1A	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	800	590	130	1520	21	21	850	850	490	1340	<100
SP1	SP1B	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1000	840	200	2040	<20	<20	1100	1100	730	1830	<100
SP1	SP1A	19/12/2019	Normal	-	-	430	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	620	380	51	1051	<20	<20	730	730	270	1000	<100
SP1	SP1B	19/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	670	350	53	1073	<20	<20	780	780	250	1030	<100
SP1	SP1A	27/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	790	750	120	1660	<20	<20	1200	1200	520	1720	<100
SP1	SP1B	27/12/2019	Normal	-	-	-	720	880	1340	500	400	120	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1100	890	140	2130	<20	<20	1600	1600	600	2200	<100
SP1	SP1A	6/01/2020	Normal	-	-	-	150	220	330	180	130	<50	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	300	300	63	663	<20	<20	380	380	240	620	<100
SP1	SP1B	6/01/2020	Normal	-	0.6	390	220	280	370	150	110	<50	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	500	310	62	872	<20	<20	590	590	240	830	<100
SP1	SP1A	10/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	830	760	170	1760	<20	<20	950	950	610	1670	110
SP1	SP1B	10/01/2020	Normal	-	-	-	520	640	1030	400	350	110	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	850	720	160	1730	<20	<20	970	970	560	1630	100
SP1		17/01/2020	Normal	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	SP1A	17/01/2020	Normal	-	0.8	390	520	610	868	290	210	58	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	740	620	150	1510	<20	<20	900	900	540	1440	<100
SP1	SP1B	17/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	0.7	<20	420	470	130	1020	<20	<20	530	529.3	440	970	<100
SP1	D02_20200117	17/01/2020	Field_D	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	640	560	130	1330	<20	<20	800	800	460	1260	<100
SP1	SP1A	24/01/2020	Normal	-	0.8	530	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	330	380	110	820	<20	<20	570	570	350	920	<100
SP1	SP1B	24/01/2020	Normal	-	-	-	<20	<50	<50	<50	<100	<50	<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
SP1	D01_20200124	24/01/2020	Field_D	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	350	390	100	840	<20	<20	460	460	330	790	<100
SP1	T01_20200124	24/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	14	380	540	130	1050	24	24	500	500	530	1030	<100
SP2	SP2A	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	<0.2	1.5	5.5	6.9	-	8.4	160	3900	1100	150	5150	480	470	4100	4091.6	580	4680	<100
SP2	SP2B	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	0.3	1.5	6.3	7.8	-	7.7	130	2400	760	100	3260	420	410	2500	2492.3	400	2900	<100
SP2		6/12/2019	Normal	590,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2A	6/12/2019	Normal	-	0.9	390	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1500	630	120	2250	<20	<20	1700	1700	430	2130	<100
SP2	SP2B	6/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1800	660	120	2580	42	42	2000	2000	430	2430	<100
SP2	SP2	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2A	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1300	700	140	2140	<20	<20	1300	1300	550	1850	<100
SP2	SP2B	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1600	720	140	2460	23	23	1500	1500	540	2040	<100
SP2	SP2A	19/12/2019	Normal	-	-	470	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1000	380	55	1435	<20	<20	1100	1100	250	1350	<100
SP2	SP2B	19/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	790	360	51	1201	<20	<20	910	910	240	1150	<100
SP2	SP2A	27/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1500	1100	170	2770	21	21	2200	2200	700	2900	<100
SP2	SP2B	27/12/2019	Normal	-	-	-	1200	1400	2160	820	610	140	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1700	1200	180	3080	23	23	2500	2500	740	3240	<100
SP2	SP2A	6/01/2020	Normal	-	-	-	460	580	807	290	200	57	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	510	310	64	884	<20	<20	600	600	240	840	<100
SP2	SP2B	6/01/2020	Normal	-	1	560	450	560	771	270	180	51	<100	<0.1	<0.1	<0.1	0.1	<0.2	<0.3	-	<0.5	<20	560	320	62	942	<20	<20	660	660	230	890	<100
SP2	SP2A	10/01/2020	Normal	-	-	-	710	860	1270	430	360	130	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1200	820	190	2210	<20	<20	1300	1300	620	2040	120
SP2	SP2B	10/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1000	710	160	1870	<20	<20	1100	1100	530	1630	<100
SP2		17/01/2020	Normal	79,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2A	17/01/2020	Normal	-	0.3	490	880	1000	1333	380	260	73	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1100	550	110	1760	27	27	1300	1300	400	1700	<100
SP2	SP2B	17/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1500	610	130	2240	50	50	1700	1700	440	2140	<100
SP2	SP2A	24/01/2020	Normal	-	0.7	560	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	46	440	120	606	<20	<20	130	130	430	560	<100
SP2	SP2B	24/01/2020	Normal	-	-	-	<20	<50	<50	<50	<100	<50	<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
SP2	D02_20200124	24/01/2020	Field_D	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	79	160	<50	239	<20	<20	130	130	140	270	<100
SP2	T02_20200124	24/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	100	340	<100	440	<10	<10	220	220	310	530	<100
SP3	SP3A	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	0.6	1.8	8	9.8	-	6.7	110	1900	850	110	2860	310	300	2000	1993.3	490	2490	<100
SP3	SP3B	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	<0.2	0.5	0.5	1	-	2.2	93	2800	1200	180	4180	300	300	3000	2997.8	680	3680	<100
SP3		6/12/2019	Normal	91,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3A	6/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	35	1400	650	99	2149	110	110	1500	1500	440	1940	<100
SP3	SP3B	6/12/2019	Normal	-	0.8	410	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	930	540	160	1630	<20	<20	1100	1100	500	1600	<100
SP3	SP3	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3A	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1000	710	150	1860	33	33	890	890	600	1490	<100
SP3	SP3B	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1200	820	170	2190	67	67	1000	1000	660	1660	<100
SP3	SP3A	19/12/2019	Normal	-	-	460	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	750	350	<50	1100	29	29	840	840	240	1080	<100
SP3	SP3B	19/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	720	340	<50	1060	26	26	800	800	230	1030	<100
SP3	SP3A	27/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	720	770	130	1620	21	21	1000	1000	570	1570	<100
SP3	SP3B	27/12/2019	Normal	-	-	-	640	760	1180	440	370	100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1100	870	140	2110	51	51	1400	1400	610	2010	<100
SP3	SP3A	6/01/2020	Normal	-	-	-	710	800	1061	300	200	51	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	860	390	67	1317	70	70	950	950	280	1230	<100
SP3	SP3B	6/01/2020	Normal	-	0.9	540	470	560	730	260	180	<50	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	870	650	150	1670	40	40	1300	1300	460	1870	110
SP3	SP3A	10/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	890	750	150	1790	<20	<20	1000	1000	570	1570	<100
SP3	SP3B	10/01/2020	Normal	-	-	-	420	520	840	420	360	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	720	710	150	1580	<20	<20	840	840	560	1400	<100
SP3	D01_20200110	10/01/2020	Field_D	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	710	770	190	1670	<20	<20	830	830	640	1600	130
SP3		17/01/2020	Normal	121,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3A	17/01/2020	Normal	-	0.8	490	430	530	769	280	200	59	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	610	510	130	1250	<20	<20	750	750	430	1180	<100
SP3	SP3B	17/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	460	550	150	1160	30	30	600	600	490	1090	<100
SP3	SP3A	24/01/2020	Normal	-	0.8	510	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	440	620	160	1220	<20	<20	580	580	510	1090	<100
SP3	SP3B	24/01/2020	Normal	-	-	-	72	87	72	<50	<100	<50	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	79	<50	<50	79	<20	<20	100	100	<100	100	<100
SP3	D03_20200124	24/01/2020	Field_D	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	300	390	100	790	<20	<20	400	400	340	740	<100
SP3	T03_20200124	24/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	470	520	140	1130	<10	<10	580	580	520	1100	<100
SP4	SP4A	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.4	<0.6	-	1.3	93	2400	1100	160	3660	300	300	2600	2598.7	620	3220	<100
SP4	SP4B	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	<0.2	0.8	1.3	2	-	2.1	91	2000	1100	150	3250	310	310	2300	2297.9	650	2950	<100
SP4		6/12/2019	Normal	82,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4A	6/12/2019	Normal	-	0.9	440	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1000	590	160	1750	<20	<20	1200	1200	560	1760	<100
SP4	SP4B	6/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	860	480	110	1450	37	37	1000	1000	360	1360	<100
SP4	SP4	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4A	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	820	630	160	1610	20	20	890	890	540	1430	<100
SP4	SP4B	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1200	770	200	2170	23	23	1200	1200	660	1860	<100
SP4	SP4A	19/12/2019	Normal	-	-	440	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	550	340	52	942	<20	<20	650	650	250	900	<100
SP4	SP4B	19/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	270	240	<50	510	<20	<20	340	340	190	530	<100
SP4	SP4A	27/12/2019	Normal	-	-	-	460	570	850	390	340	<100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	990	950	160	2100	26	26	1400	1400	680	2080	<100
SP4	SP4B	27/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	940	840	140	1920	20	20	1400	1400	580	1980	<100
SP4	SP4A	6/01/2020	Normal	-	-	-	820	970	1272	390	240	62	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	850	670	190	1710	35	35	1200	1200	490	1810	120
SP4	SP4B	6/01/2020	Normal	-	0.9	510	370	430	540	170	120	<50	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1100	780	200	2080	44	44	1600	1600	530	2270	140
SP4	SP4A	10/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1100	800	160	2060	<20	<20	1200	1200	600	1800	<100
SP4	SP4B	10/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1400	1000	250	2650	<20	<20	1600	1600	780	2540	160
SP4	D02_20200110	10/01/2020	Field_D	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	940	830	210	1980	<20	<20	1100	1100	680	1910	130
SP4		17/01/2020	Normal	145,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4A	17/01/2020	Normal	-	-	-	600	700	968	310	220	58	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1100	730	290	2120	40	40	1300	1300	590	2200	310
SP4	SP4B	17/01/2020	Normal	-	1.3	530	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	130	360	130	620	<20	<20	210	210	360	570	<100
SP4	SP4A	24/01/2020	Normal	-	0.9	520	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	180	510	140	830	<20	<20	280	280	450	730	<100
SP4	SP4B	24/01/2020	Normal	-	-	-	<20	<50	<50	<50	<100	<50	<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
SP4	D04_20200124	24/01/2020	Field_D	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	170	290	88	548	<20	<20	240	240	270	510	<100
SP4	T04_20200124	24/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	300	390	<100	690	10	10	420	420	340	760	<100

		Inorganic		TRH Silica Gel Cleanup							BTEX							Naphthalene						TRH NEPM (2013)						
	Hydrocarbon Utilising Bacteria	Total Carbon	Conductivity (1:5 aqueous extract at 25ÂºC as rec.)	TRH >C10-C14 Silica Gel Cleanup	TRH >C10-C16 Silica Gel Cleanup	TRH >C10-C36 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	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
	CFU/g	%	US/CM	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	20	50	50	50	100	50	100	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.5	20	20	50	50	50	10	10	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) Management Limits - Commercial/Industrial (coarse)																								700		1000		3500		10000
Location_Code	Field_ID	Sampled_Date_Time	Sample_Type																												
SP5	SP5C	15/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	3.6	<20	1600	6100	910	8610	<20	<20	2900	2896.4	5300	8650	450
SP5	SP5D	15/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	0.1	<0.1	<0.1	<0.2	<0.3	-	1.3	<20	2400	7200	1000	10,600	27	27	3900	3898.7	6300	10,690	490
SP5		6/12/2019	Normal	740,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5A	6/12/2019	Normal	-	1.6	790	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1200	4700	640	6540	-	-	2600	-	4000	6890	290
SP5	SP5B	6/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1100	4900	700	6700	<20	<20	2100	2100	4300	6750	350
SP5	SP5	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5A	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1000	5500	950	7450	<20	<20	1900	1900	5400	7660	360
SP5	SP5B	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1000	4900	820	6720	<20	<20	1800	1800	4800	6910	310
SP5	SP5A	19/12/2019	Normal	-	-	650	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	570	2400	250	3220	<20	<20	1000	1000	2100	3200	100
SP5	SP5B	19/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	990	5500	830	7320	<20	<20	2600	2600	4300	7260	360
SP5	SP5A	27/12/2019	Normal	-	-	-	520	970	3470	2600	2400	350	130	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1200	8200	960	10,360	<20	<20	2800	2800	6800	10,000	400
SP5	SP5B	27/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	1200	7600	880	9680	<20	<20	2600	2600	6200	9170	370
SP5	SP5A	6/01/2020	Normal	-	-	-	430	750	2390	1700	1500	260	100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	840	4900	770	6510	<20	<20	2200	2200	3900	6460	360
SP5	SP5B	6/01/2020	Normal	-	1.5	710	480	850	2890	2100	1800	310	140	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	740	4400	700	5840	<20	<20	1900	1900	3500	5730	330
SP5	SP5A	10/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	850	5700	810	7360	<20	<20	1600	1600	4900	6880	380
SP5	SP5B	10/01/2020	Normal	-	-	-	490	890	3450	2600	2400	360	140	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	920	6300	860	8080	<20	<20	1700	1700	5300	7460	460
SP5		17/01/2020	Normal	98,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5A	17/01/2020	Normal	-	-	-	250	440	1530	1100	1000	180	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	500	4100	670	5270	<20	<20	990	990	3600	4770	180
SP5	SP5B	17/01/2020	Normal	-	1.7	630	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	380	3100	510	3990	<20	<20	750	750	2700	3580	130
SP5	T01_20200117	17/01/2020	Interlab_D	-	-	-	-	-	-	-	-	-	-	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	450	4400	840	5690	<10	<10	990	990	4480	5920	450
SP5	SP5A	24/01/2020	Normal	-	-	-	<20	<50	<50	<50	<100	<50	<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
SP5	SP5B	24/01/2020	Normal	-	1	660	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	200	1500	270	1970	<20	<20	380	380	1400	1890	110
SP6	SP6B	15/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	0.7	<20	2900	8000	1100	12,000	48	48	4700	4699.3	6800	12,100	600
SP6	SP6D	15/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	4.7	<20	1900	5700	930	8530	28	28	3100	3095.3	5100	8650	450
SP6		6/12/2019	Normal	850,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6A	6/12/2019	Normal	-	1.2	1100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	750	4000	650	5400	-	-	1600	-	3600	5490	290
SP6	SP6B	6/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	670	4100	740	5510	<20	<20	1200	1200	3900	5450	350
SP6	SP6	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6A	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	680	5000	1200	6880	<20	<20	1200	1200	5500	7130	430
SP6	SP6B	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	630	4600	1100	6330	<20	<20	1100	1100	5000	6510	410
SP6	SP6A	19/12/2019	Normal	-	-	690	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	660	5100	1100	6860	<20	<20	1700	1700	4500	6660	460
SP6	SP6B	19/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	640	4700	990	6330	<20	<20	1600	1600	4100	6160	460
SP6	SP6A	27/12/2019	Normal	-	-	-	350	710	3720	2800	2900	570	220	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	650	6500	1100	8250	<20	<20	1500	1500	5900	7850	450
SP6	SP6B	27/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	550	5900	990	7440	<20	<20	1300	1300	5400	7110	410
SP6	SP6A	6/01/2020	Normal	-	-	-	230	450	2070	1500	1500	340	150	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	430	4000	950	5380	<20	<20	1100	1100	3600	5140	440
SP6	SP6B	6/01/2020	Normal	-	1.9	1000	250	490	2320	1700	1700	370	170	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	400	3800	920	5120	<20	<20	1100	1100	3500	5020	420
SP6	SP6A	10/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	340	3800	840	4980	<20	<20	650	650	3700	4750	400
SP6	SP6B	10/01/2020	Normal	-	-	-	280	570	3050	2300	2300	470	180	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	390	4300	930	5620	<20	<20	760	760	4100	5310	450
SP6		17/01/2020	Normal	1,020,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6A	17/01/2020	Normal	-	-	-	170	340	1780	1300	1300	310	140	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	230	2700	660	3590	<20	<20	480	480	2600	3250	170
SP6	SP6B	17/01/2020	Normal	-	2.1	660	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	23	220	<50	243	<20	<20	<50	<50	230	230	<100
SP6	SP6A	24/01/2020	Normal	-	-	-	65	140	715	540	540	110	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	82	850	190	1122	<20	<20	170	170	870	1040	<100
SP6	SP6B	24/01/2020	Normal	-	1.6	870	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	240	2700	740	3680	<20	<20	490	490	2700	3480	290
SP7	SP7B	15/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	0.6	<20	2500	6900	990	10,390	39	39	4100	4099.4	6000	10,610	510
SP7	SP7D	15/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	1.8	<40	2800	6800	880	10,480	59	59	4300	4298.2	5700	10,430	430
SP7		6/12/2019	Normal	210,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7A	6/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	830	4800	900	6530	<20	<20	1500	1500	4600	6540	440
SP7	SP7B	6/12/2019	Normal	-	1.7	1200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	920	4500	740	6160	-	-	2000	-	4200	6530	330
SP7	SP7	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7A	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	960	5600	1300	7860	26	26	1600	1600	6000	8070	470
SP7	SP7B	13/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	710	4900	1200	6810	22	22	1200	1200	5400	7040	440
SP7	SP7A	19/12/2019	Normal	-	-	970	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	730	4900	1000	6630	<20	<20	1800	1800	4300	6590	490
SP7	SP7B	19/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	760	5100	1100	6960	<20	<20	1900	1900	4500	6900	500
SP7	SP7A	27/12/2019	Normal	-	-	-	450	830	3880	2900	2900	530	210	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	820	7700	1200	9720	<20	<20	1800	1800	7000	9300	500
SP7	SP7B	27/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	740	7500	1100	9340	<20	<20	1600	1600	6800	8860	460
SP7	SP7A	6/01/2020	Normal	-	-	-	320	580	2620	1900	1800	400	180	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	580	4700	1000	6280	<20	<20	1500	1500	4200	6150	450
SP7	SP7B	6/01/2020	Normal	-	1.9	1400	330	600	2640	1900	1900	410	190	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	540	4400	970	5910	<20	<20	1300	1300	4000	5730	430
SP7	SP7A	10/01/2020	Normal	-	-	-	340	630	3210	2400	2400	470	190	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	530	5500	1200	7230	<20	<20	990	990	5300	6850	560
SP7	SP7B	10/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	510	5400	1100	7010	<20	<20	960	960	5100	6590	530
SP7		17/01/2020	Normal	940,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7A	17/01/2020	Normal	-	3.1	780	150	300	1510	1100	1100	260	130	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	240	2900	700	3840	<20	<20	500	500	2800	3480	180
SP7	SP7B	17/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	300	2600	670	3570	<20	<20	590	590	2700	3560	270
SP7	D01_20200117	17/01/2020	Field_D	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	130	1200	280	1610	<20	<20	260	260	1200	1580	120
SP7	SP7A	24/01/2020	Normal	-	-	-	<20	<50	90	90	<100	<50	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	<20	150	<50	150	<20	<20	<50	<50	150	150	<100
SP7	SP7B	24/01/2020	Normal	-	1.9	1200	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	<20	270	2700	720	3690	<20	<20	530	530	2700	3510	280
Statistical Summary																																
Number of Results		14	28	35	41	41	41	41	41	41	41	138	138	138	138	138	138	5	138	138	141	141	141	141	138	138	141	138	141	141	141
Number of Detects		13	28	35	36	36	37	36	35	29	14	0	1	3	10	8	8	0	17	12	136	136	128	137	45	45	135	132	136	137	62
Minimum Concentration		<100	0.3	390	<20	<50	<50	<50	<100	<50	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.2	<0.5	<10	<20	<50	<50	<50	<10	<10	<50	<50	<100	<100	<100
Minimum Detect		79000	0.3	390	65	87	72	90	110	51	100	ND	0.1	0.3	0.1	0.5	1	ND	0.6	14	23	150	51	79	10	10	100	100	140	100	100
Maximum Concentration		1020000	3.1	1400	1200	1400	3880	2900	2900	570	220	<0.2	<0.5	0.6	1.8	8	9.8	<0.2	8.4	160	3900	8200	1300	12000	480	470	4700	4699.3	7000	12100	600
Maximum Detect		1020000	3.1	1400	1200	1400	3880	2900	2900	570	220	ND	0.1	0.6	1.8	8	9.8	ND	8.4	160	3900	8200	1300	12000	480	470	4700	4699.3	7000	12100	600
Average Concentration		388289	1.2	656	390	552	1463	910	848	174	88	0.055	0.061	0.068	0.12	0.31	0.42	0.1	0.59	18	897	2184	398	3475	41	41	1296	1279	1928	3372	178
Median Concentration		177500	0.95	560	420	570	1180	420	360	100	50	0.05	0.05	0.05	0.05	0.1	0.15	0.1	0.25	10	760	820	160	2149	10	10	1100	1100	610	2040	50
Standard Deviation		368255	0.6	261	265	319	1136	917	911	168	57	0.015	0.039	0.069	0.28	1	1.3	0	1.2	27	689	2303	393	2873	90	88	918	918	2114	2856	173
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	82	0	43	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	82	0	43	0	0

	Inorganics				Metals		pH	PSD								TOC
	Kjeldahl Nitrogen Total	Moisture Content (dried @ 103°C)	Nitrite + Nitrate as N (Sol.)	Nitrogen (Total)	Phosphorus	Potassium	pH (aqueous extract)	<63 Micron	>2000 Micron	1000-2000 Micron	125-250 Micron	250-500 Micron	500-1000 Micron	63-125 Micron	Fraction Organic Carbon
	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	pH Units	%W/W	%W/W	%W/W	%W/W	%W/W	%W/W	%W/W	MG/KG
EQL	10	0.1	5	10	5	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
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) Management Limits - Commercial/Industrial (coarse)															

Location_Code	Field_ID	Sampled_Date_Time	Sample_Type														
SP1	SP1A	20/11/2019	Normal	-	12	-	-	-	-	-	-	-	-	-	-	-	-
SP1	SP1B	20/11/2019	Normal	-	17	-	-	-	-	-	-	-	-	-	-	-	-
SP1	D01_20191120	20/11/2019	Field_D	-	17	-	-	-	-	-	-	-	-	-	-	-	-
SP1	D02_20191120	20/11/2019	Field_D	-	11	-	-	-	-	-	-	-	-	-	-	-	-
SP1		6/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	SP1A	6/12/2019	Normal	-	9.7	<5	-	110	290	8.7	-	-	-	-	-	-	-	0.3
SP1	SP1B	6/12/2019	Normal	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	SP1	13/12/2019	Normal	-	9.6	-	-	-	-	-	0.1	9.3	1.6	36	34	14	4.7	-
SP1	SP1A	13/12/2019	Normal	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	SP1B	13/12/2019	Normal	-	9.5	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	SP1A	19/12/2019	Normal	84	8.6	<5	84	94	390	9	-	-	-	-	-	-	-	-
SP1	SP1B	19/12/2019	Normal	-	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	SP1A	27/12/2019	Normal	-	9.6	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	SP1B	27/12/2019	Normal	-	6.2 - 6.9	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	SP1A	6/01/2020	Normal	-	7.5 - 7.6	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	SP1B	6/01/2020	Normal	110	7.3 - 7.7	<5	110	110	300	8.9	-	-	-	-	-	-	-	0.1
SP1	SP1A	10/01/2020	Normal	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	SP1B	10/01/2020	Normal	-	9.1 - 9.9	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1		17/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	SP1A	17/01/2020	Normal	160	8.6 - 10	<5	-	110	310	9.1	-	-	-	-	-	-	-	0.2
SP1	SP1B	17/01/2020	Normal	-	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	D02_20200117	17/01/2020	Field_D	-	7.4	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	SP1A	24/01/2020	Normal	150	9.1	<5	150	71	450	8.4	-	-	-	-	-	-	-	0.2
SP1	SP1B	24/01/2020	Normal	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	D01_20200124	24/01/2020	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP1	T01_20200124	24/01/2020	Normal	-	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2A	20/11/2019	Normal	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2B	20/11/2019	Normal	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2		6/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2A	6/12/2019	Normal	-	8.2	<5	-	88	330	8.9	-	-	-	-	-	-	-	0.2
SP2	SP2B	6/12/2019	Normal	-	9.3	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2	13/12/2019	Normal	-	8.3	-	-	-	-	-	8.2	4.1	2.4	27	50	6	2.3	-
SP2	SP2A	13/12/2019	Normal	-	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2B	13/12/2019	Normal	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2A	19/12/2019	Normal	220	8.4	<5	220	110	330	8.8	-	-	-	-	-	-	-	-
SP2	SP2B	19/12/2019	Normal	-	8.4	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2A	27/12/2019	Normal	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2B	27/12/2019	Normal	-	7.2 - 7.8	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2A	6/01/2020	Normal	-	7.1 - 8.2	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2B	6/01/2020	Normal	140	8.1 - 9.2	<5	140	79	280	8.6	-	-	-	-	-	-	-	0.4
SP2	SP2A	10/01/2020	Normal	-	7.7 - 11	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2B	10/01/2020	Normal	-	9.7	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2		17/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2A	17/01/2020	Normal	260	12 - 14	<5	-	84	330	8.8	-	-	-	-	-	-	-	<0.1
SP2	SP2B	17/01/2020	Normal	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	SP2A	24/01/2020	Normal	130	9.8	<5	130	81	250	8.2	-	-	-	-	-	-	-	0.2
SP2	SP2B	24/01/2020	Normal	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	D02_20200124	24/01/2020	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP2	T02_20200124	24/01/2020	Normal	-	14.9	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3A	20/11/2019	Normal	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3B	20/11/2019	Normal	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3		6/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3A	6/12/2019	Normal	-	8.6	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3B	6/12/2019	Normal	-	8.4	<5	-	58	390	9	-	-	-	-	-	-	-	0.8
SP3	SP3	13/12/2019	Normal	-	7.4	-	-	-	-	-	17	6.8	0.8	28	36	9	3	-
SP3	SP3A	13/12/2019	Normal	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3B	13/12/2019	Normal	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3A	19/12/2019	Normal	180	7.6	<5	180	110	300	8.9	-	-	-	-	-	-	-	-
SP3	SP3B	19/12/2019	Normal	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3A	27/12/2019	Normal	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3B	27/12/2019	Normal	-	8.4 - 9.4	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3A	6/01/2020	Normal	-	8.8	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3B	6/01/2020	Normal	150	7.6 - 8.2	<5	150	57	260	8.6	-	-	-	-	-	-	-	0.5
SP3	SP3A	10/01/2020	Normal	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3B	10/01/2020	Normal	-	7 - 7.3	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	D01_20200110	10/01/2020	Field_D	-	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3		17/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3A	17/01/2020	Normal	200	8.6 - 10	<5	-	88	300	8.9	-	-	-	-	-	-	-	0.3
SP3	SP3B	17/01/2020	Normal	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	SP3A	24/01/2020	Normal	210	9.1	<5	210	120	260	8.7	-	-	-	-	-	-	-	0.2
SP3	SP3B	24/01/2020	Normal	-	9.6	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	D03_20200124	24/01/2020	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP3	T03_20200124	24/01/2020	Normal	-	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4A	20/11/2019	Normal	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4B	20/11/2019	Normal	-	9.8	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4		6/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4A	6/12/2019	Normal	-	8.8	<5	-	65	280	8.8	-	-	-	-	-	-	-	0.3
SP4	SP4B	6/12/2019	Normal	-	7.5	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4	13/12/2019	Normal	-	7.4	-	-	-	-	-	8.7	10	0.5	34	39	5.9	1.5	-
SP4	SP4A	13/12/2019	Normal	-	8.6	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4B	13/12/2019	Normal	-	9.1	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4A	19/12/2019	Normal	220	7.4	<5	220	98	350	8.7	-	-	-	-	-	-	-	-
SP4	SP4B	19/12/2019	Normal	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4A	27/12/2019	Normal	-	7.9 - 8	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4B	27/12/2019	Normal	-	7.6	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4A	6/01/2020	Normal	-	7.8 - 10	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4B	6/01/2020	Normal	46	8.1 - 8.8	<5	46	130	340	8.5	-	-	-	-	-	-	-	0.3
SP4	SP4A	10/01/2020	Normal	-	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4B	10/01/2020	Normal	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	D02_20200110	10/01/2020	Field_D	-	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4		17/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4A	17/01/2020	Normal	-	7.7 - 7.9	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	SP4B	17/01/2020	Normal	280	9	<5	-	94	350	8.8	-	-	-	-	-	-	-	0.8
SP4	SP4A	24/01/2020	Normal	210	9.5	<5	210	100	270	8.1	-	-	-	-	-	-	-	0.3
SP4	SP4B	24/01/2020	Normal	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	D04_20200124	24/01/2020	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP4	T04_20200124	24/01/2020	Normal	-	9.5	-	-	-	-	-	-	-	-	-	-	-	-	-

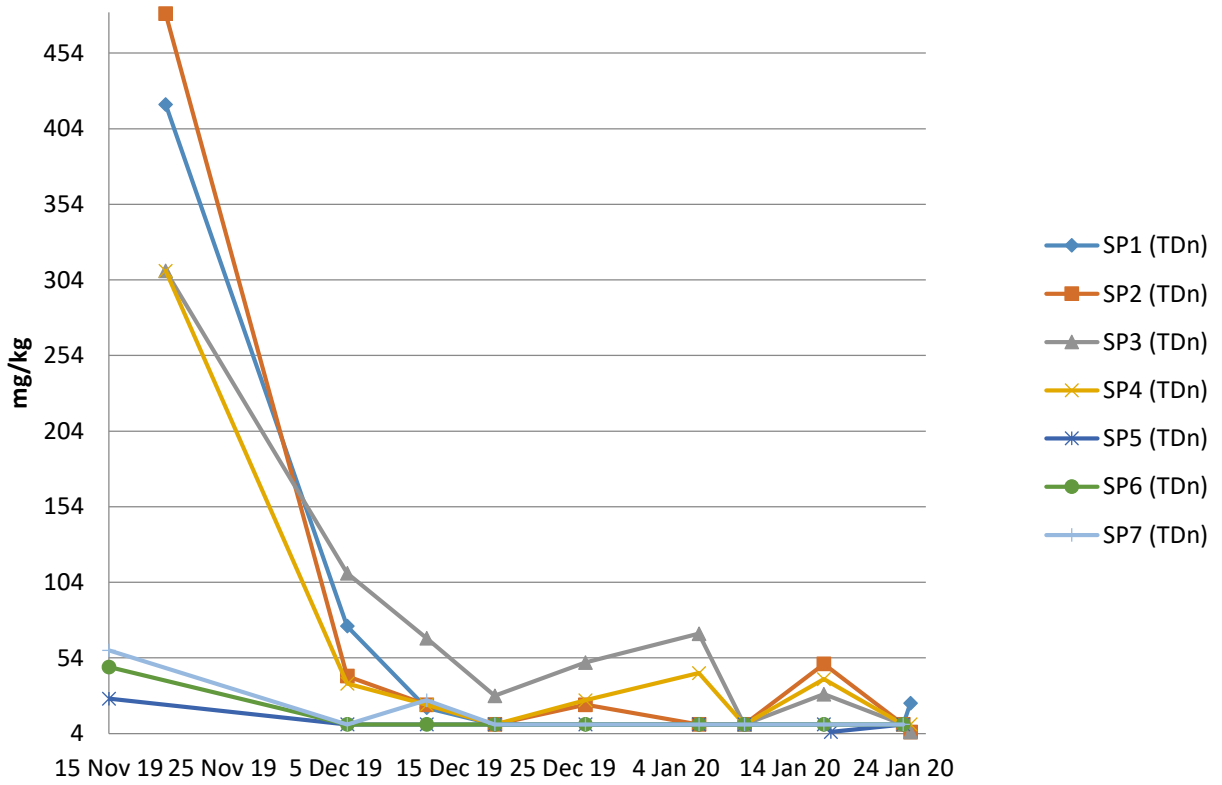
	Inorganics				Metals		pH	PSD							TOC
	Kjeldahl Nitrogen Total	Moisture Content (dried @ 103°C)	Nitrite + Nitrate as N (Sol.)	Nitrogen (Total)	Phosphorus	Potassium	pH (aqueous extract)	<63 Micron	>2000 Micron	1000-2000 Micron	125-250 Micron	250-500 Micron	500-1000 Micron	63-125 Micron	Fraction Organic Carbon
	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	pH Units	%W/W	%W/W	%W/W	%W/W	%W/W	%W/W	%W/W	MG/KG
EQL	10	0.1	5	10	5	5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
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) Management Limits - Commercial/Industrial (coarse)															

Location_Code	Field_ID	Sampled_Date_Time	Sample_Type															
SP5	SP5C	15/11/2019	Normal	-	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5D	15/11/2019	Normal	-	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5		6/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5A	6/12/2019	Normal	-	6.1	<5	-	460	850	8.2	-	-	-	-	-	-	-	1.3
SP5	SP5B	6/12/2019	Normal	-	4.4	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5	13/12/2019	Normal	-	9.9	-	-	-	-	-	0.2	31	10	19	21	13	6.6	-
SP5	SP5A	13/12/2019	Normal	-	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5B	13/12/2019	Normal	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5A	19/12/2019	Normal	180	5.6	<5	180	660	1200	7.4	-	-	-	-	-	-	-	-
SP5	SP5B	19/12/2019	Normal	-	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5A	27/12/2019	Normal	-	4.3 - 4.4	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5B	27/12/2019	Normal	-	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5A	6/01/2020	Normal	-	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5B	6/01/2020	Normal	63	5.3	<5	63	700	1100	8.1	-	-	-	-	-	-	-	1.2
SP5	SP5A	10/01/2020	Normal	-	9.8	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5B	10/01/2020	Normal	-	9.2 - 10	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5		17/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5A	17/01/2020	Normal	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5B	17/01/2020	Normal	210	15	<5	-	680	1100	8.4	-	-	-	-	-	-	-	1.3
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SP5	SP5B	24/01/2020	Normal	130	13	<5	130	720	1000	7.4	-	-	-	-	-	-	-	1
SP6	SP6B	15/11/2019	Normal	-	5.2	-	-	-	-	-	-	-	-	-	-	-	-	-
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SP6	SP6B	6/12/2019	Normal	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-
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SP6	SP6A	13/12/2019	Normal	-	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6B	13/12/2019	Normal	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6A	19/12/2019	Normal	260	5.8	<5	260	550	1200	7.5	-	-	-	-	-	-	-	-
SP6	SP6B	19/12/2019	Normal	-	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6A	27/12/2019	Normal	-	5.1 - 6.9	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6B	27/12/2019	Normal	-	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-
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SP7	SP7D	15/11/2019	Normal	-	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7		6/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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SP7	SP7B	6/12/2019	Normal	-	5.8	<5	-	550	970	7.8	-	-	-	-	-	-	-	1.4
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SP7	SP7A	13/12/2019	Normal	-	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7B	13/12/2019	Normal	-	6.4	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7A	19/12/2019	Normal	400	6.5	<5	400	560	1400	7.1	-	-	-	-	-	-	-	-
SP7	SP7B	19/12/2019	Normal	-	5.9	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7A	27/12/2019	Normal	-	4.7	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7B	27/12/2019	Normal	-	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7A	6/01/2020	Normal	-	5.4 - 5.5	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7B	6/01/2020	Normal	130	5.4 - 5.6	<5	130	740	1200	7.3	-	-	-	-	-	-	-	1.4
SP7	SP7A	10/01/2020	Normal	-	12 - 13	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7B	10/01/2020	Normal	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7		17/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7A	17/01/2020	Normal	330	14 - 17	<5	-	560	1300	7	-	-	-	-	-	-	-	3
SP7	SP7B	17/01/2020	Normal	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	D01_20200117	17/01/2020	Field_D	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-
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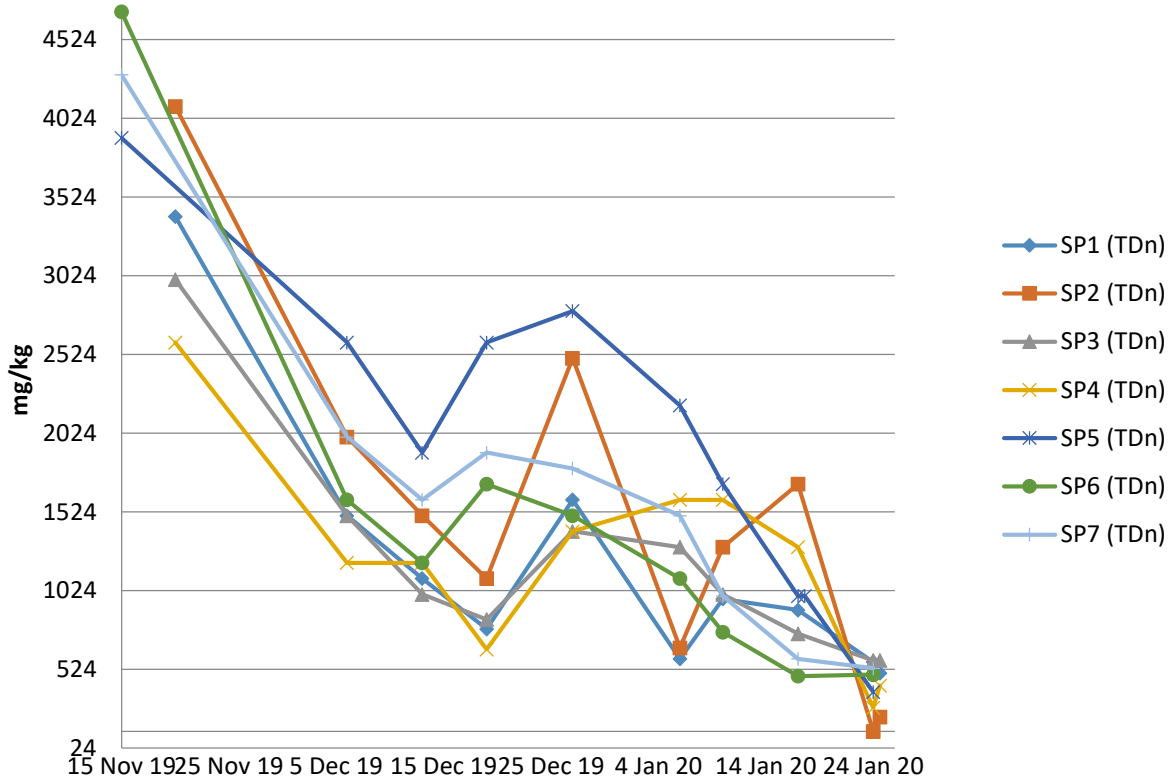
Statistical Summary

Number of Results	28	144	35	21	35	35	35	7	7	7	7	7	7	7	28
Number of Detects	28	144	0	21	35	35	35	7	7	7	7	7	7	7	27
Minimum Concentration	46	2.3	<5	46	57	250	7	0.1	4.1	0.5	10	21	5.9	1.5	<0.1
Minimum Detect	46	2.3	ND	46	57	250	7	0.1	4.1	0.5	10	21	5.9	1.5	0.1
Maximum Concentration	400	18	<5	400	740	1400	9.1	17	31	10	36	50	15	6.6	3
Maximum Detect	400	18	ND	400	740	1400	9.1	17	31	10	36	50	15	6.6	3
Average Concentration	201	9.2	2.5	183	316	670	8.3	7.9	16	5	24	32	11	3.8	0.82
Median Concentration	190	8.475	2.5	150	110	390	8.4	8.7	10	2.4	27	34	13	3.8	0.65
Standard Deviation	97	3.3	0	99	267	425	0.64	6.1	11	4.6	9.5	11	3.8	1.7	0.7
Number of Guideline Exceedances	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

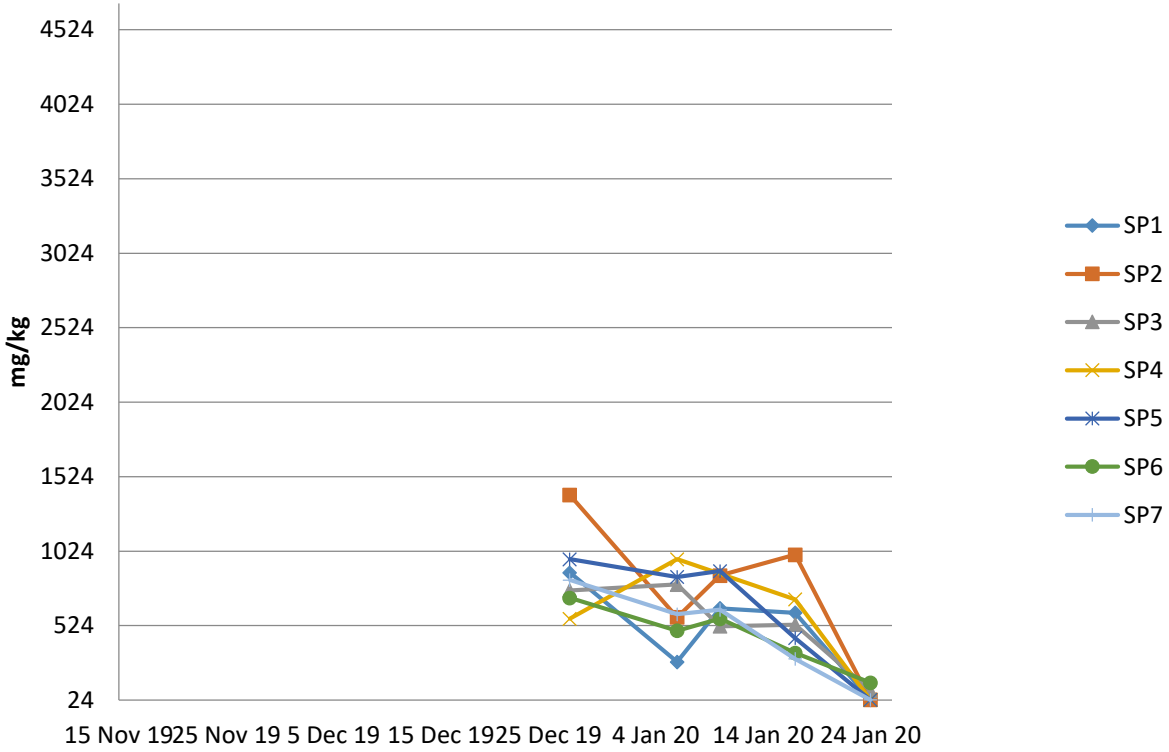
TRH C6-C10 Fraction



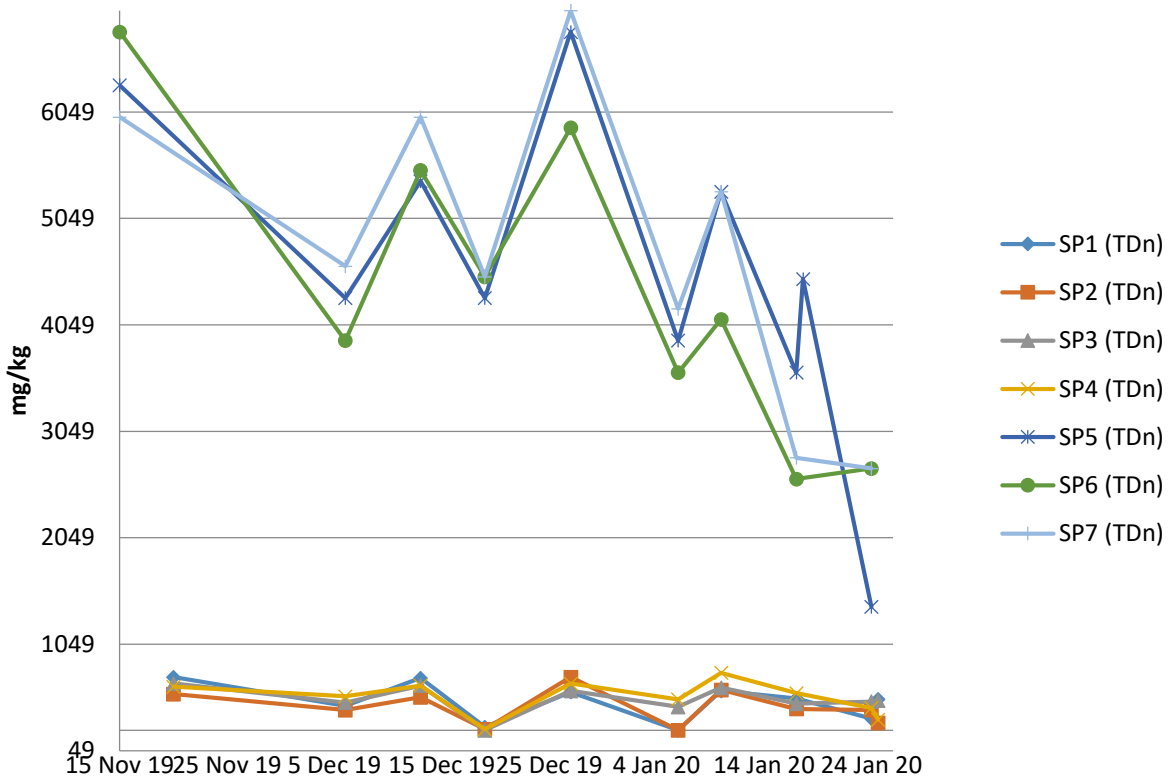
TRH >C10-C16 Fraction



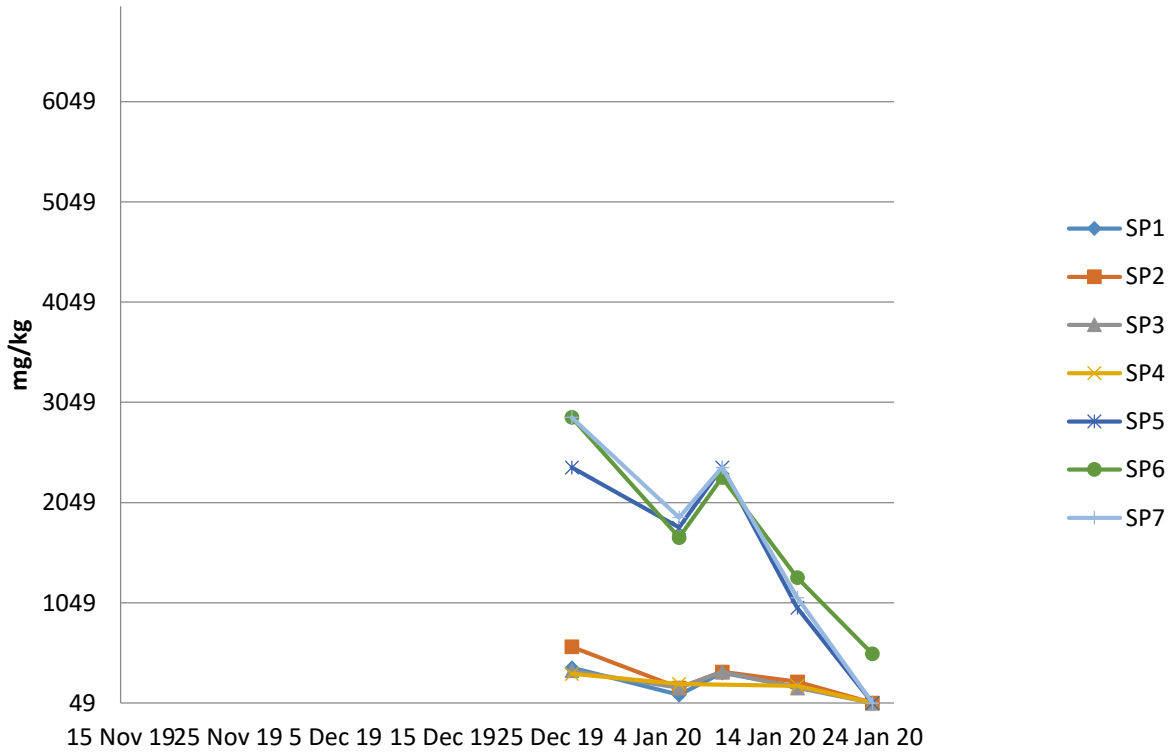
TRH >C10-C16 Silica Gel Cleanup



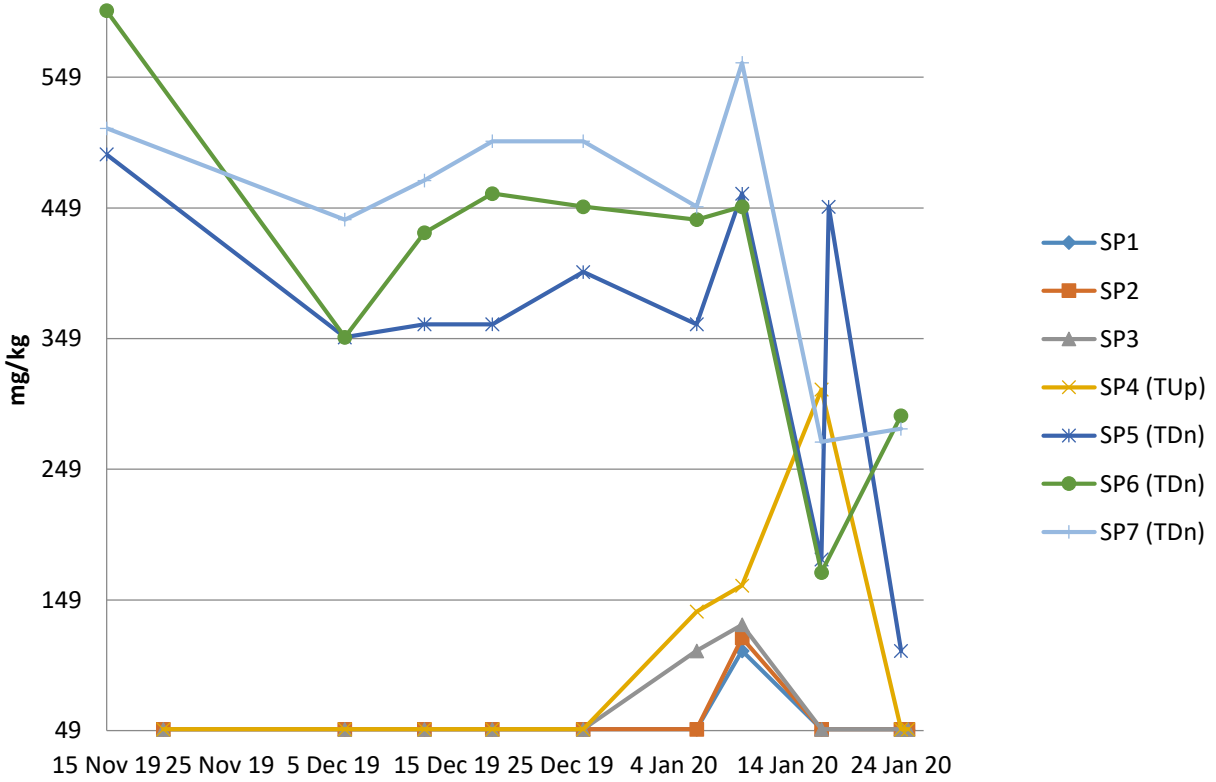
TRH >C16-C34 Fraction



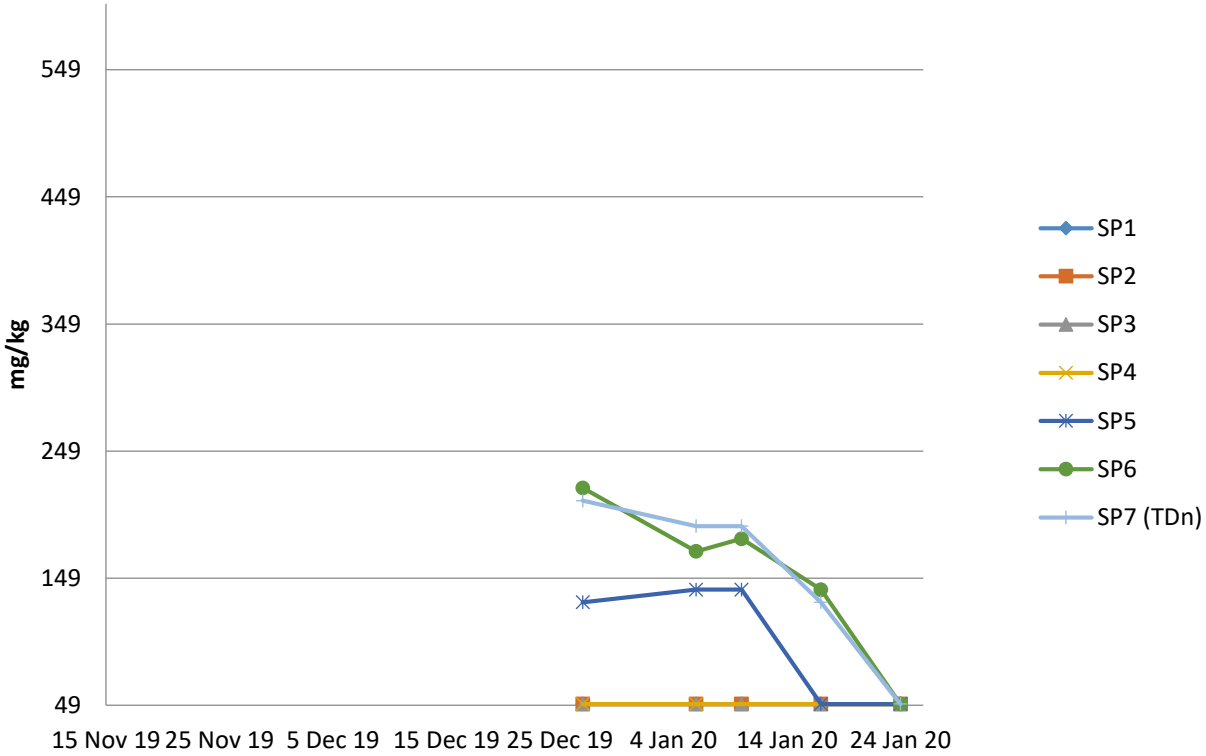
TRH >C16-C34 Silica Gel Cleanup



TRH >C34-C40 Fraction



TRH >C34-C40 Silica Gel Cleanup



ENVIROPACIFIC SERVICES

Laboratory Trial for Soil Immobilisation

Viva Energy Clyde Terminal, Durham St, Rosehill NSW

Rev	Status	Description	Author	Reviewer	Date
A	Draft	Draft for Review	Shaun Claughton	Ben Kay	03/02/2020
B	Final	Issue to Client	Shaun Claughton	Ben Kay	19/02/2020

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1 Introduction

Enviropacific Services (EPS) has been engaged by Environmental Resources Management (ERM) to undertake a soil immobilisation treatment trial of contaminated soil from the Viva Energy Clyde Terminal site ('the Site'). The material subject to the trial originated from the area of the Site known as the Southern Buried Waste Area within the Western Area which is the location of former refinery activities. The treatment trial is part of a Remedial Site Investigation with the objective to establish the viability of Solidification/Stabilisation (S/S) as an immobilisation method of treatment prior to offsite disposal. The Western Area is currently earmarked for divestment to allow future development.

The site is known to have Chemicals of Concern (CoC) concentrations above the NSW hazardous waste classification (EPA, 2014). This classification may be reduced with the use of soil S/S. S/S is a well-established technique of immobilisation that can be used to reduce the leachability of many contaminants. Chemicals of Potential Concern identified in previous reports and historical data include BTEX, Heavy metals, PAH's, Phenols, PCBs, Tetraethyl lead, TPH/TRH and PFAS (AECOM, 2019).

The trial analysed ten different mixtures of soil, cement and additives (shown in Table 2 - Soil Additives) and measured the resultant CoC concentrations (total and leachate) and Unconfined Compressive Strength – results of which are anticipated to be required in any Specific Immobilisation Approval application for the purpose of waste reclassification.

2 Abbreviations

TABLE 1 – LIST OF ABBREVIATIONS

Acronym	Definition
AS	Australian Standard
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes compounds
CoC	Chemical of Concern
CT	Contaminant Threshold
EPA	New South Wales Environmental Protection Agency
EP	Enviropacific
ERM	Environmental Resources Management
GSW	General Solid Waste
LOR	Level of Reporting
NATA	National Association of Testing Authorities
OMC	Optimum Moisture Content
PAC	Powdered Activated Carbon
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PFAS	Per- and polyfluoroalkyl substances
RAP	Remedial Action Plan
RSW	Restricted Solid Waste
SCC	Specific Contaminant Concentration
S/S	Solidification/Stabilisation
SIA	Specific Immobilisation Approval
SVOC	Semi Volatile Organic Compounds

TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
UCS	Unconfined Compressive Strength
%w/w	Weight per weight percentage

3 Task Appreciation and Objectives

The objectives of this soil immobilisation trial were to:

- Assess the mix of additives using analytical and compressive strength results to establish their effectiveness in reducing leachability of CoCs; and
- Establish the viability of this immobilisation method (cement-based S/S) for waste classification using the results obtained during the trail.

4 Methodology

4.1 Raw Soil Sample Preparation

Samples were collected from the Southern Buried Waste Area portion of the Site using an excavator to excavate test pits and material collected in plastic 20 L buckets. The material was homogenised using buckets and hand tools in an Enviropacific laboratory to create a single composite soil material. The material was screened to less than 19 mm particle size and samples sent to an analytical laboratory for total soil and TCLP concentrations to confirm target CoCs. All laboratories used in the analyses were NATA-accredited and testing was performed in accordance with these methods and the laboratory's internal quality assurance and quality control protocols.

4.2 Optimal Moisture Content and Analytical Testing

For the purpose of preparing samples for UCS testing, 3 samples of different cement concentration (10%, 15% and 20% w/w) were tested for Optimum Moisture Content (OMC) by a NATA-accredited geotechnical laboratory.

Once the OMCs were established, 10 samples were prepared as per the proportions in Table 2, in the Enviropacific laboratory.

TABLE 2 - SOIL ADDITIVES

Sample	Fly Ash %w/w	Powdered Activated Carbon %w/w	Portland Cement %w/w
RAW	0	0	0
1	0	0	10
2	0	4	10
3	0	8	10
4	5	2	10
5	5	4	10
6	0	0	15
7	0	4	15
8	5	2	15
9	5	4	15
10	0	0	20

These samples were prepared by first mixing the fly ash portion with the soil until homogenised. The Powdered Activated Carbon (PAC) was then mixed in, followed by cement. Water was then added and mixed to meet the OMC established previously. The soil mixture was then compacted until the soil formed a solid with no visible cracks (as shown in Figure 2). If cracks were present when compacted (as shown in Figure 1) water was added a few ml at a time and compacted until the cracks closed. The samples were then left to cure for 48 hours, after which the samples were broken down using hand tools and sent for Toxicity Characteristics Leaching Procedure (TCLP) and Specific Contaminant Concentration (SCC) tests.



FIGURE 1 - NOT COMPLETELY COMPACTED (VISIBLE CRACKS)



FIGURE 2 - COMPACTED WELL (NO VISIBLE CRACKS)

4.3 UCS Testing

Based on the SCC and TCLP results, the three best performing samples were identified for additional UCS testing. Soil, additives and associated mix ratios were sent to the geotechnical laboratory to create the blended material using the OMCs previously established. UCS testing was carried out as per the procedure listed in AS 5101.4-2008 (Standards Australia Limited, 2008). These tests were performed to compare results against anticipated minimum strength requirements associated with any Specific Immobilisation Approval application.

5 Results

5.1 Raw Sample

During Raw sample testing, it was identified that the contaminants comprising Heavy Metals, TPH, PAH and SVOC all exceeded contaminant threshold (CT) 1 General Solid Waste (GSW) Classification with none above CT2 Restricted Solid Waste (RSW) Classification (EPA, 2014). The contaminants classified as restricted waste under these classifications were Lead, Nickel, Benzo(a)pyrene and Petroleum Hydrocarbons between C10-C36. This only included evaluation based on SCC results. Less chemicals exceeded SCC 1 waste classification than CT1. The only chemicals exceeding SCC 1 GSW and TCLP 1 GSW were Benzo(a)pyrene and TRH C10-C36 (Total). All results are shown in Appendix C – Certificate of Analysis Raw and Table 4 in Appendix A – Analytical Results.

5.2 Analytical Testing

Testing of the stabilised material identified that the contaminants in chemical groups BTEX, Heavy Metals and Petroleum Hydrocarbons all had a decrease in average soil concentration after treatment. All treated samples were below SCC2 RSW levels.

Once stabilised the maximum and average TCLP of Heavy Metals and Hydrocarbons reduced. This included contaminates such as Lead, Nickel as well as the Total TRH between C_{10} and C_{36}. There was also no contaminant concentrations that exceeded TCLP1 GSW classification.

Of the 10 samples tested (shown in Table 2 - Soil Additives), 3 were identified as the best performing combinations based on SCC and TCLP results. TRH fraction C_{10}-C_{36} was the defining contaminant group. The best performing mixtures were samples 3,7 and 9 with key results illustrated in Figure 3:

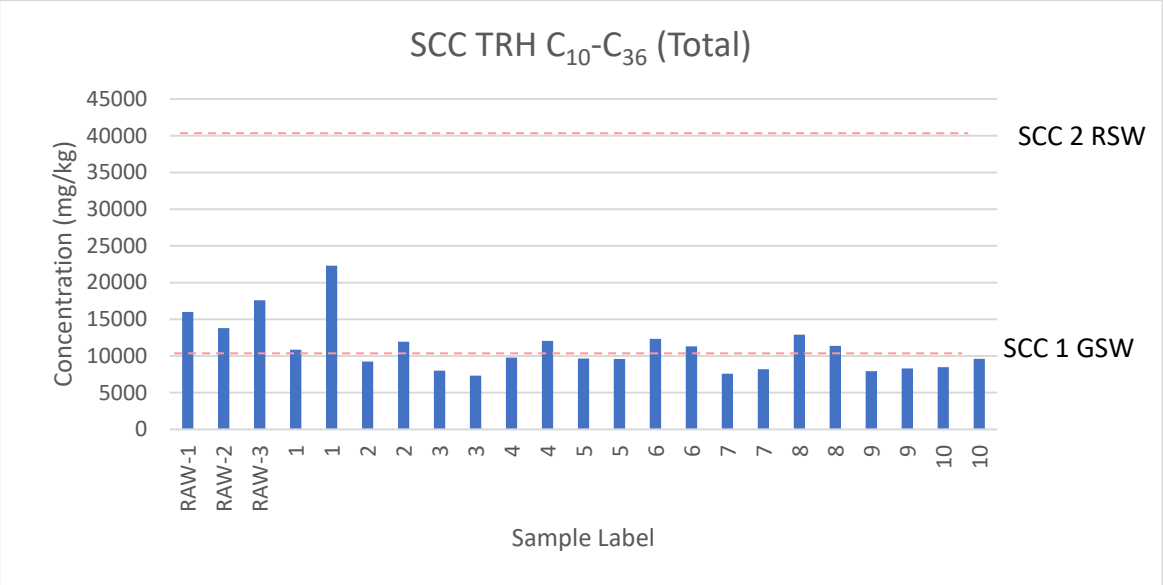


FIGURE 3 - SCC TRH C_{10}-C_{36} RESULTS COMPARISON

Full results are listed in Table 4 in Appendix A – Analytical Results and Appendix D – Certificate of Analysis Immobilised.

5.3 UCS Testing

Samples sent for UCS testing were tested for:

- 7 day (accelerated testing);
- 14 day (standard testing); and
- 28 day (standard testing).

The 7-day samples were set using accelerated curing (65 °C) and the 14 and 28-day samples were subject to ambient curing (23 °C) conditions. Results in Table 3 below indicate strengths in the order of 1-1.5 MPa are achievable after 28 days. The full material test report is shown in Appendix B – UCS Report.

TABLE 3 - UCS RESULTS

Sample #	7 days (accelerated testing)		14 days (standard testing)		28 days (standard testing)	
3	0.9 MPa	0.75MPa	0.75 MPa	0.6 MPa	0.95 MPa	1.00 MPa
7	1.5 MPa	1.4 MPa	0.9 MPa	1.0 MPa	1.05 MPa	1.15 MPa
9	1.5 MPa	1.65 MPa	1.2 MPa	1.15 MPa	1.2 MPa	1.1 MPa

6 Summary

Baseline analytical soil results identified that no contaminants had exceeded CT2, SCC2 and TCLP2 RSW waste classification. Following addition of additives to each of the mixes, reductions were observed in average SCC results for BTEX, Heavy Metals and TRH, while reductions in TCLP results were observed in Heavy Metals and TRH contaminates. This included a reduction in CoCs such as Lead, Nickel and Petroleum Hydrocarbons between C_{10}-C_{36}. Samples 3, 7 and 9 where the best performing mixtures as these had the lowest total and leachable concentrations following treatment (shown in Table 4 in Appendix A – Analytical Results).

UCS results for these samples achieved strengths of approximately 1-1.5 MPa after 28 days.

These combined results suggest S/S immobilisation for treatment of the Buried Southern Waste material to meet SIA requirements for waste reclassification and offsite disposal, is potentially possible.

7 References

AECOM. (2019). *Viva Energy Clyde Western Area Remediation Poject Conceptual Remedial Action Plan .* Sydney: AECOM.

EPA. (2014). *Waste Classification Guidlines Part 1 : Classifiying waste.* Goulburn: NSW Environment Protection Authority (EPA).

EPA. (2017, Novemeber 27). *Immobilisation Technical Note 2 Cement-based Solidification/Stabilisation Treatment of Organic Chemical Contaminants in Waste*. Retrieved from EPA NSW: https://www.epa.nsw.gov.au/your-environment/waste/tracking-transporting-hazardous-waste/immobilisation/technical-notes-immobilisation/immobilisation-note2

Standards Australia Limited. (2008). *Methods for preparation and testing of stabilised materials Method 4 : Unconfined compressice strength of compaction materials.* Sydney: Standards Australia Limited.

Appendix

Appendix A – Analytical Results

TABLE 4 - SAMPLE RESULTS

					BTEX							Heavy Metals			Polycyclic Aromatic Hydrocarbons																	
ENVIROPACIFIC STABILISATION		Matrix	Unit	% Moisture	Benzene	Ethylbenzene	m&p-Xylenes	o-Xylene	Toluene	Xylenes - Total	4-Bromofluorobenzene (surr.)	Lead	Mercury	Nickel	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(a)pyrene TEQ (lower bound) *	Benzo(a)pyrene TEQ (medium bound) *	Benzo(a)pyrene TEQ (upper bound) *	Benzo(b&j)fluoranthene	Benzo(g.h.i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a.h)anthracene	Fluoranthene	Fluorene	Indeno(1.2.3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
NSW (2014) - CT1 General Solid Waste					10	600			288	1000		100	4	40					0.8													
NSW (2014) - CT2 Restricted Solid Waste					40	2400			1152	4000		400	16	160					3.2													
NSW (2014) - SCC1 General Solid Waste					18	1080			518	1800		1500	50	1050					10													
NSW (2014) - TCLP1 General Leachable Concentration					0.5	30			14.4	50		5	0.2	2					0.04													
NSW (2014) - SCC2 Restricted Solid Waste					72	4320			2073	7200		6000	200	4200					23													
NSW (2014) - TCLP2 Resticed Leachable Concentration					2	120			57.6	200		20	20	8					0.16													
NSW (2014) - SCC3 Hazardous Solid Waste					>72	>4320			>2073	>7200		>6000	>200	>4200					>23													
NSW (2014) - TCLP3 Hazardous Leachable Concentratio					>2	>120			>57.6	>200		>20	>20	>8					>0.16													
RAW-1	S19-No38504	Soil	mg/kg	18	< 0.1	0.3	< 0.2	0.3	0.3	0.3		330	0.6	110	1.7	0.6	< 0.5	12	10	13	13	13	2.6	2.3	5	21	1.1	2.8	6.6	0.6	2.6	32	23
RAW-1	S19-No38505	TCLP	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06		0.1	< 0.001	0.38	0.002	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	< 0.001	0.004	0.005	< 0.001
RAW-1	S19-No38506	ASLP	mg/L		< 0.02	< 0.02	< 0.04	< 0.02	< 0.02	< 0.06		< 0.01	< 0.001	< 0.01	0.002	< 0.001	< 0.01	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	< 0.001	< 0.001	0.006	< 0.001
RAW-2	S19-No38507	Soil	mg/kg	14	< 0.1	0.8	0.7	0.8	0.5	1.5		250	0.7	100	2.4	1	< 0.5	22	16	22	22	22	4.3	3.6	5.8	34	2.3	7.6	11	1.2	5	53	36
RAW-2	S19-No38508	TCLP	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06		0.1	< 0.001	0.31	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.002	0.003	< 0.001
RAW-2	S19-No38509	ASLP	mg/L		< 0.02	< 0.02	< 0.04	< 0.02	< 0.02	< 0.06		< 0.01	< 0.001	< 0.01	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	0.002	< 0.001
RAW-3	S19-No38510	Soil	mg/kg	18	< 0.1	0.6	0.9	0.6	0.6	1.5		310	0.9	110	1.1	< 0.5	< 0.5	7.4	5.5	7.9	7.9	7.9	1.7	2.5	2	12	1.1	2.8	3.9	0.6	1	20	13
RAW-3	S19-No38511	TCLP	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06		0.1	< 0.001	0.39	0.002	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	< 0.001	0.004	0.005	< 0.001
RAW-3	S19-No38512	ASLP	mg/L		< 0.02	< 0.02	< 0.04	< 0.02	< 0.02	< 0.06		< 0.01	< 0.001	< 0.01	0.002	< 0.001	< 0.01	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	< 0.001	< 0.001	0.005	< 0.001
1	S19-De07562	Soil	mg/kg	16	< 0.1	< 0.1	< 0.2	< 0.1	0.3	< 0.3	63	260	0.6	110	< 2	< 2	4.8	20	8.5	11	12	14	2.8	4.9	2.7	23	< 2	< 0.5	4.9	< 2	1.7	23	18
1	S19-De07586	TCLP	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	83	< 0.05	< 0.001	0.01	0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	< 0.001	0.003	0.004	< 0.001
1	S19-De07574	Soil (dup)	mg/kg	16	< 0.1	< 0.1	0.2	0.2	0.3	0.4	81	280	0.7	120	< 2	< 2	5	31	19	27	27	27	5.7	9.9	5.4	48	2.6	< 2	6.1	3.2	3.3	31	31
1	S19-De07598	TCLP (dup	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	95	< 0.01	< 0.001	0.01	0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	< 0.001	0.004	0.005	< 0.001
2	S19-De07563	Soil	mg/kg	13	< 0.1	< 0.1	< 0.2	< 0.1	0.3	< 0.3	63	270	0.9	120	< 2	< 2	2.2	13	5.5	7	8.3	9.6	< 2	2.9	< 2	14	< 2	< 0.5	2.6	< 2	< 2	16	11
2	S19-De07587	TCLP	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	80	< 0.05	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	< 0.001	< 0.001	0.006	< 0.001
2	S19-De07575	Soil (dup)	mg/kg	13	< 0.1	< 0.1	< 0.2	< 0.1	0.2	< 0.3	71	250	0.7	94	< 2	< 2	3	14	6.3	8.4	9.5	11	2.3	3.7	2.2	17	< 2	< 2	3.5	< 2	1.3	19	15
2	S19-De07599	TCLP (dup	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	91	< 0.01	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	0.005	< 0.001
3	S19-De07564	Soil	mg/kg	13	< 0.1	< 0.1	< 0.2	< 0.1	0.2	< 0.3	52	220	0.7	83	< 2	< 2	2.4	8.3	3.4	4.3	5.6	7	< 2	< 2	< 2	10	< 2	< 2	1.7	< 2	< 2	9.9	8.8
3	S19-De07588	TCLP	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	81	< 0.05	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	< 0.001
3	S19-De07576	Soil (dup)	mg/kg	13	< 0.1	< 0.1	< 0.2	< 0.1	0.3	< 0.3	71	220	0.6	82	< 2	< 2	1.8	7.2	2.8	3.6	4.9	6.2	< 2	< 2	< 2	8.1	< 2	< 2	1.4	< 2	< 2	8.9	6.6
3	S19-De07600	TCLP (dup	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	88	< 0.01	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001
4	S19-De07565	Soil	mg/kg	13	< 0.1	< 0.1	< 0.2	< 0.1	0.1	< 0.3	73	220	0.6	81	< 2	< 2	3	14	6.8	8.4	9.7	11	< 2	3.4	< 2	18	< 2	< 0.5	4.8	< 2	< 2	18	13
4	S19-De07589	TCLP	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	64	< 0.05	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	0.004	< 0.001
4	S19-De07577	Soil (dup)	mg/kg	12	< 0.1	< 0.1	< 0.2	< 0.1	0.2	< 0.3	72	250	0.8	97	< 2	< 2	2.5	16	8.2	11	12	13	2.8	4.4	2.9	21	< 2	< 2	2.7	< 2	< 2	14	14
4	S19-De07601	TCLP (dup	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	96	< 0.01	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	< 0.001	< 0.001	0.004	< 0.001
5	S19-De07566	Soil	mg/kg	12	< 0.1	< 0.1	< 0.2	< 0.1	0.2	< 0.3	63	220	0.9	86	< 2	< 2	2.6	13	5.3	6.8	8.1	9.4	< 2	2.8	< 2	14	< 2	< 0.5	2.6	< 2	< 2	15	12
5	S19-De07590	TCLP	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	97	< 0.05	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	0.005	< 0.001
5	S19-De07578	Soil (dup)	mg/kg	11	< 0.1	< 0.1	< 0.2	< 0.1	0.2	< 0.3	62	150	0.5	78	< 2	< 2	2.6	8.8	4.3	5.3	6.6	7.9	< 2	2.4	< 2	11	< 2	< 2	2.4	< 2	< 2	13	9.2
5	S19-De07602	TCLP (dup	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	98	< 0.01	< 0.001	< 0.01	0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	< 0.001	< 0.001	0.007	< 0.001
6	S19-De07567	Soil	mg/kg	12	< 0.1	< 0.1	< 0.2	< 0.1	0.2	< 0.3	75	210	0.8	82	< 2	< 2	5	23	9.6	13	14	15	3	4.7	3	27	< 2	< 0.5	5.3	< 2	2	28	19
6	S19-De07591	TCLP	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	100	< 0.05	< 0.001	< 0.01	0.003	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.008	< 0.001	0.015	0.011	0.001
6	S19-De07579	Soil (dup)	mg/kg	12	< 0.1	< 0.1	< 0.2	0.1	0.2	0.3	69	210	0.6	97	< 2	< 2	3.5	16	7.9	10	11	12	2.4	4.1	2.3	19	< 2	< 2	4.2	< 2	1.4	22	15
6	S19-De07603	TCLP (dup	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	91	< 0.01	< 0.001	< 0.01	0.002	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.005	0.004	< 0.001
7	S19-De07568	Soil	mg/kg	13	< 0.1	< 0.1	< 0.2	< 0.1	0.2	< 0.3	56	260	0.7	100	< 2	< 2	< 2	11	3.9	5.1	6.4	7.7	< 2	< 2	< 2	11	< 2	< 0.5	< 2	< 2	< 2	11	8.8
7	S19-De07592	TCLP	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	87	< 0.01	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001
7	S19-De07580	Soil (dup)	mg/kg	13	< 0.1	< 0.1	< 0.2	< 0.1	0.1	< 0.3	58	180	0.6	91	< 2	< 2	2.5	8.1	3.8	4.7	6	7.3	< 2	< 2	< 2	9.8	< 2	< 2	< 2	< 2	< 2	11	8.5
7	S19-De07604	TCLP (dup	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	107	< 0.01	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001
8	S19-De07569	Soil	mg/kg	12	< 0.1	< 0.1	< 0.2	< 0.1	0.5	< 0.3	68	200	0.5	78	< 2	< 2	4.3	21	9.5	12	14	15	2.9	4.6	2.7	24	< 2	< 0.5	4.7	< 2	2	28	18
8	S19-De07593	TCLP	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	92	< 0.01	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	< 0.001	< 0.001	0.004	< 0.001
8	S19-De07581	Soil (dup)	mg/kg	12	< 0.1	0.1	0.2	0.1	0.4	0.3	63	210	0.7	89	< 2	< 2	3.1	16	6.5	8.3	9.6	11	< 2	3	< 2	17	< 2	< 2	3.5	< 2	1.2	19	13
8	S19-De07605	TCLP (dup	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	91	< 0.01	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	0.004	< 0.001
9	S19-De07570	Soil	mg/kg	12	< 0.1	< 0.1	< 0.2	< 0.1	0.4	< 0.3	74	210	0.5	75	< 2	< 2	2.6	9.8	4	5.1	6.4	7.7	< 2	< 2	< 2	12	< 2	< 0.5	< 2	< 2	< 2	11	8.4
9	S19-De07594	TCLP	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	89	< 0.01	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	0.004	< 0.001
9	S19-De07582	Soil (dup)	mg/kg	12	< 0.1	0.1	0.3	0.2	1.1	0.5	50	210	0.5	88	< 2	< 2	2.7	10	4.1	5.2	6.5	7.8	< 2	2.3	< 2	12	< 2	< 2	< 2	< 2	< 2	11	9.1
9	S19-De07606	TCLP (dup	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	98	< 0.01	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001
10	S19-De07571	Soil	mg/kg	12	< 0.1	0.3	1.1	0.4	1.6	1.5	60	260	0.7	87	< 2	< 2	3	11	6.7	8	9.3	11	< 2	3.4	< 2	12	< 2	< 2	3.3	< 2	1.1	17	11
10	S19-De07595	TCLP	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	79	0.01	< 0.001	< 0.01	0.01	0.003	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.018	< 0.001	0.026	0.026	0.003
10	S19-De07583	Soil (dup)	mg/kg	11	< 0.1	0.1	0.3	0.2	0.2	0.6	72	160	0.8	77	< 2	< 2	3.2	17	7.5	9.8	11	12	2.3	3.5	2.2	16	< 2	< 0.5	4	< 2	1.5	19	14
10	S19-De07607	TCLP (dup	mg/L		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	94	< 0.01	< 0.001	< 0.01	0.002	< 0.001	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.005	< 0.001	0.009	0.008	0.001
			Max Soil		< 0.1	0.8	1.1	0.8	1.6	1.5	107	330	0.9	120	2.4	1	5	31	19	27	27	27	5.7	9.9	5.8	48	2.6	7.6	11	3.2	5	53	36
			Max TCLP		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.06	107	0.1	< 0.001	0.39	0.01	0.003	< 0.001	< 0.001	< 0.001				< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.018	< 0.001	0.026	0.026	0.003

ENVIROPACIFIC

				Semivolatile Organics																					Total Recoverable Hydrocarbons - 1999 NEPM Fraction					Total Recoverable Hydrocarbons - 2013 NEPM Fractions								
ENVIROPACIFIC	VIVA STABILISATION	Matrix	Unit	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Acetophenone	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b&j)fluoranthene	Benzo(g.h.i)perylene	Benzo(k)fluoranthene	Benzyl chloride	Chrysene	Dibenz(a.h)anthracene	Dibenzofuran	Indeno(1.2.3-cd)pyrene	Naphthalene	Phenanthrene	Phenol	Pyrene	TRH C10-C14	TRH C10-C36 (Total)	TRH C15-C28	TRH C29-C36	TRH C6-C9	Naphthalene	TRH >C10-C16	TRH >C10-C16 less Naphthalene (F2)	TRH >C10-C40 (total)*	TRH >C16-C34	TRH >C34-C40	TRH C6-C10	TRH C6-C10 less BTEX (F1)
NSW (2014) - CT1 General Solid Waste										0.8											288			10,000			650							
NSW (2014) - CT2 Restricted Solid Waste										3.2											1152			40,000			2600							
NSW (2014) - SCC1 General Solid Waste										10											518			10,000			650							
NSW (2014) - TCLP1 General Leachable Concentration										0.04											14.4			NA			NA							
NSW (2014) - SCC2 Restricted Solid Waste										23											2073			40,000			2600							
NSW (2014) - TCLP2 Resticed Leachable Concentration										0.16											57.6			NA			NA							
NSW (2014) - SCC3 Hazardous Solid Waste										>23											>2073			>40000			>2600							
NSW (2014) - TCLP3 Hazardous Leachable Concentration										>0.16											>57.6			#REF!			NA							
RAW-1	S19-No38504	Soil	mg/kg	16	1.7	0.6	< 0.5	< 0.5	12	10	2.6	2.3	5	21	21	1.1	< 0.5	0.6	2.6	32	< 0.5	23	1100	16000	11000	3900	50	1	2100	2099	16200	13000	1100	100	99
RAW-1	S19-No38505	TCLP	mg/L	0.009	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	0.005	< 0.003	< 0.001	0.25	1.25	1	< 0.1	< 1	< 0.1	0.46	0.46	1.16	0.7	< 0.1	< 1	< 1	
RAW-1	S19-No38506	ASLP	mg/L	< 0.01	0.002	< 0.001	< 0.01	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	0.006	< 0.003	< 0.001	0.4	2.5	2.1	< 0.2	< 1	< 0.1	0.81	0.81	2.41	1.6	< 0.1	< 1	< 1	
RAW-2	S19-No38507	Soil	mg/kg	18	2.4	1	< 0.5	< 0.5	22	16	4.3	3.6	5.8	34	34	2.3	< 0.5	1.2	5	53	< 0.5	36	1000	13800	9400	3400	52	1.1	1900	1898.9	13100	10000	1200	110	110	
RAW-2	S19-No38508	TCLP	mg/L	0.008	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.003	< 0.003	< 0.001	0.33	1.43	1.1	< 0.1	< 1	< 0.1	0.55	0.55	1.35	0.8	< 0.1	< 1	< 1	
RAW-2	S19-No38509	ASLP	mg/L	< 0.01	< 0.001	< 0.001	< 0.01	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	0.002	< 0.003	< 0.001	0.1	1.1	1	< 0.2	< 1	< 0.1	0.36	0.36	1.06	0.7	< 0.1	< 1	< 1	
RAW-3	S19-No38510	Soil	mg/kg	6.5	1.1	< 0.5	< 0.5	< 0.5	7.4	5.5	1.7	2.5	2	12	12	1.1	< 0.5	0.6	1	20	< 0.5	13	1200	17600	12000	4400	65	2.2	2300	2297.8	17900	14000	1600	130	130	
RAW-3	S19-No38511	TCLP	mg/L	0.009	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	0.005	< 0.003	< 0.001	0.46	1.96	1.5	< 0.1	< 1	< 0.1	0.84	0.84	1.94	1.1	< 0.1	< 1	< 1	
RAW-3	S19-No38512	ASLP	mg/L	< 0.01	0.002	< 0.001	< 0.01	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	0.005	< 0.003	< 0.001	0.4	2.2	1.8	< 0.2	< 1	< 0.1	0.81	0.81	2.21	1.4	< 0.1	< 1	< 1	
1	S19-De07562	Soil	mg/kg	2.9	< 2	< 2	< 2	4.8	20	8.5	2.8	4.9	2.7	< 2	23	< 2	< 2	< 2	1.7	23	< 2	18	750	10850	7000	3100	< 20	< 0.5	1400	1400	11300	8600	1300	29	29	
1	S19-De07586	TCLP	mg/L	0.006	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	0.004	< 0.003	< 0.001	0.1	0.5	0.4	< 0.1	< 1	< 0.1	0.19	0.19	0.49	0.3	< 0.1	< 1	< 1	
1	S19-De07574	Soil (dup)	mg/kg	8.8	< 2	< 2	< 2	5	31	19	5.7	9.9	5.4	< 2	48	2.6	< 2	3.2	3.3	31	< 2	31	1100	22300	15000	6200	< 20	< 0.5	2100	2100	22400	18000	2300	37	36	
1	S19-De07598	TCLP (dup	mg/L	0.008	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	0.005	< 0.003	< 0.001	0.11	0.51	0.4	< 0.1	< 1	< 0.1	0.17	0.17	0.47	0.3	< 0.1	< 1		
2	S19-De07563	Soil	mg/kg	< 2	< 2	< 2	< 2	2.2	13	5.5	< 2	2.9	< 2	< 2	14	< 2	< 2	< 2	< 2	16	< 2	11	630	9230	5900	2700	< 20	< 0.5	1200	1200	9800	7400	1200	< 20	< 20	
2	S19-De07587	TCLP	mg/L	0.002	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.006	< 0.003	< 0.001	< 0.05	0.5	0.5	< 0.1	< 1	< 0.1	0.08	< 0.1	0.48	0.4	< 0.1	< 1	< 1	
2	S19-De07575	Soil (dup)	mg/kg	2.8	< 2	< 2	< 2	3	14	6.3	2.3	3.7	2.2	< 2	17	< 2	< 2	< 2	1.3	19	< 2	15	750	11950	7600	3600	< 20	< 0.5	1400	1400	12600	9600	1600	21	21	
2	S19-De07599	TCLP (dup	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.005	< 0.003	< 0.001	< 0.05	0.3	0.3	< 0.1	< 1	< 0.1	0.05	< 0.1	0.35	0.3	< 0.1	< 1	< 1	
3	S19-De07564	Soil	mg/kg	< 2	< 2	< 2	< 2	2.4	8.3	3.4	< 2	< 2	< 2	< 2	10	< 2	< 2	< 2	< 2	9.9	< 2	8.8	590	7990	5100	2300	< 20	< 0.5	1100	1100	8500	6300	1100	< 20	< 20	
3	S19-De07588	TCLP	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.003	< 0.003	< 0.001	< 0.05	0.1	0.1	< 0.1	< 1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.1	< 0.1	< 1	< 1	
3	S19-De07576	Soil (dup)	mg/kg	< 2	< 2	< 2	< 2	1.8	7.2	2.8	< 2	< 2	< 2	< 2	8.1	< 2	< 2	< 2	< 2	8.9	< 2	6.6	520	7320	4700	2100	< 20	< 0.5	970	970	7760	5800	990	26	26	
3	S19-De07600	TCLP (dup	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.003	< 0.001	< 0.05	0.1	0.1	< 0.1	< 1	< 0.1	< 0.05	< 0.05	0.1	0.1	< 0.1	< 1	< 1	
4	S19-De07565	Soil	mg/kg	< 2	< 2	< 2	< 2	3	14	6.8	< 2	3.4	< 2	< 2	18	< 2	< 2	< 2	< 2	18	< 2	13	690	9790	6200	2900	< 20	< 0.5	1300	1300	10300	7700	1300	< 20	< 20	
4	S19-De07589	TCLP	mg/L	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	0.004	< 0.001	< 0.05	0.2	0.2	< 0.1	< 1	< 0.1	0.06	< 0.1	0.26	0.2	< 0.1	< 1	< 1			
4	S19-De07577	Soil (dup)	mg/kg	< 2	< 2	< 2	< 2	2.5	16	8.2	2.8	4.4	2.9	< 2	21	< 2	< 2	< 2	< 2	14	< 2	14	750	12050	8200	3100	< 20	< 0.5	1700	1700	12700	9800	1200	< 20	< 20	
4	S19-De07601	TCLP (dup	mg/L	0.003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	< 0.003	< 0.001	< 0.05	0.3	0.3	< 0.1	< 1	< 0.1	0.05	< 0.1	0.25	0.2	< 0.1	< 1	< 1	
5	S19-De07566	Soil	mg/kg	< 2	< 2	< 2	< 2	2.6	13	5.3	< 2	2.8	< 2	< 2	14	< 2	< 2	< 2	< 2	15	< 2	12	660	9660	6100	2900	< 20	< 0.5	1200	1200	10200	7700	1300	< 20	< 20	
5	S19-De07590	TCLP	mg/L	0.003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.005	< 0.003	< 0.001	< 0.05	0.3	0.3	< 0.1	< 1	< 0.1	0.08	< 0.1	0.28	0.2	< 0.1	< 1	< 1	
5	S19-De07578	Soil (dup)	mg/kg	< 2	< 2	< 2	< 2	2.6	8.8	4.3	< 2	2.4	< 2	< 2	11	< 2	< 2	< 2	< 2	13	< 2	9.2	780	9580	6500	2300	< 20	< 0.5	1800	1800	10200	7400	1000	23	23	
5	S19-De07602	TCLP (dup	mg/L	0.003	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.007	< 0.003	< 0.001	< 0.05	0.3	0.3	< 0.1	< 1	< 0.1	0.06	< 0.1	0.26	0.2	< 0.1	< 1	< 1	
6	S19-De07567	Soil	mg/kg	5.4	< 2	< 2	< 2	5	23	9.6	3	4.7	3	< 2	27	< 2	< 2	< 2	2	28	< 2	19	830	12330	7900	3600	< 20	< 0.5	1600	1600	13100	9900	1600	25	25	
6	S19-De07591	TCLP	mg/L	0.03	0.003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.015	0.011	< 0.003	0.001	0.25	1.05	0.8	< 0.1	< 1	< 0.1	0.49	0.49	1.09	0.6	< 0.1	< 1	< 1	
6	S19-De07579	Soil (dup)	mg/kg	4.1	< 2	< 2	< 2	3.5	16	7.9	2.4	4.1	2.3	< 2	19	< 2	< 2	< 2	1.4	22	< 2	15	920	11320	7600	2800	< 20	1.2	2100	2098.8	12100	8800	1200	28	28	
6	S19-De07603	TCLP (dup	mg/L	0.01	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.005	0.004	< 0.003	< 0.001	0.08	0.38	0.3	< 0.1	< 1	< 0.1	0.14	0.14	0.34	0.2	< 0.1	< 1	< 1	
7	S19-De07568	Soil	mg/kg	< 2	< 2	< 2	< 2	< 2	11	3.9	< 2	< 2	< 2	< 2	11	< 2	< 2	< 2	< 2	11	< 2	8.8	590	7590	4800	2200	< 20	< 0.5	1100	1100	8000	5900	1000	22	22	
7	S19-De07592	TCLP	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.003	< 0.001	< 0.05	0.2	0.2	< 0.1	< 1	< 0.1	< 0.05	< 0.05	0.2	0.2	< 0.1	< 1	< 1	
7	S19-De07580	Soil (dup)	mg/kg	< 2	< 2	< 2	< 2	2.5	8.1	3.8	< 2	< 2	< 2	< 2	9.8	< 2	< 2	< 2	< 2	11	< 2	8.5	700	8200	5500	2000	< 20	< 0.5	1600	1600	8830	6300	930	21	21	
7	S19-De07604	TCLP (dup	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.003	< 0.001	< 0.05	0.2	0.2	< 0.1	< 1	< 0.1	< 0.05	< 0.05	0.1	0.1	< 0.1	< 1	< 1	
8	S19-De07569	Soil	mg/kg	8.9	< 2	< 2	< 2	4.3	21	9.5	2.9	4.6	2.7	< 2	24	< 2	< 2	< 2	2	28	< 2	18	710	12910	8400	3800	< 20	0.9	1400	1399.1	13900	11000	1500	27	27	
8	S19-De07593	TCLP	mg/L	0.003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	< 0.003	< 0.001	< 0.05	0.3	0.3	< 0.1	< 1	< 0.1	0.06	< 0.1	0.26	0.2	< 0.1	< 1	< 1	
8	S19-De07581	Soil (dup)	mg/kg	3.6	< 2	< 2	< 2	3.1	16	6.5	< 2	3	< 2	< 2	17	< 2	< 2	< 2	1.2	19	< 2	13	970	11370	7700	2700	< 20	0.8	2100	2099.2	12100	8800	1200	23	22	
8	S19-De07605	TCLP (dup	mg/L	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	< 0.003	< 0.001	< 0.05	0.2	0.2	< 0.1	< 1	< 0.1	< 0.05	< 0.05	0.1	0.1	< 0.1	< 1	< 1	
9	S19-De07570	Soil	mg/kg	< 2	< 2	< 2	< 2	2.6	9.8	4	< 2	< 2	< 2	< 2	12	< 2	< 2	< 2	< 2	11	< 2	8.4	630	7930	5000	2300	< 20	0.9	1100	1099.1	8300	6100	1100	< 20	< 20	
9	S19-De07594	TCLP	mg/L	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	< 0.003	< 0.001	0.05	0.45	0.4	< 0.1	< 1	< 0.1	0.13	0.13	0.43	0.3	< 0.1	< 1	< 1	
9	S19-De07582	Soil (dup)	mg/kg	< 2	< 2	< 2	< 2	2.7	10	4.1	< 2	2.3	< 2	< 2	12	< 2	< 2	< 2	< 2	11	< 2	9.1	610	8310	5700	2000	21	0.7	1400	1399.3	8820	6500	920	36	34	
9	S19-De07606	TCLP (dup	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.003	< 0.001	< 0.05	0.2	0.2	< 0.1	< 1	< 0.1	< 0.05	< 0.05	0.1	0.1	< 0.1	< 1	< 1	
10	S19-De07571	Soil	mg/kg	2.7	< 2	< 2	< 2	3	11	6.7	< 2	3.4	< 2	< 2	12	< 2	< 2	< 2	1.1	17	< 2	11	570	8470	5400	2500	33	1.4	1100	1098.6	9000	6800	1100	60	57	
10	S19-De07595	TCLP	mg/L	0.057	0.01	0.003	0.007	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.005	< 0.001	0.026	0.026	< 0.003	0.003	< 0.05	< 0.1	< 0.1	< 0.1	< 1	< 0.1	< 0.05	< 0.05	< 0.1	< 0.1	< 0.1	< 1	< 1	
10	S19-De07583	Soil (dup)	mg/kg	3.6	< 2	< 2	< 2	3.2	17	7.5	2.3	3.5	2.2	< 2	16	< 2	< 2	< 2	1.5	19	< 2	14	700	9600	6600	2300	< 20	1.4	1600	1598.6	10010	7500	910	31	30	
10	S19-De07607	TCLP (dup	mg/L	0.02	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.009	0.008	< 0.003	0.001	0.18	0.68	0.5	< 0.1	< 1	< 0.1	0.32	0.32	0.72	0.4	< 0.1	< 1	< 1	
			Max Soil	18	2.4	1	0.007	5	31	19	5.7	9.9	5.8	34	48	2.6	0.005	3.2	5	53	0.004	36	1200	22,300	15,000	6200	65	2.2	2300	2297.8	22,400	18,000	2300	130	130	
			Max TCLP	0.057	0.01	0.003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.005	0.001	0.018	< 0.001	0.026	0.026	0.004	0.003	0.46	1.96	1.5	< 0.1	< 1	< 0.1	0.84	0.84	1.94	1.1	< 0.1	< 1		

Appendix B – UCS Report

Material Test Report

Report Number: **680848.00-2**
Issue Number: 1
Date Issued: 05/02/2020
Client: Enviropacific Services Pty Ltd
PO Box 295, Wickham NSW 2293
Contact: Richard Carran
Project Number: 680848.00
Project Name: Materials Testing
Project Location: Various locations, Various
Work Request: 5236
Date Sampled: 18/12/2019
Dates Tested: 18/12/2019 - 04/02/2020
Sampling Method: Sampled by Client
The results apply to the sample as received
Material: Grey clayey gravel

Douglas Partners
Geotechnics / Environment / Groundwater
Douglas Partners Pty Ltd
Unanderra Laboratory
Unit 1/1 Luso Drive Unanderra NSW 2526
Phone: (02) 4271 1836
Fax: (02) 4271 1897
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Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

Approved Signatory: Anes Ibricic
Laboratory Manager
NATA Accredited Laboratory Number: 828

Unconfined Compressive Strength (RMS T131 & T120)					Min	Max
Sample Number	WO-5236A	WO-5236A	WO-5236A	WO-5236B		
Date Sampled	18/12/2019	18/12/2019	18/12/2019	18/12/2019		
Date Tested	06/01/2020	21/01/2020	04/02/2020	06/01/2020		
Sample Location	Sample 3	Sample 3	Sample 3	Sample 7		
Sample Depth	**	**	**	**		
Material	Grey clayey gravel	Grey clayey gravel	Grey clayey gravel	Grey clayey gravel		
Mass Retained 19.0mm Sieve (%)	3	3	3	0		
Curing Details	**7 Days Accelerated**	**14 Days Ambient**	**28 Days Ambient**	**7 Days Accelerated**		
Condition After Curing	Moist	Moist	Moist	Moist		
Method of Addition	Lab Mixed	Lab Mixed	Lab Mixed	Lab Mixed		
Elapsed Time for Binder (Hrs:Mins)	0:15	0:22	0:12	0:14		
Additive Source	Client	Client	Client	Client		
Additive Type	Activated Carbon / Cement	Activated Carbon / Cement	Activated Carbon / Cement	Activated Carbon / Cement		
Additive Content (%)	8% / 10%	8% / 10%	8% / 10%	4% / 15%		
Compactive Effort	**Standard**	**Standard**	**Standard**	**Standard**		
Moisture Content 1 (%)	19.5	20.0	20.5	18.0		
Moisture Content 2 (%)	**	**	**	**		
Cap Used 1	None	None	None	None		
Cap Used 2	None	None	None	None		
Defects 1	**	**	**	**		
Defects 2	**	**	**	**		
Dry Density 1 (t/m^3)	1.47	1.54	1.54	1.61		
Dry Density 2 (t/m^3)	1.47	0.15	1.55	1.61		
UCS Cylinder 1 (MPa)	0.90	0.75	0.95	1.50		
UCS Cylinder 2 (MPa)	0.75	0.60	1.00	1.40		
UCS Average (MPa)	0.8	0.7	1.0	1.4		
Remarks	Capping N/A - No defects observed	Capping N/A - No defects observed	Capping N/A - No defects observed	Capping N/A - No defects observed		

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Results relate only to the items tested/sampled.

Material Test Report

Report Number: **680848.00-2**
Issue Number: 1
Date Issued: 05/02/2020
Client: Enviropacific Services Pty Ltd
PO Box 295, Wickham NSW 2293
Contact: Richard Carran
Project Number: 680848.00
Project Name: Materials Testing
Project Location: Various locations, Various
Work Request: 5236
Date Sampled: 18/12/2019
Dates Tested: 18/12/2019 - 04/02/2020
Sampling Method: Sampled by Client
The results apply to the sample as received
Material: Grey clayey gravel

Douglas Partners
Geotechnics / Environment / Groundwater
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Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

Approved Signatory: Anes Ibricic
Laboratory Manager
NATA Accredited Laboratory Number: 828

Unconfined Compressive Strength (RMS T131 & T120)					Min	Max
Sample Number	WO-5236B	WO-5236B	WO-5236C	WO-5236C		
Date Sampled	18/12/2019	18/12/2019	18/12/2019	18/12/2019		
Date Tested	21/01/2020	04/02/2020	07/01/2020	21/01/2020		
Sample Location	Sample 7	Sample 7	Sample 9	Sample 9		
Sample Depth	**	**	**	**		
Material	Grey clayey gravel	Grey clayey gravel	Grey clayey gravel	Grey clayey gravel		
Mass Retained 19.0mm Sieve (%)	0	0	0	0		
Curing Details	**14 Days Ambient**	**28 Days Ambient**	**7 Days Accelerated**	**14 Days Ambient**		
Condition After Curing	Moist	Moist	Moist	Moist		
Method of Addition	Lab Mixed	Lab Mixed	Lab Mixed	Lab Mixed		
Elapsed Time for Binder (Hrs:Mins)	0:26	0:15	0:16	0:41		
Additive Source	Client	Client	Client	Client		
Additive Type	Activated Carbon / Cement	Activated Carbon / Cement	Activated Carbon / Cement / Flyash	Activated Carbon / Cement / Flyash		
Additive Content (%)	4% / 15%	4% / 15%	4% / 15% / 5%	4% / 15% / 5%		
Compactive Effort	**Standard**	**Standard**	**Standard**	**Standard**		
Moisture Content 1 (%)	19.0	19.0	18.5	18.0		
Moisture Content 2 (%)	**	**	**	**		
Cap Used 1	None	None	None	None		
Cap Used 2	None	None	None	None		
Defects 1	**	**	**	**		
Defects 2	**	**	**	**		
Dry Density 1 (t/m^3)	1.61	1.58	1.60	1.61		
Dry Density 2 (t/m^3)	1.60	1.58	1.59	1.61		
UCS Cylinder 1 (MPa)	1.00	1.05	1.50	1.20		
UCS Cylinder 2 (MPa)	0.90	1.15	1.65	1.15		
UCS Average (MPa)	1.0	1.1	1.6	1.2		
Remarks	Capping N/A - No defects observed	Capping N/A - No defects observed	Capping N/A - No defects observed	Capping N/A - No defects observed		

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Results relate only to the items tested/sampled.

Material Test Report

Douglas Partners
Geotechnics / Environment / Groundwater
Douglas Partners Pty Ltd
Unanderra Laboratory
Unit 1/1 Luso Drive Unanderra NSW 2526
Phone: (02) 4271 1836
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Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Anes Ibricic
Laboratory Manager
NATA Accredited Laboratory Number: 828

Report Number: **680848.00-2**
Issue Number: 1
Date Issued: 05/02/2020
Client: Enviropacific Services Pty Ltd
PO Box 295, Wickham NSW 2293
Contact: Richard Carran
Project Number: 680848.00
Project Name: Materials Testing
Project Location: Various locations, Various
Work Request: 5236
Date Sampled: 18/12/2019
Dates Tested: 18/12/2019 - 04/02/2020
Sampling Method: Sampled by Client
The results apply to the sample as received
Material: Grey clayey gravel

Unconfined Compressive Strength (RMS T131 & T120)					Min	Max
Sample Number	WO-5236C					
Date Sampled	18/12/2019					
Date Tested	04/02/2020					
Sample Location	Sample 9					
Sample Depth	**					
Material	Grey clayey gravel					
Mass Retained 19.0mm Sieve (%)	0					
Curing Details	**28 Days Ambient**					
Condition After Curing	Moist					
Method of Addition	Lab Mixed					
Elapsed Time for Binder (Hrs:Mins)	**					
Additive Source	Client					
Additive Type	Activated Carbon / Cement / Flyash					
Additive Content (%)	4% / 15% / 5%					
Compactive Effort	**Standard**					
Moisture Content 1 (%)	18.0					
Moisture Content 2 (%)	**					
Cap Used 1	None					
Cap Used 2	**					
Defects 1	**					
Defects 2	**					
Dry Density 1 (t/m^3)	1.59					
Dry Density 2 (t/m^3)	1.59					
UCS Cylinder 1 (MPa)	1.20					
UCS Cylinder 2 (MPa)	1.10					
UCS Average (MPa)	1.2					
Remarks	Capping N/A - No defects observed					

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Results relate only to the items tested/sampled.

Appendix C – Certificate of Analysis Raw

Enviropacific Services Pty Ltd (NSW)
PO Box 295
Wickham
NSW 2293

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Richard Carran**

Report **690420-S**
Project name VIVA STABILISATION
Project ID 101155
Received Date Nov 27, 2019

Client Sample ID			**RAW-1**	**RAW-2**	**RAW-3**
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S19-No38504**	**S19-No38507**	**S19-No38510**
Date Sampled			**Nov 27, 2019**	**Nov 27, 2019**	**Nov 27, 2019**
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	20	mg/kg	50	52	65
TRH C10-C14	20	mg/kg	1100	1000	1200
TRH C15-C28	50	mg/kg	11000	9400	12000
TRH C29-C36	50	mg/kg	3900	3400	4400
TRH C10-C36 (Total)	50	mg/kg	16000	13800	17600
Volatile Organics					
1.1-Dichloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.1-Dichloroethene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.1.1-Trichloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.1.1.2-Tetrachloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.1.2-Trichloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.1.2.2-Tetrachloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.2-Dibromoethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.2-Dichloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.2-Dichloropropane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.2.3-Trichloropropane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.2.4-Trimethylbenzene	0.5	mg/kg	1.1	1.4	1.9
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.3-Dichloropropane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.3.5-Trimethylbenzene	0.5	mg/kg	2.9	3.4	4.0
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2-Butanone (MEK)	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	< 0.5	< 0.5
4-Chlorotoluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Allyl chloride	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Bromobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Bromochloromethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Bromodichloromethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Bromoform	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Bromomethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Carbon disulfide	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	0.5	mg/kg	< 0.5	< 0.5	< 0.5

Client Sample ID			RAW-1	RAW-2	RAW-3
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S19-No38504	S19-No38507	S19-No38510
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit			
Volatile Organics					
Chlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Chloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Chloroform	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Chloromethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
cis-1.2-Dichloroethene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
cis-1.3-Dichloropropene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dibromochloromethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dibromomethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.1	mg/kg	0.3	0.8	0.6
Iodomethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Isopropyl benzene (Cumene)	0.5	mg/kg	< 0.5	< 0.5	< 0.5
m&p-Xylenes	0.2	mg/kg	< 0.2	0.7	0.9
Methylene Chloride	0.5	mg/kg	< 0.5	< 0.5	< 0.5
o-Xylene	0.1	mg/kg	0.3	0.8	0.6
Styrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Tetrachloroethene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Toluene	0.1	mg/kg	0.3	0.5	0.6
trans-1.2-Dichloroethene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
trans-1.3-Dichloropropene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Trichloroethene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Vinyl chloride	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Xylenes - Total	0.3	mg/kg	0.3	1.5	1.5
Total MAH*	0.5	mg/kg	0.9	2.8	2.7
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	< 0.5	< 0.5	< 0.5
4-Bromofluorobenzene (surr.)	1	%	79	83	76
Toluene-d8 (surr.)	1	%	70	72	66
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	1.0	1.1	2.2
TRH C6-C10	20	mg/kg	100	110	130
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	99	110	130
TRH >C10-C16	50	mg/kg	2100	1900	2300
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	2099	1898.9	2297.8
TRH >C16-C34	100	mg/kg	13000	10000	14000
TRH >C34-C40	100	mg/kg	1100	1200	1600
TRH >C10-C40 (total)*	100	mg/kg	16200	13100	17900
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	13	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	13	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	13	-	-
Acenaphthene	0.5	mg/kg	1.7	-	-
Acenaphthylene	0.5	mg/kg	0.6	-	-
Anthracene	0.5	mg/kg	2.3	-	-
Benz(a)anthracene	0.5	mg/kg	12	-	-
Benzo(a)pyrene	0.5	mg/kg	10	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.6	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	2.3	-	-

Client Sample ID			RAW-1	RAW-2	RAW-3
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S19-No38504	S19-No38507	S19-No38510
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Benzo(k)fluoranthene	0.5	mg/kg	5.0	-	-
Chrysene	0.5	mg/kg	21	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	1.1	-	-
Fluoranthene	0.5	mg/kg	2.8	-	-
Fluorene	0.5	mg/kg	6.6	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	0.6	-	-
Naphthalene	0.5	mg/kg	2.6	-	-
Phenanthrene	0.5	mg/kg	32	-	-
Pyrene	0.5	mg/kg	23	-	-
Total PAH*	0.5	mg/kg	126.2	-	-
2-Fluorobiphenyl (surr.)	1	%	101	-	-
p-Terphenyl-d14 (surr.)	1	%	92	-	-
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	0.30	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-
a-BHC	0.05	mg/kg	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-
b-BHC	0.05	mg/kg	< 0.05	-	-
d-BHC	0.05	mg/kg	< 0.05	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	0.12	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-
Toxaphene	1	mg/kg	< 1	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.3	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.42	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	0.12	-	-
Dibutylchlorendate (surr.)	1	%	68	-	-
Tetrachloro-m-xylene (surr.)	1	%	65	-	-
Organophosphorus Pesticides					
Azinphos-methyl	0.2	mg/kg	< 0.2	-	-
Bolstar	0.2	mg/kg	< 0.2	-	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	-
Coumaphos	2	mg/kg	< 2	-	-
Demeton-S	0.2	mg/kg	< 0.2	-	-
Demeton-O	0.2	mg/kg	< 0.2	-	-

Client Sample ID			RAW-1	RAW-2	RAW-3
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S19-No38504	S19-No38507	S19-No38510
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit			
Organophosphorus Pesticides					
Diazinon	0.2	mg/kg	< 0.2	-	-
Dichlorvos	0.2	mg/kg	< 0.2	-	-
Dimethoate	0.2	mg/kg	< 0.2	-	-
Disulfoton	0.2	mg/kg	< 0.2	-	-
EPN	0.2	mg/kg	< 0.2	-	-
Ethion	0.2	mg/kg	< 0.2	-	-
Ethoprop	0.2	mg/kg	< 0.2	-	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	-
Fenitrothion	0.2	mg/kg	< 0.2	-	-
Fensulfothion	0.2	mg/kg	< 0.2	-	-
Fenthion	0.2	mg/kg	< 0.2	-	-
Malathion	0.2	mg/kg	< 0.2	-	-
Merphos	0.2	mg/kg	< 0.2	-	-
Methyl parathion	0.2	mg/kg	< 0.2	-	-
Mevinphos	0.2	mg/kg	< 0.2	-	-
Monocrotophos	2	mg/kg	< 2	-	-
Naled	0.2	mg/kg	< 0.2	-	-
Omethoate	2	mg/kg	< 2	-	-
Phorate	0.2	mg/kg	< 0.2	-	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	-
Pyrazophos	0.2	mg/kg	< 0.2	-	-
Ronnel	0.2	mg/kg	< 0.2	-	-
Terbufos	0.2	mg/kg	< 0.2	-	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	-
Tokuthion	0.2	mg/kg	< 0.2	-	-
Trichloronate	0.2	mg/kg	< 0.2	-	-
Triphenylphosphate (surr.)	1	%	67	-	-
Phthalate Esters					
Bis(2-ethylhexyl)phthalate	0.5	mg/kg	0.9	-	-
Butyl benzyl phthalate	0.5	mg/kg	< 0.5	-	-
Di-n-butyl phthalate	0.5	mg/kg	< 0.5	-	-
Di-n-octyl phthalate	0.5	mg/kg	< 0.5	-	-
Diethyl phthalate	0.5	mg/kg	< 0.5	-	-
Dimethyl phthalate	0.5	mg/kg	< 0.5	-	-
Acid Herbicides					
2.4-D	0.5	mg/kg	< 2	-	-
2.4-DB	0.5	mg/kg	< 2	-	-
2.4.5-T	0.5	mg/kg	< 2	-	-
2.4.5-TP	0.5	mg/kg	< 2	-	-
Actril (loxynil)	0.5	mg/kg	< 2	-	-
Dicamba	0.5	mg/kg	< 2	-	-
Dichlorprop	0.5	mg/kg	< 2	-	-
Dinitro-o-cresol	0.5	mg/kg	< 2	-	-
Dinoseb	0.5	mg/kg	< 2	-	-
MCPA	0.5	mg/kg	< 2	-	-
MCPB	0.5	mg/kg	< 2	-	-
Mecoprop	0.5	mg/kg	< 2	-	-
Warfarin (surr.)	1	%	int	-	-

Client Sample ID			RAW-1	RAW-2	RAW-3
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S19-No38504	S19-No38507	S19-No38510
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit			
Phenols (Halogenated)					
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	-	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	-	-
Pentachlorophenol	1	mg/kg	< 1	-	-
Tetrachlorophenols - Total	10	mg/kg	< 10	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	-
Phenols (non-Halogenated)					
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-
2-Nitrophenol	1.0	mg/kg	< 1	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-
4-Nitrophenol	5	mg/kg	< 5	-	-
Dinoseb	20	mg/kg	< 20	-	-
Phenol	0.5	mg/kg	< 0.5	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-
Phenol-d6 (surr.)	1	%	75	-	-
Semivolatile Organics					
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	13	22	7.9
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	13	22	7.9
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	13	22	7.9
1-Chloronaphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1-Naphthylamine	0.5	mg/kg	18	15	9.0
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.2.3-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.2.3.4-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.2.3.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.2.4-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.2.4.5-Tetrachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.3.5-Trichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2-Chloronaphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2-Methylnaphthalene	0.5	mg/kg	16	18	6.5
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2
2-Naphthylamine	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2-Nitroaniline	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2-Nitrophenol	1.0	mg/kg	< 1	< 1	< 1
2-Picoline	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2.3.4.6-Tetrachlorophenol	5	mg/kg	< 5	< 5	< 5
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5

Client Sample ID			RAW-1	RAW-2	RAW-3
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S19-No38504	S19-No38507	S19-No38510
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit			
Semivolatile Organics					
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5
2.4-Dinitrotoluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2.6-Dinitrotoluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4
3-Methylcholanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
3.3'-Dichlorobenzidine	0.5	mg/kg	< 0.5	< 0.5	< 0.5
4-Aminobiphenyl	0.5	mg/kg	< 0.5	< 0.5	< 0.5
4-Bromophenyl phenyl ether	0.5	mg/kg	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1
4-Chlorophenyl phenyl ether	0.5	mg/kg	< 0.5	< 0.5	< 0.5
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5
4.4'-DDD	0.5	mg/kg	< 0.5	< 0.5	< 0.5
4.4'-DDE	0.5	mg/kg	< 0.5	< 0.5	< 0.5
4.4'-DDT	0.5	mg/kg	< 0.5	< 0.5	< 0.5
7.12-Dimethylbenz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
a-BHC	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Acenaphthene	0.5	mg/kg	1.7	2.4	1.1
Acenaphthylene	0.5	mg/kg	0.6	1.0	< 0.5
Acetophenone	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aldrin	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Aniline	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	2.3	74	1.8
b-BHC	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	12	22	7.4
Benzo(a)pyrene	0.5	mg/kg	10	16	5.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.6	4.3	1.7
Benzo(g.h.i)perylene	0.5	mg/kg	2.3	3.6	2.5
Benzo(k)fluoranthene	0.5	mg/kg	5.0	5.8	2.0
Benzyl chloride	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Bis(2-chloroethoxy)methane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Bis(2-chloroisopropyl)ether	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Bis(2-ethylhexyl)phthalate	0.5	mg/kg	0.9	0.7	0.9
Butyl benzyl phthalate	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	21	34	12
d-BHC	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Di-n-butyl phthalate	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Di-n-octyl phthalate	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	1.1	2.3	1.1
Dibenz(a.j)acridine	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dibenzofuran	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dieldrin	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Diethyl phthalate	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dimethyl phthalate	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dimethylaminoazobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Diphenylamine	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Endosulfan I	0.5	mg/kg	< 0.5	< 0.5	< 0.5

Client Sample ID			RAW-1	RAW-2	RAW-3
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S19-No38504	S19-No38507	S19-No38510
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit			
Semivolatile Organics					
Endosulfan II	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Endosulfan sulphate	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Endrin	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Endrin aldehyde	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Endrin ketone	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	2.8	7.6	2.8
Fluorene	0.5	mg/kg	6.6	11	3.9
g-BHC (Lindane)	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Heptachlor	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Heptachlor epoxide	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Hexachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Hexachlorobutadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Hexachlorocyclopentadiene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Hexachloroethane	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	0.6	1.2	0.6
Methoxychlor	0.5	mg/kg	< 0.5	< 0.5	< 0.5
N-Nitrosodibutylamine	0.5	mg/kg	< 0.5	< 0.5	< 0.5
N-Nitrosodipropylamine	0.5	mg/kg	< 0.5	< 0.5	< 0.5
N-Nitrosopiperidine	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	2.6	5.0	1.0
Nitrobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Pentachlorobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Pentachloronitrobenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1
Phenanthrene	0.5	mg/kg	32	53	20
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Pronamide	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	23	36	13
Trifluralin	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Phenol-d6 (surr.)	1	%	75	84	76
Nitrobenzene-d5 (surr.)	1	%	83	140	133
2-Fluorobiphenyl (surr.)	1	%	101	120	94
2.4.6-Tribromophenol (surr.)	1	%	111	88	98
Chromium (hexavalent)	1	mg/kg	< 1	-	-
Cyanide (free)	5	mg/kg	< 5	-	-
Cyanide (total)	5	mg/kg	< 5	-	-
Fluoride (Total)	100	mg/kg	910	-	-
% Moisture	1	%	18	14	18
Heavy Metals					
Arsenic	2	mg/kg	6.4	6.9	6.1
Beryllium	2	mg/kg	< 2	-	-
Boron	10	mg/kg	12	-	-
Cadmium	0.4	mg/kg	0.7	0.5	0.6
Chromium	5	mg/kg	830	780	880
Cobalt	5	mg/kg	22	-	-
Copper	5	mg/kg	93	76	70
Lead	5	mg/kg	330	250	310
Manganese	5	mg/kg	320	-	-

Client Sample ID			RAW-1	RAW-2	RAW-3
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			S19-No38504	S19-No38507	S19-No38510
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit			
Heavy Metals					
Mercury	0.1	mg/kg	0.6	0.7	0.9
Molybdenum	5	mg/kg	< 5	-	-
Nickel	5	mg/kg	110	100	110
Selenium	2	mg/kg	< 2	-	-
Silver	0.2	mg/kg	< 0.2	-	-
Zinc	5	mg/kg	530	390	420

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
NSW DECC - Waste Classification Table 1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Nov 29, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Nov 29, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Nov 29, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Nov 29, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Organochlorine Pesticides	Melbourne	Nov 29, 2019	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Organophosphorus Pesticides	Melbourne	Nov 29, 2019	14 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8081)			
Phthalate Esters	Melbourne	Nov 29, 2019	14 Days
- Method: USEPA 8270 Phthalate Esters			
Acid Herbicides	Melbourne	Nov 29, 2019	14 Days
- Method: LTM-ORG-2180 Phenoxy Acid Herbicides			
Phenols (Halogenated)	Melbourne	Nov 29, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Nov 29, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Chromium (hexavalent)	Melbourne	Nov 29, 2019	28 Days
- Method: APHA 3500-Cr Hexavalent Chromium- (Extraction:- USEPA3060)			
Cyanide (free)	Melbourne	Nov 29, 2019	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Cyanide (total)	Melbourne	Nov 29, 2019	14 Days
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Fluoride (Total)	Melbourne	Dec 02, 2019	28 Days
- Method: LTM-INO-4150 Determination of Total Fluoride PART B – ISE			
DECC Metals : Metals M9DECC	Melbourne	Nov 29, 2019	28 Days
- Method: LTM-MET-3030 by ICP-OES (hydride ICP-OES for Mercury)			
Volatile Organics	Melbourne	Nov 29, 2019	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices (USEPA 8260)			
Semivolatile Organics	Melbourne	Nov 29, 2019	14 Days
- Method: LTM-ORG-2190 SVOC in Water & Soil by GC-MS			
% Moisture	Melbourne	Nov 27, 2019	14 Days
- Method: LTM-GEN-7080 Moisture			
Metals M8	Melbourne	Nov 29, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Heavy Metals	Melbourne	Nov 29, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Company Name: Enviropacific Services P/L (NSW)
Address: PO Box 295
Wickham
NSW 2293

Project Name: VIVA STABILISATION
Project ID: 101155

Order No.:
Report #: 690420
Phone: 02 4961 7100
Fax: 02 4961 7150

Received: Nov 27, 2019 2:28 PM
Due: Dec 4, 2019
Priority: 5 Day
Contact Name: Richard Carran

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Boron	Chromium	Cobalt	Copper	Manganese	Zinc	AUS Leaching Procedure	USA Leaching Procedure	Metals M8	USA Leaching Procedure - ZHE	AUS Leaching Procedure - ZHE	Moisture Set	Semivolatile Organics	Total Recoverable Hydrocarbons	NSW DECC - Waste Classification Table 1	Eurofins | mgt Suite SVV: SVOC/VOC
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X			X	X	X	X	X
Sydney Laboratory - NATA Site # 18217															X	X			X	X	X
Brisbane Laboratory - NATA Site # 20794																					
Perth Laboratory - NATA Site # 23736																					
External Laboratory																					
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**																
1	RAW-1	Nov 27, 2019		Soil	S19-No38504	X	X	X	X	X	X						X	X		X	
2	RAW-1	Nov 27, 2019		US Leachate	S19-No38505	X	X	X	X	X	X		X		X			X		X	
3	RAW-1	Nov 27, 2019		AUS Leachate - Reagent Water	S19-No38506	X	X	X	X	X	X	X				X		X		X	
4	RAW-2	Nov 27, 2019		Soil	S19-No38507									X			X		X		X
5	RAW-2	Nov 27, 2019		US Leachate	S19-No38508								X	X	X				X		X
6	RAW-2	Nov 27, 2019		AUS Leachate - Reagent Water	S19-No38509							X		X		X			X		X
7	RAW-3	Nov 27, 2019		Soil	S19-No38510									X			X		X		X

eurofins | Environment Testing

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Company Name: Enviropacific Services P/L (NSW)
Address: PO Box 295
Wickham
NSW 2293

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Project ID: 101155

Order No.:
Report #: 690420
Phone: 02 4961 7100
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Received: Nov 27, 2019 2:28 PM
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Sample Detail						Boron	Chromium	Cobalt	Copper	Manganese	Zinc	AUS Leaching Procedure	USA Leaching Procedure	Metals M8	USA Leaching Procedure - ZHE	AUS Leaching Procedure - ZHE	Moisture Set	Semivolatile Organics	Total Recoverable Hydrocarbons	NSW DECC - Waste Classification Table 1	Eurofins | mgt Suite SVV: SVOC/VOC
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X	X	X			X	X	X	X	X
Sydney Laboratory - NATA Site # 18217															X	X			X	X	X
Brisbane Laboratory - NATA Site # 20794																					
Perth Laboratory - NATA Site # 23736																					
8	RAW-3	Nov 27, 2019		US Leachate	S19-No38511								X	X	X				X		X
9	RAW-3	Nov 27, 2019		AUS Leachate - Reagent Water	S19-No38512							X		X		X			X		X
Test Counts						3	3	3	3	3	3	3	3	6	3	3	3	3	6	3	6

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

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

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

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

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

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
Volatile Organics							
1.1-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
1.1.1-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.1.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dibromoethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.3-Trichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.3.5-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.4-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
2-Butanone (MEK)	mg/kg	< 0.5			0.5	Pass	
2-Propanone (Acetone)	mg/kg	< 0.5			0.5	Pass	
4-Chlorotoluene	mg/kg	< 0.5			0.5	Pass	
4-Methyl-2-pentanone (MIBK)	mg/kg	< 0.5			0.5	Pass	
Allyl chloride	mg/kg	< 0.5			0.5	Pass	
Benzene	mg/kg	< 0.1			0.1	Pass	
Bromobenzene	mg/kg	< 0.5			0.5	Pass	
Bromochloromethane	mg/kg	< 0.5			0.5	Pass	
Bromodichloromethane	mg/kg	< 0.5			0.5	Pass	
Bromoform	mg/kg	< 0.5			0.5	Pass	
Bromomethane	mg/kg	< 0.5			0.5	Pass	
Carbon disulfide	mg/kg	< 0.5			0.5	Pass	
Carbon Tetrachloride	mg/kg	< 0.5			0.5	Pass	
Chlorobenzene	mg/kg	< 0.5			0.5	Pass	
Chloroethane	mg/kg	< 0.5			0.5	Pass	
Chloroform	mg/kg	< 0.5			0.5	Pass	
Chloromethane	mg/kg	< 0.5			0.5	Pass	
cis-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
cis-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Dibromochloromethane	mg/kg	< 0.5			0.5	Pass	
Dibromomethane	mg/kg	< 0.5			0.5	Pass	
Dichlorodifluoromethane	mg/kg	< 0.5			0.5	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
Iodomethane	mg/kg	< 0.5			0.5	Pass	
Isopropyl benzene (Cumene)	mg/kg	< 0.5			0.5	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
Methylene Chloride	mg/kg	< 0.5			0.5	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Styrene	mg/kg	< 0.5			0.5	Pass	
Tetrachloroethene	mg/kg	< 0.5			0.5	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
trans-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Trichloroethene	mg/kg	< 0.5			0.5	Pass	
Trichlorofluoromethane	mg/kg	< 0.5			0.5	Pass	
Vinyl chloride	mg/kg	< 0.5			0.5	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Phthalate Esters							
Bis(2-ethylhexyl)phthalate	mg/kg	< 0.5			0.5	Pass	
Butyl benzyl phthalate	mg/kg	< 0.5			0.5	Pass	
Di-n-butyl phthalate	mg/kg	< 0.5			0.5	Pass	
Di-n-octyl phthalate	mg/kg	< 0.5			0.5	Pass	
Diethyl phthalate	mg/kg	< 0.5			0.5	Pass	
Dimethyl phthalate	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Acid Herbicides							
2.4-D	mg/kg	< 0.5			0.5	Pass	
2.4-DB	mg/kg	< 0.5			0.5	Pass	
2.4.5-T	mg/kg	< 0.5			0.5	Pass	
2.4.5-TP	mg/kg	< 0.5			0.5	Pass	
Actril (loxynil)	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dicamba	mg/kg	< 0.5			0.5	Pass	
Dichlorprop	mg/kg	< 0.5			0.5	Pass	
Dinitro-o-cresol	mg/kg	< 0.5			0.5	Pass	
Dinoseb	mg/kg	< 0.5			0.5	Pass	
MCPA	mg/kg	< 0.5			0.5	Pass	
MCPB	mg/kg	< 0.5			0.5	Pass	
Mecoprop	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
1-Chloronaphthalene	mg/kg	< 0.5			0.5	Pass	
1-Naphthylamine	mg/kg	< 0.5			0.5	Pass	
1.2-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2.3-Trichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2.3.4-Tetrachlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2.3.5-Tetrachlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2.4.5-Tetrachlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3.5-Trichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.4-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
2-Chloronaphthalene	mg/kg	< 0.5			0.5	Pass	
2-Methylnaphthalene	mg/kg	< 0.5			0.5	Pass	
2-Naphthylamine	mg/kg	< 0.5			0.5	Pass	
2-Nitroaniline	mg/kg	< 0.5			0.5	Pass	
2-Picoline	mg/kg	< 0.5			0.5	Pass	
2.3.4.6-Tetrachlorophenol	mg/kg	< 5			5	Pass	
2.4-Dinitrotoluene	mg/kg	< 0.5			0.5	Pass	
2.6-Dinitrotoluene	mg/kg	< 0.5			0.5	Pass	
3-Methylcholanthrene	mg/kg	< 0.5			0.5	Pass	
3.3'-Dichlorobenzidine	mg/kg	< 0.5			0.5	Pass	
4-Aminobiphenyl	mg/kg	< 0.5			0.5	Pass	
4-Bromophenyl phenyl ether	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4-Chlorophenyl phenyl ether	mg/kg	< 0.5			0.5	Pass	
4.4'-DDD	mg/kg	< 0.5			0.5	Pass	
4.4'-DDE	mg/kg	< 0.5			0.5	Pass	
4.4'-DDT	mg/kg	< 0.5			0.5	Pass	
7.12-Dimethylbenz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
a-BHC	mg/kg	< 0.5			0.5	Pass	
Acetophenone	mg/kg	< 0.5			0.5	Pass	
Aldrin	mg/kg	< 0.5			0.5	Pass	
Aniline	mg/kg	< 0.5			0.5	Pass	
b-BHC	mg/kg	< 0.5			0.5	Pass	
Benzyl chloride	mg/kg	< 0.5			0.5	Pass	
Bis(2-chloroethoxy)methane	mg/kg	< 0.5			0.5	Pass	
Bis(2-chloroisopropyl)ether	mg/kg	< 0.5			0.5	Pass	
d-BHC	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.j)acridine	mg/kg	< 0.5			0.5	Pass	
Dibenzofuran	mg/kg	< 0.5			0.5	Pass	
Dieldrin	mg/kg	< 0.5			0.5	Pass	
Dimethylaminoazobenzene	mg/kg	< 0.5			0.5	Pass	
Diphenylamine	mg/kg	< 0.5			0.5	Pass	
Endosulfan I	mg/kg	< 0.5			0.5	Pass	
Endosulfan II	mg/kg	< 0.5			0.5	Pass	
Endosulfan sulphate	mg/kg	< 0.5			0.5	Pass	
Endrin	mg/kg	< 0.5			0.5	Pass	
Endrin aldehyde	mg/kg	< 0.5			0.5	Pass	
Endrin ketone	mg/kg	< 0.5			0.5	Pass	
g-BHC (Lindane)	mg/kg	< 0.5			0.5	Pass	
Heptachlor	mg/kg	< 0.5			0.5	Pass	
Heptachlor epoxide	mg/kg	< 0.5			0.5	Pass	
Hexachlorobenzene	mg/kg	< 0.5			0.5	Pass	
Hexachlorobutadiene	mg/kg	< 0.5			0.5	Pass	
Hexachlorocyclopentadiene	mg/kg	< 0.5			0.5	Pass	
Hexachloroethane	mg/kg	< 0.5			0.5	Pass	
Methoxychlor	mg/kg	< 0.5			0.5	Pass	
N-Nitrosodibutylamine	mg/kg	< 0.5			0.5	Pass	
N-Nitrosodipropylamine	mg/kg	< 0.5			0.5	Pass	
N-Nitrosopiperidine	mg/kg	< 0.5			0.5	Pass	
Nitrobenzene	mg/kg	< 0.5			0.5	Pass	
Pentachlorobenzene	mg/kg	< 0.5			0.5	Pass	
Pentachloronitrobenzene	mg/kg	< 0.5			0.5	Pass	
Pronamide	mg/kg	< 0.5			0.5	Pass	
Trifluralin	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Cyanide (total)	mg/kg	< 5			5	Pass	
Fluoride (Total)	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Arsenic	mg/kg	< 2			2	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Boron	mg/kg	< 10			10	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 0.2			0.2	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	100			70-130	Pass	
TRH C10-C14	%	84			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethene	%	75			70-130	Pass	
1.1.1-Trichloroethane	%	85			70-130	Pass	
1.2-Dichlorobenzene	%	96			70-130	Pass	
1.2-Dichloroethane	%	89			70-130	Pass	
Benzene	%	95			70-130	Pass	
Ethylbenzene	%	92			70-130	Pass	
m&p-Xylenes	%	90			70-130	Pass	
Toluene	%	99			70-130	Pass	
Trichloroethene	%	96			70-130	Pass	
Xylenes - Total	%	93			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	85			70-130	Pass	
TRH C6-C10	%	107			70-130	Pass	
TRH >C10-C16	%	79			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	95			70-130	Pass	
Acenaphthylene	%	91			70-130	Pass	
Anthracene	%	110			70-130	Pass	
Benz(a)anthracene	%	95			70-130	Pass	
Benzo(a)pyrene	%	96			70-130	Pass	
Benzo(b&j)fluoranthene	%	107			70-130	Pass	
Benzo(g.h.i)perylene	%	76			70-130	Pass	
Benzo(k)fluoranthene	%	117			70-130	Pass	
Chrysene	%	84			70-130	Pass	
Dibenz(a.h)anthracene	%	71			70-130	Pass	
Fluoranthene	%	92			70-130	Pass	
Fluorene	%	100			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	82			70-130	Pass	
Naphthalene	%	96			70-130	Pass	
Phenanthrene	%	95			70-130	Pass	
Pyrene	%	104			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chlordanes - Total	%	84			70-130	Pass	
4.4'-DDD	%	79			70-130	Pass	
4.4'-DDE	%	89			70-130	Pass	
4.4'-DDT	%	79			70-130	Pass	
a-BHC	%	82			70-130	Pass	
Aldrin	%	87			70-130	Pass	
b-BHC	%	82			70-130	Pass	
d-BHC	%	84			70-130	Pass	
Dieldrin	%	82			70-130	Pass	
Endosulfan I	%	77			70-130	Pass	
Endosulfan II	%	88			70-130	Pass	
Endosulfan sulphate	%	71			70-130	Pass	
Endrin	%	102			70-130	Pass	
Endrin aldehyde	%	75			70-130	Pass	
Endrin ketone	%	84			70-130	Pass	
g-BHC (Lindane)	%	83			70-130	Pass	
Heptachlor	%	99			70-130	Pass	
Heptachlor epoxide	%	85			70-130	Pass	
Hexachlorobenzene	%	86			70-130	Pass	
Methoxychlor	%	74			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	99			70-130	Pass	
Dimethoate	%	88			70-130	Pass	
Ethion	%	90			70-130	Pass	
Fenitrothion	%	104			70-130	Pass	
Methyl parathion	%	109			70-130	Pass	
Mevinphos	%	80			70-130	Pass	
LCS - % Recovery							
Acid Herbicides							
2.4-D	%	77			70-130	Pass	
2.4-DB	%	105			70-130	Pass	
2.4.5-T	%	94			70-130	Pass	
2.4.5-TP	%	81			70-130	Pass	
Actril (loxynil)	%	86			70-130	Pass	
Dicamba	%	87			70-130	Pass	
Dichlorprop	%	92			70-130	Pass	
Dinitro-o-cresol	%	88			70-130	Pass	
Dinoseb	%	86			70-130	Pass	
MCPA	%	94			70-130	Pass	
MCPB	%	108			70-130	Pass	
Mecoprop	%	85			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	79			30-130	Pass	
2.4-Dichlorophenol	%	77			30-130	Pass	
2.4.5-Trichlorophenol	%	76			30-130	Pass	
2.4.6-Trichlorophenol	%	72			30-130	Pass	
2.6-Dichlorophenol	%	77			30-130	Pass	
4-Chloro-3-methylphenol	%	80			30-130	Pass	
Pentachlorophenol	%	75			30-130	Pass	
Tetrachlorophenols - Total	%	77			30-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Cyclohexyl-4.6-dinitrophenol	%	47			30-130	Pass	
2-Methyl-4.6-dinitrophenol	%	46			30-130	Pass	
2-Methylphenol (o-Cresol)	%	80			30-130	Pass	
2-Nitrophenol	%	78			30-130	Pass	
2.4-Dimethylphenol	%	83			30-130	Pass	
2.4-Dinitrophenol	%	74			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	%	86			30-130	Pass	
4-Nitrophenol	%	88			30-130	Pass	
Dinoseb	%	60			30-130	Pass	
Phenol	%	79			30-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
1.2-Dichlorobenzene	%	80			75-125	Pass	
1.2.3-Trichlorobenzene	%	115			75-125	Pass	
1.2.4-Trichlorobenzene	%	103			70-130	Pass	
1.4-Dichlorobenzene	%	87			70-130	Pass	
2.4-Dinitrotoluene	%	126			70-130	Pass	
N-Nitrosodipropylamine	%	76			70-130	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	105			70-130	Pass	
Cyanide (total)	%	108			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	112			80-120	Pass	
Arsenic	%	82			80-120	Pass	
Beryllium	%	104			80-120	Pass	
Boron	%	104			80-120	Pass	
Cadmium	%	103			80-120	Pass	
Cadmium	%	96			80-120	Pass	
Chromium	%	87			80-120	Pass	
Cobalt	%	86			80-120	Pass	
Copper	%	85			80-120	Pass	
Lead	%	118			80-120	Pass	
Lead	%	87			80-120	Pass	
Manganese	%	87			80-120	Pass	
Mercury	%	118			75-125	Pass	
Mercury	%	102			75-125	Pass	
Molybdenum	%	113			80-120	Pass	
Nickel	%	113			80-120	Pass	
Nickel	%	84			80-120	Pass	
Selenium	%	111			80-120	Pass	
Silver	%	112			80-120	Pass	
Zinc	%	85			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M19-No40914	NCP	%	86			70-130	Pass	
TRH C10-C14	M19-No42486	NCP	%	88			70-130	Pass	
Spike - % Recovery									
Volatile Organics				Result 1					
1.1-Dichloroethene	M19-No40914	NCP	%	73			70-130	Pass	
1.1.1-Trichloroethane	M19-No40914	NCP	%	75			70-130	Pass	
1.2-Dichlorobenzene	M19-No40914	NCP	%	78			70-130	Pass	
1.2-Dichloroethane	M19-No40914	NCP	%	80			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzene	M19-No40914	NCP	%	80			70-130	Pass	
Ethylbenzene	M19-No40914	NCP	%	79			70-130	Pass	
m&p-Xylenes	M19-No40914	NCP	%	81			70-130	Pass	
o-Xylene	M19-No40914	NCP	%	85			70-130	Pass	
Toluene	M19-No40914	NCP	%	84			70-130	Pass	
Trichloroethene	M19-No40914	NCP	%	84			70-130	Pass	
Xylenes - Total	M19-No40914	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M19-No40914	NCP	%	74			70-130	Pass	
TRH C6-C10	M19-No40914	NCP	%	93			70-130	Pass	
TRH >C10-C16	M19-No42486	NCP	%	83			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S19-No40688	NCP	%	79			70-130	Pass	
Acenaphthylene	S19-No40688	NCP	%	85			70-130	Pass	
Anthracene	S19-No40688	NCP	%	106			70-130	Pass	
Benz(a)anthracene	S19-No40688	NCP	%	80			70-130	Pass	
Benzo(a)pyrene	S19-No40688	NCP	%	88			70-130	Pass	
Benzo(b&j)fluoranthene	S19-No40688	NCP	%	98			70-130	Pass	
Benzo(g.h.i)perylene	S19-No40688	NCP	%	74			70-130	Pass	
Benzo(k)fluoranthene	S19-No40688	NCP	%	119			70-130	Pass	
Chrysene	S19-No40688	NCP	%	111			70-130	Pass	
Dibenz(a.h)anthracene	S19-No40688	NCP	%	79			70-130	Pass	
Fluoranthene	S19-No40688	NCP	%	78			70-130	Pass	
Fluorene	S19-No40688	NCP	%	86			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S19-No40688	NCP	%	77			70-130	Pass	
Naphthalene	S19-No40688	NCP	%	91			70-130	Pass	
Phenanthrene	S19-No40688	NCP	%	85			70-130	Pass	
Pyrene	S19-No40688	NCP	%	84			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M19-No38106	NCP	%	106			70-130	Pass	
4.4'-DDD	M19-No38106	NCP	%	94			70-130	Pass	
4.4'-DDE	M19-No38106	NCP	%	73			70-130	Pass	
4.4'-DDT	M19-No38106	NCP	%	80			70-130	Pass	
a-BHC	M19-No38106	NCP	%	80			70-130	Pass	
Aldrin	M19-No38106	NCP	%	102			70-130	Pass	
b-BHC	M19-No38106	NCP	%	74			70-130	Pass	
d-BHC	M19-No38106	NCP	%	88			70-130	Pass	
Dieldrin	M19-No38106	NCP	%	75			70-130	Pass	
Endosulfan I	M19-No38106	NCP	%	104			70-130	Pass	
Endosulfan II	M19-No38106	NCP	%	103			70-130	Pass	
Endosulfan sulphate	M19-No38106	NCP	%	79			70-130	Pass	
Endrin	M19-No38106	NCP	%	71			70-130	Pass	
Endrin aldehyde	M19-No38106	NCP	%	99			70-130	Pass	
Endrin ketone	M19-No38106	NCP	%	104			70-130	Pass	
g-BHC (Lindane)	M19-No38106	NCP	%	76			70-130	Pass	
Heptachlor	M19-No38106	NCP	%	100			70-130	Pass	
Heptachlor epoxide	M19-No38106	NCP	%	105			70-130	Pass	
Hexachlorobenzene	M19-No38106	NCP	%	106			70-130	Pass	
Methoxychlor	M19-No39644	NCP	%	71			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Diazinon	M19-No38148	NCP	%	75			70-130	Pass	
Dimethoate	M19-No38148	NCP	%	79			70-130	Pass	
Ethion	M19-No38148	NCP	%	80			70-130	Pass	
Fenitrothion	M19-No38148	NCP	%	73			70-130	Pass	
Methyl parathion	M19-No38148	NCP	%	79			70-130	Pass	
Mevinphos	M19-No38148	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Acid Herbicides				Result 1					
2.4-D	M19-No39298	NCP	%	78			70-130	Pass	
Actril (loxynil)	M19-No39298	NCP	%	88			70-130	Pass	
Dichlorprop	M19-No39298	NCP	%	90			70-130	Pass	
MCPA	M19-No39298	NCP	%	95			70-130	Pass	
MCPB	M19-No39298	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M19-De01915	NCP	%	92			30-130	Pass	
2.4-Dichlorophenol	M19-De01915	NCP	%	86			30-130	Pass	
2.4.5-Trichlorophenol	M19-De01915	NCP	%	63			30-130	Pass	
2.4.6-Trichlorophenol	M19-De01915	NCP	%	71			30-130	Pass	
2.6-Dichlorophenol	M19-De01915	NCP	%	93			30-130	Pass	
4-Chloro-3-methylphenol	M19-De01915	NCP	%	91			30-130	Pass	
Pentachlorophenol	M19-De01915	NCP	%	72			30-130	Pass	
Tetrachlorophenols - Total	M19-De01915	NCP	%	87			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M19-De01915	NCP	%	49			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M19-De01915	NCP	%	83			30-130	Pass	
2-Methylphenol (o-Cresol)	M19-De01915	NCP	%	82			30-130	Pass	
2-Nitrophenol	M19-De01915	NCP	%	94			30-130	Pass	
2.4-Dimethylphenol	M19-De01915	NCP	%	107			30-130	Pass	
2.4-Dinitrophenol	M19-De01915	NCP	%	66			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M19-De01915	NCP	%	109			30-130	Pass	
4-Nitrophenol	M19-De01915	NCP	%	88			30-130	Pass	
Dinoseb	M19-De01915	NCP	%	88			30-130	Pass	
Phenol	M19-De01915	NCP	%	91			30-130	Pass	
Spike - % Recovery									
Semivolatile Organics				Result 1					
1.2.4-Trichlorobenzene	M19-No39968	NCP	%	103			70-130	Pass	
1.4-Dichlorobenzene	M19-No39968	NCP	%	93			70-130	Pass	
2.4-Dinitrotoluene	M19-No39968	NCP	%	105			70-130	Pass	
N-Nitrosodipropylamine	M19-No39968	NCP	%	75			70-130	Pass	
Spike - % Recovery									
				Result 1					
Chromium (hexavalent)	M19-No40648	NCP	%	102			70-130	Pass	
Cyanide (total)	M19-No40172	NCP	%	81			70-130	Pass	
Fluoride (Total)	M19-No41506	NCP	%	106			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M19-No38487	NCP	%	111			75-125	Pass	
Beryllium	M19-No38487	NCP	%	101			75-125	Pass	
Boron	M19-No38487	NCP	%	101			75-125	Pass	
Cadmium	M19-No38487	NCP	%	110			75-125	Pass	
Chromium	M19-No43118	NCP	%	102			75-125	Pass	
Cobalt	M19-No38487	NCP	%	116			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Copper	M19-No38487	NCP	%	83			75-125	Pass	
Lead	M19-No38487	NCP	%	117			75-125	Pass	
Manganese	M19-No38487	NCP	%	67			75-125	Fail	Q08
Mercury	M19-No38487	NCP	%	112			70-130	Pass	
Molybdenum	M19-No38487	NCP	%	122			75-125	Pass	
Nickel	M19-No38487	NCP	%	117			75-125	Pass	
Selenium	M19-No38487	NCP	%	117			75-125	Pass	
Silver	M19-No38487	NCP	%	118			75-125	Pass	
Zinc	M19-No38487	NCP	%	126			75-125	Fail	Q08
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M19-No41574	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M19-No43245	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M19-No43245	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M19-No43245	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1.1-Dichloroethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1-Dichloroethene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1-Trichloroethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1.2-Tetrachloroethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2-Trichloroethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2.2-Tetrachloroethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dibromoethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichlorobenzene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloroethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloropropane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.3-Trichloropropane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.4-Trimethylbenzene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichlorobenzene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichloropropane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3.5-Trimethylbenzene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.4-Dichlorobenzene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Butanone (MEK)	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Propanone (Acetone)	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chlorotoluene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Methyl-2-pentanone (MIBK)	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Allyl chloride	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzene	M19-No41574	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Bromobenzene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromochloromethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromodichloromethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromoform	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromomethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon disulfide	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon Tetrachloride	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chlorobenzene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroform	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloromethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.2-Dichloroethene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.3-Dichloropropene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromochloromethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
Dibromomethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dichlorodifluoromethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Ethylbenzene	M19-No41574	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Iodomethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Isopropyl benzene (Cumene)	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
m&p-Xylenes	M19-No41574	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methylene Chloride	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
o-Xylene	M19-No41574	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Styrene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Tetrachloroethene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Toluene	M19-No41574	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
trans-1.2-Dichloroethene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.3-Dichloropropene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichloroethene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichlorofluoromethane	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Vinyl chloride	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Xylenes - Total	M19-No41574	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M19-No41574	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M19-No41574	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	M19-No43245	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M19-No40484	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M19-No38105	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Endrin	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M19-No38105	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	M19-No38105	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	M19-No38105	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	M19-No38105	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Phthalate Esters				Result 1	Result 2	RPD			
Bis(2-ethylhexyl)phthalate	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Butyl benzyl phthalate	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Di-n-butyl phthalate	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Di-n-octyl phthalate	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Diethyl phthalate	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dimethyl phthalate	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Acid Herbicides				Result 1	Result 2	RPD			
2.4-D	M19-No37573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-DB	M19-No37573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-T	M19-No37573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-TP	M19-No37573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Actril (loxynil)	M19-No37573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dicamba	M19-No37573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dichlorprop	M19-No37573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dinitro-o-cresol	M19-No37573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dinoseb	M19-No37573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
MCPA	M19-No37573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
MCPB	M19-No37573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Mecoprop	M19-No37573	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M19-No38105	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M19-No38105	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M19-No38105	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M19-No38105	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M19-No38105	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M19-No38105	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M19-No38105	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M19-No38105	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M19-No38105	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M19-No38105	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M19-No38105	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
2-Nitrophenol	M19-No38105	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M19-No38105	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M19-No38105	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M19-No38105	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
4-Nitrophenol	M19-No38105	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M19-No38105	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M19-No38105	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
1-Chloronaphthalene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1-Naphthylamine	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichlorobenzene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.3-Trichlorobenzene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.3.4-Tetrachlorobenzene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.3.5-Tetrachlorobenzene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.4-Trichlorobenzene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.4.5-Tetrachlorobenzene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichlorobenzene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3.5-Trichlorobenzene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.4-Dichlorobenzene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Chloronaphthalene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Methylnaphthalene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Naphthylamine	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Nitroaniline	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Picoline	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.3.4.6-Tetrachlorophenol	M19-No39967	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2.4-Dinitrotoluene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
2.6-Dinitrotoluene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
3-Methylcholanthrene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
3.3'-Dichlorobenzidine	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Aminobiphenyl	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Bromophenyl phenyl ether	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chlorophenyl phenyl ether	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4.4'-DDD	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4.4'-DDE	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4.4'-DDT	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
7.12-Dimethylbenz(a)anthracene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
a-BHC	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acetophenone	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aldrin	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aniline	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
b-BHC	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzyl chloride	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bis(2-chloroethoxy)methane	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bis(2-chloroisopropyl)ether	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
d-BHC	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.j)acridine	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenzofuran	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dieldrin	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dimethylaminoazobenzene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Diphenylamine	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan I	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan II	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endosulfan sulphate	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin aldehyde	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Endrin ketone	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
g-BHC (Lindane)	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Heptachlor	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Heptachlor epoxide	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Hexachlorobenzene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Hexachlorobutadiene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Hexachlorocyclopentadiene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Hexachloroethane	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Methoxychlor	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
N-Nitrosodibutylamine	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
N-Nitrosodipropylamine	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
N-Nitrosopiperidine	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Nitrobenzene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pentachlorobenzene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pentachloronitrobenzene	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pronamide	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trifluralin	M19-No39967	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chromium (hexavalent)	M19-No42298	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Cyanide (total)	M19-No42770	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Fluoride (Total)	M19-De01912	NCP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M19-No38487	NCP	mg/kg	39	37	3.0	30%	Pass	
Beryllium	M19-No38487	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Boron	M19-No38487	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Cadmium	M19-No38487	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M19-No40485	NCP	mg/kg	2000	2000	<1	30%	Pass	
Cobalt	M19-No38487	NCP	mg/kg	5.7	5.5	3.0	30%	Pass	
Copper	M19-No38487	NCP	mg/kg	76	74	3.0	30%	Pass	
Lead	M19-No38487	NCP	mg/kg	10	10	3.0	30%	Pass	
Manganese	M19-No38487	NCP	mg/kg	320	310	1.0	30%	Pass	
Mercury	M19-No38487	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M19-No38487	NCP	mg/kg	19	19	2.0	30%	Pass	
Nickel	M19-No38487	NCP	mg/kg	7.5	7.3	4.0	30%	Pass	
Selenium	M19-No38487	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M19-No38487	NCP	mg/kg	0.3	0.3	3.0	30%	Pass	
Zinc	M19-No38487	NCP	mg/kg	53	52	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-No38507	CP	%	14	18	26	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised By

Andrew Black	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Julie Kay	Senior Analyst-Inorganic (VIC)



Glenn Jackson

General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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Appendix D – Certificate of Analysis Immobilised

Enviropacific Services Pty Ltd (NSW)
PO Box 295
Wickham
NSW 2293

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Richard Carran**

Report **692067-S**
Project name VIVA STABILISATION
Project ID 101155
Received Date Dec 05, 2019

Client Sample ID			**1**	**2**	**3**	**4**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S19-De07562**	**S19-De07563**	**S19-De07564**	**S19-De07565**
Date Sampled			**Dec 04, 2019**	**Dec 04, 2019**	**Dec 04, 2019**	**Dec 04, 2019**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	750	630	590	690
TRH C15-C28	50	mg/kg	7000	5900	5100	6200
TRH C29-C36	50	mg/kg	3100	2700	2300	2900
TRH C10-C36 (Total)	50	mg/kg	10850	9230	7990	9790
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	0.3	0.3	0.2	0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	63	63	52	73
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	29	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	29	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	1400	1200	1100	1300
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	1400	1200	1100	1300
TRH >C16-C34	100	mg/kg	8600	7400	6300	7700
TRH >C34-C40	100	mg/kg	1300	1200	1100	1300
TRH >C10-C40 (total)*	100	mg/kg	11300	9800	8500	10300
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	11	7.0	4.3	8.4
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	12	8.3	5.6	9.7
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	14	9.6	7.0	11
Acenaphthene	0.5	mg/kg	< 2	< 2	< 2	< 2
Acenaphthylene	0.5	mg/kg	< 2	< 2	< 2	< 2
Anthracene	0.5	mg/kg	4.8	2.2	2.4	3.0
Benz(a)anthracene	0.5	mg/kg	20	13	8.3	14
Benzo(a)pyrene	0.5	mg/kg	8.5	5.5	3.4	6.8
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.8	< 2	< 2	< 2
Benzo(g.h.i)perylene	0.5	mg/kg	4.9	2.9	< 2	3.4
Benzo(k)fluoranthene	0.5	mg/kg	2.7	< 2	< 2	< 2
Chrysene	0.5	mg/kg	23	14	10	18

Client Sample ID			1	2	3	4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-De07562	S19-De07563	S19-De07564	S19-De07565
Date Sampled			Dec 04, 2019	Dec 04, 2019	Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 2	< 2	< 2	< 2
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 2	< 0.5
Fluorene	0.5	mg/kg	4.9	2.6	1.7	4.8
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 2	< 2	< 2	< 2
Naphthalene	0.5	mg/kg	1.7	< 2	< 2	< 2
Phenanthrene	0.5	mg/kg	23	16	9.9	18
Pyrene	0.5	mg/kg	18	11	8.8	13
Total PAH*	0.5	mg/kg	114.3	67.2	44.5	81
2-Fluorobiphenyl (surr.)	1	%	113	78	68	92
p-Terphenyl-d14 (surr.)	1	%	90	76	66	68
Semivolatile Organics						
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	11	7.0	4.3	8.4
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	12	8.3	5.6	9.7
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	14	9.6	7.0	11
1-Chloronaphthalene	0.5	mg/kg	< 2	< 2	< 2	< 2
1-Naphthylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2-Dichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.3-Trichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.3.4-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.3.5-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.4-Trichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.4.5-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.3-Dichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.3.5-Trichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.4-Dichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Chloronaphthalene	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Chlorophenol	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Methylnaphthalene	0.5	mg/kg	2.9	< 2	< 2	< 2
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 2	< 2	< 2	< 2
2-Naphthylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Nitroaniline	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Nitrophenol	1.0	mg/kg	< 4	< 4	< 4	< 4
2-Picoline	0.5	mg/kg	< 2	< 2	< 2	< 2
2.3.4.6-Tetrachlorophenol	5	mg/kg	< 5	< 5	< 5	< 5
2.4-Dichlorophenol	0.5	mg/kg	< 2	< 2	< 2	< 2
2.4-Dimethylphenol	0.5	mg/kg	< 2	< 2	< 2	< 2
2.4-Dinitrophenol	5	mg/kg	< 25	< 25	< 25	< 25
2.4-Dinitrotoluene	0.5	mg/kg	< 2	< 2	< 2	< 2
2.4.5-Trichlorophenol	1	mg/kg	< 4	< 4	< 4	< 4
2.4.6-Trichlorophenol	1	mg/kg	< 4	< 4	< 4	< 4
2.6-Dichlorophenol	0.5	mg/kg	< 2	< 2	< 2	< 2
2.6-Dinitrotoluene	0.5	mg/kg	< 2	< 2	< 2	< 2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 4	< 4	< 4	< 4
3-Methylcholanthrene	0.5	mg/kg	< 2	< 2	< 2	< 2
3.3'-Dichlorobenzidine	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Aminobiphenyl	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Bromophenyl phenyl ether	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Chloro-3-methylphenol	1	mg/kg	< 4	< 4	< 4	< 4

Client Sample ID			1	2	3	4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-De07562	S19-De07563	S19-De07564	S19-De07565
Date Sampled			Dec 04, 2019	Dec 04, 2019	Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit				
Semivolatile Organics						
4-Chlorophenyl phenyl ether	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Nitrophenol	5	mg/kg	< 25	< 25	< 25	< 25
4.4'-DDD	0.5	mg/kg	< 2	< 2	< 2	< 2
4.4'-DDE	0.5	mg/kg	< 2	< 2	< 2	< 2
4.4'-DDT	0.5	mg/kg	< 2	< 2	< 2	< 2
7.12-Dimethylbenz(a)anthracene	0.5	mg/kg	< 2	< 2	< 2	< 2
a-BHC	0.5	mg/kg	< 2	< 2	< 2	< 2
Acenaphthene	0.5	mg/kg	< 2	< 2	< 2	< 2
Acenaphthylene	0.5	mg/kg	< 2	< 2	< 2	< 2
Acetophenone	0.5	mg/kg	< 2	< 2	< 2	< 2
Aldrin	0.5	mg/kg	< 2	< 2	< 2	< 2
Aniline	0.5	mg/kg	< 2	< 2	< 2	< 2
Anthracene	0.5	mg/kg	4.8	2.2	2.4	3.0
b-BHC	0.5	mg/kg	< 2	< 2	< 2	< 2
Benz(a)anthracene	0.5	mg/kg	20	13	8.3	14
Benzo(a)pyrene	0.5	mg/kg	8.5	5.5	3.4	6.8
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	2.8	< 2	< 2	< 2
Benzo(g.h.i)perylene	0.5	mg/kg	4.9	2.9	< 2	3.4
Benzo(k)fluoranthene	0.5	mg/kg	2.7	< 2	< 2	< 2
Benzyl chloride	0.5	mg/kg	< 2	< 2	< 2	< 2
Bis(2-chloroethoxy)methane	0.5	mg/kg	< 2	< 2	< 2	< 2
Bis(2-chloroisopropyl)ether	0.5	mg/kg	< 2	< 2	< 2	< 2
Bis(2-ethylhexyl)phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Butyl benzyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Chrysene	0.5	mg/kg	23	14	10	18
d-BHC	0.5	mg/kg	< 2	< 2	< 2	< 2
Di-n-butyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Di-n-octyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Dibenz(a.h)anthracene	0.5	mg/kg	< 2	< 2	< 2	< 2
Dibenz(a.j)acridine	0.5	mg/kg	< 2	< 2	< 2	< 2
Dibenzofuran	0.5	mg/kg	< 2	< 2	< 2	< 2
Dieldrin	0.5	mg/kg	< 2	< 2	< 2	< 2
Diethyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Dimethyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Dimethylaminoazobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Diphenylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
Endosulfan I	0.5	mg/kg	< 2	< 2	< 2	< 2
Endosulfan II	0.5	mg/kg	< 2	< 2	< 2	< 2
Endosulfan sulphate	0.5	mg/kg	< 2	< 2	< 2	< 2
Endrin	0.5	mg/kg	< 2	< 2	< 2	< 2
Endrin aldehyde	0.5	mg/kg	< 2	< 2	< 2	< 2
Endrin ketone	0.5	mg/kg	< 2	< 2	< 2	< 2
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 2	< 0.5
Fluorene	0.5	mg/kg	4.9	2.6	1.7	4.8
g-BHC (Lindane)	0.5	mg/kg	< 2	< 2	< 2	< 2
Heptachlor	0.5	mg/kg	< 2	< 2	< 2	< 2
Heptachlor epoxide	0.5	mg/kg	< 2	< 2	< 2	< 2
Hexachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Hexachlorobutadiene	0.5	mg/kg	< 2	< 2	< 2	< 2

Client Sample ID			1	2	3	4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-De07562	S19-De07563	S19-De07564	S19-De07565
Date Sampled			Dec 04, 2019	Dec 04, 2019	Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit				
Semivolatile Organics						
Hexachlorocyclopentadiene	0.5	mg/kg	< 2	< 2	< 2	< 2
Hexachloroethane	0.5	mg/kg	< 2	< 2	< 2	< 2
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 2	< 2	< 2	< 2
Methoxychlor	0.5	mg/kg	< 2	< 2	< 2	< 2
N-Nitrosodibutylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
N-Nitrosodipropylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
N-Nitrosopiperidine	0.5	mg/kg	< 2	< 2	< 2	< 2
Naphthalene	0.5	mg/kg	1.7	< 2	< 2	< 2
Nitrobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Pentachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Pentachloronitrobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Pentachlorophenol	1	mg/kg	< 4	< 4	< 4	< 4
Phenanthrene	0.5	mg/kg	23	16	9.9	18
Phenol	0.5	mg/kg	< 2	< 2	< 2	< 2
Pronamide	0.5	mg/kg	< 2	< 2	< 2	< 2
Pyrene	0.5	mg/kg	18	11	8.8	13
Trifluralin	0.5	mg/kg	< 2	< 2	< 2	< 2
Phenol-d6 (surr.)	1	%	49	39	54	44
Nitrobenzene-d5 (surr.)	1	%	int	99	56	60
2-Fluorobiphenyl (surr.)	1	%	113	78	68	92
2.4.6-Tribromophenol (surr.)	1	%	int	int	int	int
Heavy Metals						
Lead	5	mg/kg	260	270	220	220
Mercury	0.1	mg/kg	0.6	0.9	0.7	0.6
Nickel	5	mg/kg	110	120	83	81
% Moisture	1	%	16	13	13	13

Client Sample ID			5	6	7	8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-De07566	S19-De07567	S19-De07568	S19-De07569
Date Sampled			Dec 04, 2019	Dec 04, 2019	Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	660	830	590	710
TRH C15-C28	50	mg/kg	6100	7900	4800	8400
TRH C29-C36	50	mg/kg	2900	3600	2200	3800
TRH C10-C36 (Total)	50	mg/kg	9660	12330	7590	12910
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	0.2	0.2	0.2	0.5
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	63	75	56	68

Client Sample ID			5	6	7	8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-De07566	S19-De07567	S19-De07568	S19-De07569
Date Sampled			Dec 04, 2019	Dec 04, 2019	Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.9
TRH C6-C10	20	mg/kg	< 20	25	22	27
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	25	22	27
TRH >C10-C16	50	mg/kg	1200	1600	1100	1400
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	1200	1600	1100	1399.1
TRH >C16-C34	100	mg/kg	7700	9900	5900	11000
TRH >C34-C40	100	mg/kg	1300	1600	1000	1500
TRH >C10-C40 (total)*	100	mg/kg	10200	13100	8000	13900
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	6.8	13	5.1	12
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	8.1	14	6.4	14
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	9.4	15	7.7	15
Acenaphthene	0.5	mg/kg	< 2	< 2	< 2	< 2
Acenaphthylene	0.5	mg/kg	< 2	< 2	< 2	< 2
Anthracene	0.5	mg/kg	2.6	5.0	< 2	4.3
Benz(a)anthracene	0.5	mg/kg	13	23	11	21
Benzo(a)pyrene	0.5	mg/kg	5.3	9.6	3.9	9.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 2	3.0	< 2	2.9
Benzo(g.h.i)perylene	0.5	mg/kg	2.8	4.7	< 2	4.6
Benzo(k)fluoranthene	0.5	mg/kg	< 2	3.0	< 2	2.7
Chrysene	0.5	mg/kg	14	27	11	24
Dibenz(a.h)anthracene	0.5	mg/kg	< 2	< 2	< 2	< 2
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	2.6	5.3	< 2	4.7
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 2	< 2	< 2	< 2
Naphthalene	0.5	mg/kg	< 2	2.0	< 2	2.0
Phenanthrene	0.5	mg/kg	15	28	11	28
Pyrene	0.5	mg/kg	12	19	8.8	18
Total PAH*	0.5	mg/kg	67.3	129.6	45.7	121.7
2-Fluorobiphenyl (surr.)	1	%	80	106	51	73
p-Terphenyl-d14 (surr.)	1	%	66	89	55	76
Semivolatile Organics						
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	6.8	13	5.1	12
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	8.1	14	6.4	14
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	9.4	15	7.7	15
1-Chloronaphthalene	0.5	mg/kg	< 2	< 2	< 2	< 2
1-Naphthylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2-Dichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.3-Trichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.3.4-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.3.5-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.4-Trichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.4.5-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.3-Dichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.3.5-Trichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.4-Dichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Chloronaphthalene	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Chlorophenol	0.5	mg/kg	< 2	< 2	< 2	< 2

Client Sample ID			5	6	7	8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-De07566	S19-De07567	S19-De07568	S19-De07569
Date Sampled			Dec 04, 2019	Dec 04, 2019	Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit				
Semivolatile Organics						
2-Methylnaphthalene	0.5	mg/kg	< 2	5.4	< 2	8.9
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 2	< 2	< 2	< 2
2-Naphthylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Nitroaniline	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Nitrophenol	1.0	mg/kg	< 4	< 4	< 4	< 4
2-Picoline	0.5	mg/kg	< 2	< 2	< 2	< 2
2.3.4.6-Tetrachlorophenol	5	mg/kg	< 5	< 5	< 5	< 5
2.4-Dichlorophenol	0.5	mg/kg	< 2	< 2	< 2	< 2
2.4-Dimethylphenol	0.5	mg/kg	< 2	< 2	< 2	< 2
2.4-Dinitrophenol	5	mg/kg	< 25	< 25	< 25	< 25
2.4-Dinitrotoluene	0.5	mg/kg	< 2	< 2	< 2	< 2
2.4.5-Trichlorophenol	1	mg/kg	< 4	< 4	< 4	< 4
2.4.6-Trichlorophenol	1	mg/kg	< 4	< 4	< 4	< 4
2.6-Dichlorophenol	0.5	mg/kg	< 2	< 2	< 2	< 2
2.6-Dinitrotoluene	0.5	mg/kg	< 2	< 2	< 2	< 2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 4	< 4	< 4	< 4
3-Methylcholanthrene	0.5	mg/kg	< 2	< 2	< 2	< 2
3.3'-Dichlorobenzidine	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Aminobiphenyl	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Bromophenyl phenyl ether	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Chloro-3-methylphenol	1	mg/kg	< 4	< 4	< 4	< 4
4-Chlorophenyl phenyl ether	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Nitrophenol	5	mg/kg	< 25	< 25	< 25	< 25
4.4'-DDD	0.5	mg/kg	< 2	< 2	< 2	< 2
4.4'-DDE	0.5	mg/kg	< 2	< 2	< 2	< 2
4.4'-DDT	0.5	mg/kg	< 2	< 2	< 2	< 2
7.12-Dimethylbenz(a)anthracene	0.5	mg/kg	< 2	< 2	< 2	< 2
a-BHC	0.5	mg/kg	< 2	< 2	< 2	< 2
Acenaphthene	0.5	mg/kg	< 2	< 2	< 2	< 2
Acenaphthylene	0.5	mg/kg	< 2	< 2	< 2	< 2
Acetophenone	0.5	mg/kg	< 2	< 2	< 2	< 2
Aldrin	0.5	mg/kg	< 2	< 2	< 2	< 2
Aniline	0.5	mg/kg	< 2	< 2	< 2	< 2
Anthracene	0.5	mg/kg	2.6	5.0	< 2	4.3
b-BHC	0.5	mg/kg	< 2	< 2	< 2	< 2
Benz(a)anthracene	0.5	mg/kg	13	23	11	21
Benzo(a)pyrene	0.5	mg/kg	5.3	9.6	3.9	9.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 2	3.0	< 2	2.9
Benzo(g.h.i)perylene	0.5	mg/kg	2.8	4.7	< 2	4.6
Benzo(k)fluoranthene	0.5	mg/kg	< 2	3.0	< 2	2.7
Benzyl chloride	0.5	mg/kg	< 2	< 2	< 2	< 2
Bis(2-chloroethoxy)methane	0.5	mg/kg	< 2	< 2	< 2	< 2
Bis(2-chloroisopropyl)ether	0.5	mg/kg	< 2	< 2	< 2	< 2
Bis(2-ethylhexyl)phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Butyl benzyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Chrysene	0.5	mg/kg	14	27	11	24
d-BHC	0.5	mg/kg	< 2	< 2	< 2	< 2
Di-n-butyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Di-n-octyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2

Client Sample ID			5	6	7	8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-De07566	S19-De07567	S19-De07568	S19-De07569
Date Sampled			Dec 04, 2019	Dec 04, 2019	Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit				
Semivolatile Organics						
Dibenz(a.h)anthracene	0.5	mg/kg	< 2	< 2	< 2	< 2
Dibenz(a.j)acridine	0.5	mg/kg	< 2	< 2	< 2	< 2
Dibenzofuran	0.5	mg/kg	< 2	< 2	< 2	< 2
Dieldrin	0.5	mg/kg	< 2	< 2	< 2	< 2
Diethyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Dimethyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Dimethylaminoazobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Diphenylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
Endosulfan I	0.5	mg/kg	< 2	< 2	< 2	< 2
Endosulfan II	0.5	mg/kg	< 2	< 2	< 2	< 2
Endosulfan sulphate	0.5	mg/kg	< 2	< 2	< 2	< 2
Endrin	0.5	mg/kg	< 2	< 2	< 2	< 2
Endrin aldehyde	0.5	mg/kg	< 2	< 2	< 2	< 2
Endrin ketone	0.5	mg/kg	< 2	< 2	< 2	< 2
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	2.6	5.3	< 2	4.7
g-BHC (Lindane)	0.5	mg/kg	< 2	< 2	< 2	< 2
Heptachlor	0.5	mg/kg	< 2	< 2	< 2	< 2
Heptachlor epoxide	0.5	mg/kg	< 2	< 2	< 2	< 2
Hexachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Hexachlorobutadiene	0.5	mg/kg	< 2	< 2	< 2	< 2
Hexachlorocyclopentadiene	0.5	mg/kg	< 2	< 2	< 2	< 2
Hexachloroethane	0.5	mg/kg	< 2	< 2	< 2	< 2
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 2	< 2	< 2	< 2
Methoxychlor	0.5	mg/kg	< 2	< 2	< 2	< 2
N-Nitrosodibutylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
N-Nitrosodipropylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
N-Nitrosopiperidine	0.5	mg/kg	< 2	< 2	< 2	< 2
Naphthalene	0.5	mg/kg	< 2	2.0	< 2	2.0
Nitrobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Pentachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Pentachloronitrobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Pentachlorophenol	1	mg/kg	< 4	< 4	< 4	< 4
Phenanthrene	0.5	mg/kg	15	28	11	28
Phenol	0.5	mg/kg	< 2	< 2	< 2	< 2
Pronamide	0.5	mg/kg	< 2	< 2	< 2	< 2
Pyrene	0.5	mg/kg	12	19	8.8	18
Trifluralin	0.5	mg/kg	< 2	< 2	< 2	< 2
Phenol-d6 (surr.)	1	%	45	36	32	29
Nitrobenzene-d5 (surr.)	1	%	60	int	50	94
2-Fluorobiphenyl (surr.)	1	%	80	106	51	73
2.4.6-Tribromophenol (surr.)	1	%	int	int	int	int
Heavy Metals						
Lead	5	mg/kg	220	210	260	200
Mercury	0.1	mg/kg	0.9	0.8	0.7	0.5
Nickel	5	mg/kg	86	82	100	78
% Moisture	1	%	12	12	13	12

Client Sample ID			9	10
Sample Matrix			Soil	Soil
Eurofins Sample No.			S19-De07570	S19-De07571
Date Sampled			Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	20	mg/kg	< 20	33
TRH C10-C14	20	mg/kg	630	570
TRH C15-C28	50	mg/kg	5000	5400
TRH C29-C36	50	mg/kg	2300	2500
TRH C10-C36 (Total)	50	mg/kg	7930	8470
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	0.4	1.6
Ethylbenzene	0.1	mg/kg	< 0.1	0.3
m&p-Xylenes	0.2	mg/kg	< 0.2	1.1
o-Xylene	0.1	mg/kg	< 0.1	0.4
Xylenes - Total	0.3	mg/kg	< 0.3	1.5
4-Bromofluorobenzene (surr.)	1	%	74	60
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	0.9	1.4
TRH C6-C10	20	mg/kg	< 20	60
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	57
TRH >C10-C16	50	mg/kg	1100	1100
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	1099.1	1098.6
TRH >C16-C34	100	mg/kg	6100	6800
TRH >C34-C40	100	mg/kg	1100	1100
TRH >C10-C40 (total)*	100	mg/kg	8300	9000
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	5.1	8.0
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	6.4	9.3
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	7.7	11
Acenaphthene	0.5	mg/kg	< 2	< 2
Acenaphthylene	0.5	mg/kg	< 2	< 2
Anthracene	0.5	mg/kg	2.6	3.0
Benz(a)anthracene	0.5	mg/kg	9.8	11
Benzo(a)pyrene	0.5	mg/kg	4.0	6.7
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 2	< 2
Benzo(g.h.i)perylene	0.5	mg/kg	< 2	3.4
Benzo(k)fluoranthene	0.5	mg/kg	< 2	< 2
Chrysene	0.5	mg/kg	12	12
Dibenz(a.h)anthracene	0.5	mg/kg	< 2	< 2
Fluoranthene	0.5	mg/kg	< 0.5	< 2
Fluorene	0.5	mg/kg	< 2	3.3
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 2	< 2
Naphthalene	0.5	mg/kg	< 2	1.1
Phenanthrene	0.5	mg/kg	11	17
Pyrene	0.5	mg/kg	8.4	11
Total PAH*	0.5	mg/kg	47.8	68.5
2-Fluorobiphenyl (surr.)	1	%	80	92
p-Terphenyl-d14 (surr.)	1	%	63	65

Client Sample ID			9	10
Sample Matrix			Soil	Soil
Eurofins Sample No.			S19-De07570	S19-De07571
Date Sampled			Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit		
Semivolatile Organics				
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	5.1	8.0
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	6.4	9.3
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	7.7	11
1-Chloronaphthalene	0.5	mg/kg	< 2	< 2
1-Naphthylamine	0.5	mg/kg	< 2	< 2
1.2-Dichlorobenzene	0.5	mg/kg	< 2	< 2
1.2.3-Trichlorobenzene	0.5	mg/kg	< 2	< 2
1.2.3.4-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2
1.2.3.5-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2
1.2.4-Trichlorobenzene	0.5	mg/kg	< 2	< 2
1.2.4.5-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2
1.3-Dichlorobenzene	0.5	mg/kg	< 2	< 2
1.3.5-Trichlorobenzene	0.5	mg/kg	< 2	< 2
1.4-Dichlorobenzene	0.5	mg/kg	< 2	< 2
2-Chloronaphthalene	0.5	mg/kg	< 2	< 2
2-Chlorophenol	0.5	mg/kg	< 2	< 2
2-Methylnaphthalene	0.5	mg/kg	< 2	2.7
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 2	< 2
2-Naphthylamine	0.5	mg/kg	< 2	< 2
2-Nitroaniline	0.5	mg/kg	< 2	< 2
2-Nitrophenol	1.0	mg/kg	< 4	< 4
2-Picoline	0.5	mg/kg	< 2	< 2
2.3.4.6-Tetrachlorophenol	5	mg/kg	< 5	< 5
2.4-Dichlorophenol	0.5	mg/kg	< 2	< 2
2.4-Dimethylphenol	0.5	mg/kg	< 2	< 2
2.4-Dinitrophenol	5	mg/kg	< 25	< 25
2.4-Dinitrotoluene	0.5	mg/kg	< 2	< 2
2.4.5-Trichlorophenol	1	mg/kg	< 4	< 4
2.4.6-Trichlorophenol	1	mg/kg	< 4	< 4
2.6-Dichlorophenol	0.5	mg/kg	< 2	< 2
2.6-Dinitrotoluene	0.5	mg/kg	< 2	< 2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 4	< 4
3-Methylcholanthrene	0.5	mg/kg	< 2	< 2
3.3'-Dichlorobenzidine	0.5	mg/kg	< 2	< 2
4-Aminobiphenyl	0.5	mg/kg	< 2	< 2
4-Bromophenyl phenyl ether	0.5	mg/kg	< 2	< 2
4-Chloro-3-methylphenol	1	mg/kg	< 4	< 4
4-Chlorophenyl phenyl ether	0.5	mg/kg	< 2	< 2
4-Nitrophenol	5	mg/kg	< 25	< 25
4.4'-DDD	0.5	mg/kg	< 2	< 2
4.4'-DDE	0.5	mg/kg	< 2	< 2
4.4'-DDT	0.5	mg/kg	< 2	< 2
7.12-Dimethylbenz(a)anthracene	0.5	mg/kg	< 2	< 2
a-BHC	0.5	mg/kg	< 2	< 2
Acenaphthene	0.5	mg/kg	< 2	< 2
Acenaphthylene	0.5	mg/kg	< 2	< 2
Acetophenone	0.5	mg/kg	< 2	< 2
Aldrin	0.5	mg/kg	< 2	< 2

Client Sample ID			9	10
Sample Matrix			Soil	Soil
Eurofins Sample No.			S19-De07570	S19-De07571
Date Sampled			Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit		
Semivolatile Organics				
Aniline	0.5	mg/kg	< 2	< 2
Anthracene	0.5	mg/kg	2.6	3.0
b-BHC	0.5	mg/kg	< 2	< 2
Benz(a)anthracene	0.5	mg/kg	9.8	11
Benzo(a)pyrene	0.5	mg/kg	4.0	6.7
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 2	< 2
Benzo(g.h.i)perylene	0.5	mg/kg	< 2	3.4
Benzo(k)fluoranthene	0.5	mg/kg	< 2	< 2
Benzyl chloride	0.5	mg/kg	< 2	< 2
Bis(2-chloroethoxy)methane	0.5	mg/kg	< 2	< 2
Bis(2-chloroisopropyl)ether	0.5	mg/kg	< 2	< 2
Bis(2-ethylhexyl)phthalate	0.5	mg/kg	< 2	< 2
Butyl benzyl phthalate	0.5	mg/kg	< 2	< 2
Chrysene	0.5	mg/kg	12	12
d-BHC	0.5	mg/kg	< 2	< 2
Di-n-butyl phthalate	0.5	mg/kg	< 2	< 2
Di-n-octyl phthalate	0.5	mg/kg	< 2	< 2
Dibenz(a.h)anthracene	0.5	mg/kg	< 2	< 2
Dibenz(a.j)acridine	0.5	mg/kg	< 2	< 2
Dibenzofuran	0.5	mg/kg	< 2	< 2
Dieldrin	0.5	mg/kg	< 2	< 2
Diethyl phthalate	0.5	mg/kg	< 2	< 2
Dimethyl phthalate	0.5	mg/kg	< 2	< 2
Dimethylaminoazobenzene	0.5	mg/kg	< 2	< 2
Diphenylamine	0.5	mg/kg	< 2	< 2
Endosulfan I	0.5	mg/kg	< 2	< 2
Endosulfan II	0.5	mg/kg	< 2	< 2
Endosulfan sulphate	0.5	mg/kg	< 2	< 2
Endrin	0.5	mg/kg	< 2	< 2
Endrin aldehyde	0.5	mg/kg	< 2	< 2
Endrin ketone	0.5	mg/kg	< 2	< 2
Fluoranthene	0.5	mg/kg	< 0.5	< 2
Fluorene	0.5	mg/kg	< 2	3.3
g-BHC (Lindane)	0.5	mg/kg	< 2	< 2
Heptachlor	0.5	mg/kg	< 2	< 2
Heptachlor epoxide	0.5	mg/kg	< 2	< 2
Hexachlorobenzene	0.5	mg/kg	< 2	< 2
Hexachlorobutadiene	0.5	mg/kg	< 2	< 2
Hexachlorocyclopentadiene	0.5	mg/kg	< 2	< 2
Hexachloroethane	0.5	mg/kg	< 2	< 2
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 2	< 2
Methoxychlor	0.5	mg/kg	< 2	< 2
N-Nitrosodibutylamine	0.5	mg/kg	< 2	< 2
N-Nitrosodipropylamine	0.5	mg/kg	< 2	< 2
N-Nitrosopiperidine	0.5	mg/kg	< 2	< 2
Naphthalene	0.5	mg/kg	< 2	1.1
Nitrobenzene	0.5	mg/kg	< 2	< 2
Pentachlorobenzene	0.5	mg/kg	< 2	< 2
Pentachloronitrobenzene	0.5	mg/kg	< 2	< 2

Client Sample ID			9	10
Sample Matrix			Soil	Soil
Eurofins Sample No.			S19-De07570	S19-De07571
Date Sampled			Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit		
Semivolatile Organics				
Pentachlorophenol	1	mg/kg	< 4	< 4
Phenanthrene	0.5	mg/kg	11	17
Phenol	0.5	mg/kg	< 2	< 2
Pronamide	0.5	mg/kg	< 2	< 2
Pyrene	0.5	mg/kg	8.4	11
Trifluralin	0.5	mg/kg	< 2	< 2
Phenol-d6 (surr.)	1	%	39	25
Nitrobenzene-d5 (surr.)	1	%	int	96
2-Fluorobiphenyl (surr.)	1	%	80	92
2.4.6-Tribromophenol (surr.)	1	%	int	int
Heavy Metals				
Lead	5	mg/kg	210	260
Mercury	0.1	mg/kg	0.5	0.7
Nickel	5	mg/kg	75	87
% Moisture	1	%	12	12

Client Sample ID			1	2	3	4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-De07574	S19-De07575	S19-De07576	S19-De07577
Date Sampled			Dec 04, 2019	Dec 04, 2019	Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	1100	750	520	750
TRH C15-C28	50	mg/kg	15000	7600	4700	8200
TRH C29-C36	50	mg/kg	6200	3600	2100	3100
TRH C10-C36 (Total)	50	mg/kg	22300	11950	7320	12050
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	0.3	0.2	0.3	0.2
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	0.2	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	0.4	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	81	71	71	72
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	37	21	26	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	36	21	26	< 20
TRH >C10-C16	50	mg/kg	2100	1400	970	1700
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	2100	1400	970	1700
TRH >C16-C34	100	mg/kg	18000	9600	5800	9800
TRH >C34-C40	100	mg/kg	2300	1600	990	1200
TRH >C10-C40 (total)*	100	mg/kg	22400	12600	7760	12700

Client Sample ID			1	2	3	4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-De07574	S19-De07575	S19-De07576	S19-De07577
Date Sampled			Dec 04, 2019	Dec 04, 2019	Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	27	8.4	3.6	11
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	27	9.5	4.9	12
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	27	11	6.2	13
Acenaphthene	0.5	mg/kg	< 2	< 2	< 2	< 2
Acenaphthylene	0.5	mg/kg	< 2	< 2	< 2	< 2
Anthracene	0.5	mg/kg	5.0	3.0	1.8	2.5
Benz(a)anthracene	0.5	mg/kg	31	14	7.2	16
Benzo(a)pyrene	0.5	mg/kg	19	6.3	2.8	8.2
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	5.7	2.3	< 2	2.8
Benzo(g.h.i)perylene	0.5	mg/kg	9.9	3.7	< 2	4.4
Benzo(k)fluoranthene	0.5	mg/kg	5.4	2.2	< 2	2.9
Chrysene	0.5	mg/kg	48	17	8.1	21
Dibenz(a.h)anthracene	0.5	mg/kg	2.6	< 2	< 2	< 2
Fluoranthene	0.5	mg/kg	< 2	< 2	< 2	< 2
Fluorene	0.5	mg/kg	6.1	3.5	1.4	2.7
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.2	< 2	< 2	< 2
Naphthalene	0.5	mg/kg	3.3	1.3	< 2	< 2
Phenanthrene	0.5	mg/kg	31	19	8.9	14
Pyrene	0.5	mg/kg	31	15	6.6	14
Total PAH*	0.5	mg/kg	201.2	87.3	36.8	88.5
2-Fluorobiphenyl (surr.)	1	%	57	72	57	79
p-Terphenyl-d14 (surr.)	1	%	86	69	72	84
Semivolatile Organics						
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	27	8.4	3.6	11
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	27	9.5	4.9	12
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	27	11	6.2	13
1-Chloronaphthalene	0.5	mg/kg	< 2	< 2	< 2	< 2
1-Naphthylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2-Dichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.3-Trichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.3.4-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.3.5-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.4-Trichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.4.5-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.3-Dichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.3.5-Trichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.4-Dichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Chloronaphthalene	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Chlorophenol	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Methylnaphthalene	0.5	mg/kg	8.8	2.8	< 2	< 2
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 2	< 2	< 2	< 2
2-Naphthylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Nitroaniline	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Nitrophenol	1.0	mg/kg	< 4	< 4	< 4	< 4
2-Picoline	0.5	mg/kg	< 2	< 2	< 2	< 2
2.3.4.6-Tetrachlorophenol	5	mg/kg	< 5	< 5	< 5	< 5
2.4-Dichlorophenol	0.5	mg/kg	< 2	< 2	< 2	< 2
2.4-Dimethylphenol	0.5	mg/kg	< 2	< 2	< 2	< 2

Client Sample ID			1	2	3	4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-De07574	S19-De07575	S19-De07576	S19-De07577
Date Sampled			Dec 04, 2019	Dec 04, 2019	Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit				
Semivolatile Organics						
2.4-Dinitrophenol	5	mg/kg	< 25	< 25	< 25	< 25
2.4-Dinitrotoluene	0.5	mg/kg	< 2	< 2	< 2	< 2
2.4.5-Trichlorophenol	1	mg/kg	< 4	< 4	< 4	< 4
2.4.6-Trichlorophenol	1	mg/kg	< 4	< 4	< 4	< 4
2.6-Dichlorophenol	0.5	mg/kg	< 2	< 2	< 2	< 2
2.6-Dinitrotoluene	0.5	mg/kg	< 2	< 2	< 2	< 2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 4	< 4	< 4	< 4
3-Methylcholanthrene	0.5	mg/kg	< 2	< 2	< 2	< 2
3.3'-Dichlorobenzidine	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Aminobiphenyl	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Bromophenyl phenyl ether	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Chloro-3-methylphenol	1	mg/kg	< 4	< 4	< 4	< 4
4-Chlorophenyl phenyl ether	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Nitrophenol	5	mg/kg	< 25	< 25	< 25	< 25
4.4'-DDD	0.5	mg/kg	< 2	< 2	< 2	< 2
4.4'-DDE	0.5	mg/kg	< 2	< 2	< 2	< 2
4.4'-DDT	0.5	mg/kg	< 2	< 2	< 2	< 2
7.12-Dimethylbenz(a)anthracene	0.5	mg/kg	< 2	< 2	< 2	< 2
a-BHC	0.5	mg/kg	< 2	< 2	< 2	< 2
Acenaphthene	0.5	mg/kg	< 2	< 2	< 2	< 2
Acenaphthylene	0.5	mg/kg	< 2	< 2	< 2	< 2
Acetophenone	0.5	mg/kg	< 2	< 2	< 2	< 2
Aldrin	0.5	mg/kg	< 2	< 2	< 2	< 2
Aniline	0.5	mg/kg	< 2	< 2	< 2	< 2
Anthracene	0.5	mg/kg	5.0	3.0	1.8	2.5
b-BHC	0.5	mg/kg	< 2	< 2	< 2	< 2
Benz(a)anthracene	0.5	mg/kg	31	14	7.2	16
Benzo(a)pyrene	0.5	mg/kg	19	6.3	2.8	8.2
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	5.7	2.3	< 2	2.8
Benzo(g.h.i)perylene	0.5	mg/kg	9.9	3.7	< 2	4.4
Benzo(k)fluoranthene	0.5	mg/kg	5.4	2.2	< 2	2.9
Benzyl chloride	0.5	mg/kg	< 2	< 2	< 2	< 2
Bis(2-chloroethoxy)methane	0.5	mg/kg	< 2	< 2	< 2	< 2
Bis(2-chloroisopropyl)ether	0.5	mg/kg	< 2	< 2	< 2	< 2
Bis(2-ethylhexyl)phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Butyl benzyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Chrysene	0.5	mg/kg	48	17	8.1	21
d-BHC	0.5	mg/kg	< 2	< 2	< 2	< 2
Di-n-butyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Di-n-octyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Dibenz(a.h)anthracene	0.5	mg/kg	2.6	< 2	< 2	< 2
Dibenz(a.j)acridine	0.5	mg/kg	< 2	< 2	< 2	< 2
Dibenzofuran	0.5	mg/kg	< 2	< 2	< 2	< 2
Dieldrin	0.5	mg/kg	< 2	< 2	< 2	< 2
Diethyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Dimethyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Dimethylaminoazobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Diphenylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
Endosulfan I	0.5	mg/kg	< 2	< 2	< 2	< 2

Client Sample ID			1	2	3	4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-De07574	S19-De07575	S19-De07576	S19-De07577
Date Sampled			Dec 04, 2019	Dec 04, 2019	Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit				
Semivolatile Organics						
Endosulfan II	0.5	mg/kg	< 2	< 2	< 2	< 2
Endosulfan sulphate	0.5	mg/kg	< 2	< 2	< 2	< 2
Endrin	0.5	mg/kg	< 2	< 2	< 2	< 2
Endrin aldehyde	0.5	mg/kg	< 2	< 2	< 2	< 2
Endrin ketone	0.5	mg/kg	< 2	< 2	< 2	< 2
Fluoranthene	0.5	mg/kg	< 2	< 2	< 2	< 2
Fluorene	0.5	mg/kg	6.1	3.5	1.4	2.7
g-BHC (Lindane)	0.5	mg/kg	< 2	< 2	< 2	< 2
Heptachlor	0.5	mg/kg	< 2	< 2	< 2	< 2
Heptachlor epoxide	0.5	mg/kg	< 2	< 2	< 2	< 2
Hexachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Hexachlorobutadiene	0.5	mg/kg	< 2	< 2	< 2	< 2
Hexachlorocyclopentadiene	0.5	mg/kg	< 2	< 2	< 2	< 2
Hexachloroethane	0.5	mg/kg	< 2	< 2	< 2	< 2
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	3.2	< 2	< 2	< 2
Methoxychlor	0.5	mg/kg	< 2	< 2	< 2	< 2
N-Nitrosodibutylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
N-Nitrosodipropylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
N-Nitrosopiperidine	0.5	mg/kg	< 2	< 2	< 2	< 2
Naphthalene	0.5	mg/kg	3.3	1.3	< 2	< 2
Nitrobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Pentachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Pentachloronitrobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Pentachlorophenol	1	mg/kg	< 4	< 4	< 4	< 4
Phenanthrene	0.5	mg/kg	31	19	8.9	14
Phenol	0.5	mg/kg	< 2	< 2	< 2	< 2
Pronamide	0.5	mg/kg	< 2	< 2	< 2	< 2
Pyrene	0.5	mg/kg	31	15	6.6	14
Trifluralin	0.5	mg/kg	< 2	< 2	< 2	< 2
Phenol-d6 (surr.)	1	%	25	22	26	23
Nitrobenzene-d5 (surr.)	1	%	66	73	65	91
2-Fluorobiphenyl (surr.)	1	%	57	72	57	79
2.4.6-Tribromophenol (surr.)	1	%	int	int	int	int
Heavy Metals						
Lead	5	mg/kg	280	250	220	250
Mercury	0.1	mg/kg	0.7	0.7	0.6	0.8
Nickel	5	mg/kg	120	94	82	97
% Moisture	1	%	16	13	13	12

Client Sample ID			5	6	7	8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-De07578	S19-De07579	S19-De07580	S19-De07581
Date Sampled			Dec 04, 2019	Dec 04, 2019	Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	780	920	700	970
TRH C15-C28	50	mg/kg	6500	7600	5500	7700
TRH C29-C36	50	mg/kg	2300	2800	2000	2700
TRH C10-C36 (Total)	50	mg/kg	9580	11320	8200	11370
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	0.2	0.2	0.1	0.4
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	0.2
o-Xylene	0.1	mg/kg	< 0.1	0.1	< 0.1	0.1
Xylenes - Total	0.3	mg/kg	< 0.3	0.3	< 0.3	0.3
4-Bromofluorobenzene (surr.)	1	%	62	69	58	63
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	1.2	< 0.5	0.8
TRH C6-C10	20	mg/kg	23	28	21	23
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	23	28	21	22
TRH >C10-C16	50	mg/kg	1800	2100	1600	2100
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	1800	2098.8	1600	2099.2
TRH >C16-C34	100	mg/kg	7400	8800	6300	8800
TRH >C34-C40	100	mg/kg	1000	1200	930	1200
TRH >C10-C40 (total)*	100	mg/kg	10200	12100	8830	12100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	5.3	10	4.7	8.3
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	6.6	11	6.0	9.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	7.9	12	7.3	11
Acenaphthene	0.5	mg/kg	< 2	< 2	< 2	< 2
Acenaphthylene	0.5	mg/kg	< 2	< 2	< 2	< 2
Anthracene	0.5	mg/kg	2.6	3.5	2.5	3.1
Benz(a)anthracene	0.5	mg/kg	8.8	16	8.1	16
Benzo(a)pyrene	0.5	mg/kg	4.3	7.9	3.8	6.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 2	2.4	< 2	< 2
Benzo(g.h.i)perylene	0.5	mg/kg	2.4	4.1	< 2	3.0
Benzo(k)fluoranthene	0.5	mg/kg	< 2	2.3	< 2	< 2
Chrysene	0.5	mg/kg	11	19	9.8	17
Dibenz(a.h)anthracene	0.5	mg/kg	< 2	< 2	< 2	< 2
Fluoranthene	0.5	mg/kg	< 2	< 2	< 2	< 2
Fluorene	0.5	mg/kg	2.4	4.2	< 2	3.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 2	< 2	< 2	< 2
Naphthalene	0.5	mg/kg	< 2	1.4	< 2	1.2
Phenanthrene	0.5	mg/kg	13	22	11	19
Pyrene	0.5	mg/kg	9.2	15	8.5	13
Total PAH*	0.5	mg/kg	53.7	97.8	43.7	82.3
2-Fluorobiphenyl (surr.)	1	%	74	100	98	83
p-Terphenyl-d14 (surr.)	1	%	62	99	78	74

Client Sample ID			5	6	7	8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-De07578	S19-De07579	S19-De07580	S19-De07581
Date Sampled			Dec 04, 2019	Dec 04, 2019	Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit				
Semivolatile Organics						
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	< 5
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	5.3	10	4.7	8.3
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	6.6	11	6.0	9.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	7.9	12	7.3	11
1-Chloronaphthalene	0.5	mg/kg	< 2	< 2	< 2	< 2
1-Naphthylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2-Dichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.3-Trichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.3.4-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.3.5-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.4-Trichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.2.4.5-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.3-Dichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.3.5-Trichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
1.4-Dichlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Chloronaphthalene	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Chlorophenol	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Methylnaphthalene	0.5	mg/kg	< 2	4.1	< 2	3.6
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 2	< 2	< 2	< 2
2-Naphthylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Nitroaniline	0.5	mg/kg	< 2	< 2	< 2	< 2
2-Nitrophenol	1.0	mg/kg	< 4	< 4	< 4	< 4
2-Picoline	0.5	mg/kg	< 2	< 2	< 2	< 2
2.3.4.6-Tetrachlorophenol	5	mg/kg	< 5	< 5	< 5	< 5
2.4-Dichlorophenol	0.5	mg/kg	< 2	< 2	< 2	< 2
2.4-Dimethylphenol	0.5	mg/kg	< 2	< 2	< 2	< 2
2.4-Dinitrophenol	5	mg/kg	< 25	< 25	< 25	< 25
2.4-Dinitrotoluene	0.5	mg/kg	< 2	< 2	< 2	< 2
2.4.5-Trichlorophenol	1	mg/kg	< 4	< 4	< 4	< 4
2.4.6-Trichlorophenol	1	mg/kg	< 4	< 4	< 4	< 4
2.6-Dichlorophenol	0.5	mg/kg	< 2	< 2	< 2	< 2
2.6-Dinitrotoluene	0.5	mg/kg	< 2	< 2	< 2	< 2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 4	< 4	< 4	< 4
3-Methylcholanthrene	0.5	mg/kg	< 2	< 2	< 2	< 2
3.3'-Dichlorobenzidine	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Aminobiphenyl	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Bromophenyl phenyl ether	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Chloro-3-methylphenol	1	mg/kg	< 4	< 4	< 4	< 4
4-Chlorophenyl phenyl ether	0.5	mg/kg	< 2	< 2	< 2	< 2
4-Nitrophenol	5	mg/kg	< 25	< 25	< 25	< 25
4.4'-DDD	0.5	mg/kg	< 2	< 2	< 2	< 2
4.4'-DDE	0.5	mg/kg	< 2	< 2	< 2	< 2
4.4'-DDT	0.5	mg/kg	< 2	< 2	< 2	< 2
7.12-Dimethylbenz(a)anthracene	0.5	mg/kg	< 2	< 2	< 2	< 2
a-BHC	0.5	mg/kg	< 2	< 2	< 2	< 2
Acenaphthene	0.5	mg/kg	< 2	< 2	< 2	< 2
Acenaphthylene	0.5	mg/kg	< 2	< 2	< 2	< 2
Acetophenone	0.5	mg/kg	< 2	< 2	< 2	< 2
Aldrin	0.5	mg/kg	< 2	< 2	< 2	< 2

Client Sample ID			5	6	7	8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-De07578	S19-De07579	S19-De07580	S19-De07581
Date Sampled			Dec 04, 2019	Dec 04, 2019	Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit				
Semivolatile Organics						
Aniline	0.5	mg/kg	< 2	< 2	< 2	< 2
Anthracene	0.5	mg/kg	2.6	3.5	2.5	3.1
b-BHC	0.5	mg/kg	< 2	< 2	< 2	< 2
Benz(a)anthracene	0.5	mg/kg	8.8	16	8.1	16
Benzo(a)pyrene	0.5	mg/kg	4.3	7.9	3.8	6.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 2	2.4	< 2	< 2
Benzo(g.h.i)perylene	0.5	mg/kg	2.4	4.1	< 2	3.0
Benzo(k)fluoranthene	0.5	mg/kg	< 2	2.3	< 2	< 2
Benzyl chloride	0.5	mg/kg	< 2	< 2	< 2	< 2
Bis(2-chloroethoxy)methane	0.5	mg/kg	< 2	< 2	< 2	< 2
Bis(2-chloroisopropyl)ether	0.5	mg/kg	< 2	< 2	< 2	< 2
Bis(2-ethylhexyl)phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Butyl benzyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Chrysene	0.5	mg/kg	11	19	9.8	17
d-BHC	0.5	mg/kg	< 2	< 2	< 2	< 2
Di-n-butyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Di-n-octyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Dibenz(a.h)anthracene	0.5	mg/kg	< 2	< 2	< 2	< 2
Dibenz(a.j)acridine	0.5	mg/kg	< 2	< 2	< 2	< 2
Dibenzofuran	0.5	mg/kg	< 2	< 2	< 2	< 2
Dieldrin	0.5	mg/kg	< 2	< 2	< 2	< 2
Diethyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Dimethyl phthalate	0.5	mg/kg	< 2	< 2	< 2	< 2
Dimethylaminoazobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Diphenylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
Endosulfan I	0.5	mg/kg	< 2	< 2	< 2	< 2
Endosulfan II	0.5	mg/kg	< 2	< 2	< 2	< 2
Endosulfan sulphate	0.5	mg/kg	< 2	< 2	< 2	< 2
Endrin	0.5	mg/kg	< 2	< 2	< 2	< 2
Endrin aldehyde	0.5	mg/kg	< 2	< 2	< 2	< 2
Endrin ketone	0.5	mg/kg	< 2	< 2	< 2	< 2
Fluoranthene	0.5	mg/kg	< 2	< 2	< 2	< 2
Fluorene	0.5	mg/kg	2.4	4.2	< 2	3.5
g-BHC (Lindane)	0.5	mg/kg	< 2	< 2	< 2	< 2
Heptachlor	0.5	mg/kg	< 2	< 2	< 2	< 2
Heptachlor epoxide	0.5	mg/kg	< 2	< 2	< 2	< 2
Hexachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Hexachlorobutadiene	0.5	mg/kg	< 2	< 2	< 2	< 2
Hexachlorocyclopentadiene	0.5	mg/kg	< 2	< 2	< 2	< 2
Hexachloroethane	0.5	mg/kg	< 2	< 2	< 2	< 2
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 2	< 2	< 2	< 2
Methoxychlor	0.5	mg/kg	< 2	< 2	< 2	< 2
N-Nitrosodibutylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
N-Nitrosodipropylamine	0.5	mg/kg	< 2	< 2	< 2	< 2
N-Nitrosopiperidine	0.5	mg/kg	< 2	< 2	< 2	< 2
Naphthalene	0.5	mg/kg	< 2	1.4	< 2	1.2
Nitrobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Pentachlorobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2
Pentachloronitrobenzene	0.5	mg/kg	< 2	< 2	< 2	< 2

Client Sample ID			5	6	7	8
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-De07578	S19-De07579	S19-De07580	S19-De07581
Date Sampled			Dec 04, 2019	Dec 04, 2019	Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit				
Semivolatile Organics						
Pentachlorophenol	1	mg/kg	< 4	< 4	< 4	< 4
Phenanthrene	0.5	mg/kg	13	22	11	19
Phenol	0.5	mg/kg	< 2	< 2	< 2	< 2
Pronamide	0.5	mg/kg	< 2	< 2	< 2	< 2
Pyrene	0.5	mg/kg	9.2	15	8.5	13
Trifluralin	0.5	mg/kg	< 2	< 2	< 2	< 2
Phenol-d6 (surr.)	1	%	23	41	30	51
Nitrobenzene-d5 (surr.)	1	%	65	88	96	55
2-Fluorobiphenyl (surr.)	1	%	74	100	98	83
2.4.6-Tribromophenol (surr.)	1	%	int	int	int	int
Heavy Metals						
Lead	5	mg/kg	150	210	180	210
Mercury	0.1	mg/kg	0.5	0.6	0.6	0.7
Nickel	5	mg/kg	78	97	91	89
% Moisture	1	%	11	12	13	12

Client Sample ID			9	10
Sample Matrix			Soil	Soil
Eurofins Sample No.			S19-De07582	S19-De07583
Date Sampled			Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	20	mg/kg	21	< 20
TRH C10-C14	20	mg/kg	610	700
TRH C15-C28	50	mg/kg	5700	6600
TRH C29-C36	50	mg/kg	2000	2300
TRH C10-C36 (Total)	50	mg/kg	8310	9600
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	1.1	0.2
Ethylbenzene	0.1	mg/kg	0.1	0.1
m&p-Xylenes	0.2	mg/kg	0.3	0.3
o-Xylene	0.1	mg/kg	0.2	0.2
Xylenes - Total	0.3	mg/kg	0.5	0.6
4-Bromofluorobenzene (surr.)	1	%	50	72
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	0.7	1.4
TRH C6-C10	20	mg/kg	36	31
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	34	30
TRH >C10-C16	50	mg/kg	1400	1600
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	1399.3	1598.6
TRH >C16-C34	100	mg/kg	6500	7500
TRH >C34-C40	100	mg/kg	920	910
TRH >C10-C40 (total)*	100	mg/kg	8820	10010

Client Sample ID			9	10
Sample Matrix			Soil	Soil
Eurofins Sample No.			S19-De07582	S19-De07583
Date Sampled			Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	5.2	9.8
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	6.5	11
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	7.8	12
Acenaphthene	0.5	mg/kg	< 2	< 2
Acenaphthylene	0.5	mg/kg	< 2	< 2
Anthracene	0.5	mg/kg	2.7	3.2
Benz(a)anthracene	0.5	mg/kg	10	17
Benzo(a)pyrene	0.5	mg/kg	4.1	7.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 2	2.3
Benzo(g.h.i)perylene	0.5	mg/kg	2.3	3.5
Benzo(k)fluoranthene	0.5	mg/kg	< 2	2.2
Chrysene	0.5	mg/kg	12	16
Dibenz(a.h)anthracene	0.5	mg/kg	< 2	< 2
Fluoranthene	0.5	mg/kg	< 2	< 0.5
Fluorene	0.5	mg/kg	< 2	4.0
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 2	< 2
Naphthalene	0.5	mg/kg	< 2	1.5
Phenanthrene	0.5	mg/kg	11	19
Pyrene	0.5	mg/kg	9.1	14
Total PAH*	0.5	mg/kg	51.2	90.2
2-Fluorobiphenyl (surr.)	1	%	83	57
p-Terphenyl-d14 (surr.)	1	%	67	60
Semivolatile Organics				
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	5.2	9.8
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	6.5	11
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	7.8	12
1-Chloronaphthalene	0.5	mg/kg	< 2	< 2
1-Naphthylamine	0.5	mg/kg	< 2	< 2
1.2-Dichlorobenzene	0.5	mg/kg	< 2	< 2
1.2.3-Trichlorobenzene	0.5	mg/kg	< 2	< 2
1.2.3.4-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2
1.2.3.5-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2
1.2.4-Trichlorobenzene	0.5	mg/kg	< 2	< 2
1.2.4.5-Tetrachlorobenzene	0.5	mg/kg	< 2	< 2
1.3-Dichlorobenzene	0.5	mg/kg	< 2	< 2
1.3.5-Trichlorobenzene	0.5	mg/kg	< 2	< 2
1.4-Dichlorobenzene	0.5	mg/kg	< 2	< 2
2-Chloronaphthalene	0.5	mg/kg	< 2	< 2
2-Chlorophenol	0.5	mg/kg	< 2	< 2
2-Methylnaphthalene	0.5	mg/kg	< 2	3.6
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 2	< 2
2-Naphthylamine	0.5	mg/kg	< 2	< 2
2-Nitroaniline	0.5	mg/kg	< 2	< 2
2-Nitrophenol	1.0	mg/kg	< 4	< 4
2-Picoline	0.5	mg/kg	< 2	< 2
2.3.4.6-Tetrachlorophenol	5	mg/kg	< 5	< 5
2.4-Dichlorophenol	0.5	mg/kg	< 2	< 2
2.4-Dimethylphenol	0.5	mg/kg	< 2	< 2

Client Sample ID			9	10
Sample Matrix			Soil	Soil
Eurofins Sample No.			S19-De07582	S19-De07583
Date Sampled			Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit		
Semivolatile Organics				
2.4-Dinitrophenol	5	mg/kg	< 25	< 25
2.4-Dinitrotoluene	0.5	mg/kg	< 2	< 2
2.4.5-Trichlorophenol	1	mg/kg	< 4	< 4
2.4.6-Trichlorophenol	1	mg/kg	< 4	< 4
2.6-Dichlorophenol	0.5	mg/kg	< 2	< 2
2.6-Dinitrotoluene	0.5	mg/kg	< 2	< 2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 4	< 4
3-Methylcholanthrene	0.5	mg/kg	< 2	< 2
3.3'-Dichlorobenzidine	0.5	mg/kg	< 2	< 2
4-Aminobiphenyl	0.5	mg/kg	< 2	< 2
4-Bromophenyl phenyl ether	0.5	mg/kg	< 2	< 2
4-Chloro-3-methylphenol	1	mg/kg	< 4	< 4
4-Chlorophenyl phenyl ether	0.5	mg/kg	< 2	< 2
4-Nitrophenol	5	mg/kg	< 25	< 25
4.4'-DDD	0.5	mg/kg	< 2	< 2
4.4'-DDE	0.5	mg/kg	< 2	< 2
4.4'-DDT	0.5	mg/kg	< 2	< 2
7.12-Dimethylbenz(a)anthracene	0.5	mg/kg	< 2	< 2
a-BHC	0.5	mg/kg	< 2	< 2
Acenaphthene	0.5	mg/kg	< 2	< 2
Acenaphthylene	0.5	mg/kg	< 2	< 2
Acetophenone	0.5	mg/kg	< 2	< 2
Aldrin	0.5	mg/kg	< 2	< 2
Aniline	0.5	mg/kg	< 2	< 2
Anthracene	0.5	mg/kg	2.7	3.2
b-BHC	0.5	mg/kg	< 2	< 2
Benz(a)anthracene	0.5	mg/kg	10	17
Benzo(a)pyrene	0.5	mg/kg	4.1	7.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 2	2.3
Benzo(g.h.i)perylene	0.5	mg/kg	2.3	3.5
Benzo(k)fluoranthene	0.5	mg/kg	< 2	2.2
Benzyl chloride	0.5	mg/kg	< 2	< 2
Bis(2-chloroethoxy)methane	0.5	mg/kg	< 2	< 2
Bis(2-chloroisopropyl)ether	0.5	mg/kg	< 2	< 2
Bis(2-ethylhexyl)phthalate	0.5	mg/kg	< 2	< 2
Butyl benzyl phthalate	0.5	mg/kg	< 2	< 2
Chrysene	0.5	mg/kg	12	16
d-BHC	0.5	mg/kg	< 2	< 2
Di-n-butyl phthalate	0.5	mg/kg	< 2	< 2
Di-n-octyl phthalate	0.5	mg/kg	< 2	< 2
Dibenz(a.h)anthracene	0.5	mg/kg	< 2	< 2
Dibenz(a.j)acridine	0.5	mg/kg	< 2	< 2
Dibenzofuran	0.5	mg/kg	< 2	< 2
Dieldrin	0.5	mg/kg	< 2	< 2
Diethyl phthalate	0.5	mg/kg	< 2	< 2
Dimethyl phthalate	0.5	mg/kg	< 2	< 2
Dimethylaminoazobenzene	0.5	mg/kg	< 2	< 2
Diphenylamine	0.5	mg/kg	< 2	< 2
Endosulfan I	0.5	mg/kg	< 2	< 2

Client Sample ID			9	10
Sample Matrix			Soil	Soil
Eurofins Sample No.			S19-De07582	S19-De07583
Date Sampled			Dec 04, 2019	Dec 04, 2019
Test/Reference	LOR	Unit		
Semivolatile Organics				
Endosulfan II	0.5	mg/kg	< 2	< 2
Endosulfan sulphate	0.5	mg/kg	< 2	< 2
Endrin	0.5	mg/kg	< 2	< 2
Endrin aldehyde	0.5	mg/kg	< 2	< 2
Endrin ketone	0.5	mg/kg	< 2	< 2
Fluoranthene	0.5	mg/kg	< 2	< 0.5
Fluorene	0.5	mg/kg	< 2	4.0
g-BHC (Lindane)	0.5	mg/kg	< 2	< 2
Heptachlor	0.5	mg/kg	< 2	< 2
Heptachlor epoxide	0.5	mg/kg	< 2	< 2
Hexachlorobenzene	0.5	mg/kg	< 2	< 2
Hexachlorobutadiene	0.5	mg/kg	< 2	< 2
Hexachlorocyclopentadiene	0.5	mg/kg	< 2	< 2
Hexachloroethane	0.5	mg/kg	< 2	< 2
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 2	< 2
Methoxychlor	0.5	mg/kg	< 2	< 2
N-Nitrosodibutylamine	0.5	mg/kg	< 2	< 2
N-Nitrosodipropylamine	0.5	mg/kg	< 2	< 2
N-Nitrosopiperidine	0.5	mg/kg	< 2	< 2
Naphthalene	0.5	mg/kg	< 2	1.5
Nitrobenzene	0.5	mg/kg	< 2	< 2
Pentachlorobenzene	0.5	mg/kg	< 2	< 2
Pentachloronitrobenzene	0.5	mg/kg	< 2	< 2
Pentachlorophenol	1	mg/kg	< 4	< 4
Phenanthrene	0.5	mg/kg	11	19
Phenol	0.5	mg/kg	< 2	< 2
Pronamide	0.5	mg/kg	< 2	< 2
Pyrene	0.5	mg/kg	9.1	14
Trifluralin	0.5	mg/kg	< 2	< 2
Phenol-d6 (surr.)	1	%	21	15
Nitrobenzene-d5 (surr.)	1	%	68	90
2-Fluorobiphenyl (surr.)	1	%	83	57
2.4.6-Tribromophenol (surr.)	1	%	int	int
Heavy Metals				
Lead	5	mg/kg	210	160
Mercury	0.1	mg/kg	0.5	0.8
Nickel	5	mg/kg	88	77
% Moisture	1	%	12	11

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite B4			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Dec 11, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Dec 11, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 11, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 11, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Melbourne	Dec 11, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Semivolatile Organics	Melbourne	Dec 11, 2019	14 Days
- Method: LTM-ORG-2190 SVOC in Water & Soil by GC-MS			
Heavy Metals	Melbourne	Dec 11, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Dec 05, 2019	14 Days
- Method: LTM-GEN-7080 Moisture			

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Site # 23736

Company Name: Enviropacific Services P/L (NSW)
Address: PO Box 295
Wickham
NSW 2293

Project Name: VIVA STABILISATION
Project ID: 101155

Order No.: 10101972
Report #: 692067
Phone: 02 4961 7100
Fax: 02 4961 7150

Received: Dec 5, 2019 6:07 PM
Due: Dec 13, 2019
Priority: 5 Day
Contact Name: Richard Carran

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Lead	Mercury	Nickel	USA Leaching Procedure	USA Leaching Procedure - ZHE	Moisture Set	Semivolatile Organics	Eurofins | mgt Suite B4
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X		X	X	X
Sydney Laboratory - NATA Site # 18217										X			X
Brisbane Laboratory - NATA Site # 20794													
Perth Laboratory - NATA Site # 23736													
External Laboratory													
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**								
1	1	Dec 04, 2019		Soil	S19-De07562	X	X	X			X	X	X
2	2	Dec 04, 2019		Soil	S19-De07563	X	X	X			X	X	X
3	3	Dec 04, 2019		Soil	S19-De07564	X	X	X			X	X	X
4	4	Dec 04, 2019		Soil	S19-De07565	X	X	X			X	X	X
5	5	Dec 04, 2019		Soil	S19-De07566	X	X	X			X	X	X
6	6	Dec 04, 2019		Soil	S19-De07567	X	X	X			X	X	X
7	7	Dec 04, 2019		Soil	S19-De07568	X	X	X			X	X	X
8	8	Dec 04, 2019		Soil	S19-De07569	X	X	X			X	X	X
9	9	Dec 04, 2019		Soil	S19-De07570	X	X	X			X	X	X

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Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X		X	X	X
Sydney Laboratory - NATA Site # 18217										X			X
Brisbane Laboratory - NATA Site # 20794													
Perth Laboratory - NATA Site # 23736													
10	10	Dec 04, 2019		Soil	S19-De07571	X	X	X			X	X	X
11	11	Dec 04, 2019		Soil	S19-De07572	X	X	X			X	X	X
12	12	Dec 04, 2019		Soil	S19-De07573	X	X	X			X	X	X
13	1	Dec 04, 2019		Soil	S19-De07574	X	X	X			X	X	X
14	2	Dec 04, 2019		Soil	S19-De07575	X	X	X			X	X	X
15	3	Dec 04, 2019		Soil	S19-De07576	X	X	X			X	X	X
16	4	Dec 04, 2019		Soil	S19-De07577	X	X	X			X	X	X
17	5	Dec 04, 2019		Soil	S19-De07578	X	X	X			X	X	X
18	6	Dec 04, 2019		Soil	S19-De07579	X	X	X			X	X	X
19	7	Dec 04, 2019		Soil	S19-De07580	X	X	X			X	X	X
20	8	Dec 04, 2019		Soil	S19-De07581	X	X	X			X	X	X
21	9	Dec 04, 2019		Soil	S19-De07582	X	X	X			X	X	X

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Sample Detail						Lead	Mercury	Nickel	USA Leaching Procedure	USA Leaching Procedure - ZHE	Moisture Set	Semivolatile Organics	Eurofins | mgt Suite B4
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X		X	X	X
Sydney Laboratory - NATA Site # 18217										X			X
Brisbane Laboratory - NATA Site # 20794													
Perth Laboratory - NATA Site # 23736													
22	10	Dec 04, 2019		Soil	S19-De07583	X	X	X			X	X	X
23	11	Dec 04, 2019		Soil	S19-De07584	X	X	X			X	X	X
24	12	Dec 04, 2019		Soil	S19-De07585	X	X	X			X	X	X
25	1	Dec 04, 2019		US Leachate	S19-De07586	X	X	X	X	X		X	X
26	2	Dec 04, 2019		US Leachate	S19-De07587	X	X	X	X	X		X	X
27	3	Dec 04, 2019		US Leachate	S19-De07588	X	X	X	X	X		X	X
28	4	Dec 04, 2019		US Leachate	S19-De07589	X	X	X	X	X		X	X
29	5	Dec 04, 2019		US Leachate	S19-De07590	X	X	X	X	X		X	X
30	6	Dec 04, 2019		US Leachate	S19-De07591	X	X	X	X	X		X	X
31	7	Dec 04, 2019		US Leachate	S19-De07592	X	X	X	X	X		X	X
32	8	Dec 04, 2019		US Leachate	S19-De07593	X	X	X	X	X		X	X
33	9	Dec 04, 2019		US Leachate	S19-De07594	X	X	X	X	X		X	X

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Received: Dec 5, 2019 6:07 PM
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Contact Name: Richard Carran

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Lead	Mercury	Nickel	USA Leaching Procedure	USA Leaching Procedure - ZHE	Moisture Set	Semivolatile Organics	Eurofins | mgt Suite B4
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X		X	X	X
Sydney Laboratory - NATA Site # 18217										X			X
Brisbane Laboratory - NATA Site # 20794													
Perth Laboratory - NATA Site # 23736													
34	10	Dec 04, 2019		US Leachate	S19-De07595	X	X	X	X	X		X	X
35	11	Dec 04, 2019		US Leachate	S19-De07596	X	X	X	X	X		X	X
36	12	Dec 04, 2019		US Leachate	S19-De07597	X	X	X	X	X		X	X
37	1	Dec 04, 2019		US Leachate	S19-De07598	X	X	X	X	X		X	X
38	2	Dec 04, 2019		US Leachate	S19-De07599	X	X	X	X	X		X	X
39	3	Dec 04, 2019		US Leachate	S19-De07600	X	X	X	X	X		X	X
40	4	Dec 04, 2019		US Leachate	S19-De07601	X	X	X	X	X		X	X
41	5	Dec 04, 2019		US Leachate	S19-De07602	X	X	X	X	X		X	X
42	6	Dec 04, 2019		US Leachate	S19-De07603	X	X	X	X	X		X	X
43	7	Dec 04, 2019		US Leachate	S19-De07604	X	X	X	X	X		X	X
44	8	Dec 04, 2019		US Leachate	S19-De07605	X	X	X	X	X		X	X
45	9	Dec 04, 2019		US Leachate	S19-De07606	X	X	X	X	X		X	X

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Company Name:	Enviropacific Services P/L (NSW)	**Order No.:**	10101972	**Received:**	Dec 5, 2019 6:07 PM
Address:	PO Box 295 Wickham NSW 2293	**Report #:**	692067	**Due:**	Dec 13, 2019
		Phone:	02 4961 7100	**Priority:**	5 Day
		Fax:	02 4961 7150	**Contact Name:**	Richard Carran
Project Name:	VIVA STABILISATION				
Project ID:	101155				

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Lead	Mercury	Nickel	USA Leaching Procedure	USA Leaching Procedure - ZHE	Moisture Set	Semivolatile Organics	Eurofins | mgt Suite B4
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X		X	X	X
Sydney Laboratory - NATA Site # 18217										X			X
Brisbane Laboratory - NATA Site # 20794													
Perth Laboratory - NATA Site # 23736													
46	10	Dec 04, 2019		US Leachate	S19-De07607	X	X	X	X	X		X	X
47	11	Dec 04, 2019		US Leachate	S19-De07608	X	X	X	X	X		X	X
48	12	Dec 04, 2019		US Leachate	S19-De07609	X	X	X	X	X		X	X
Test Counts						48	48	48	24	24	24	48	48

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

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

Units

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

Terms

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

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

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

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

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Semivolatile Organics							
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
1-Chloronaphthalene	mg/kg	< 0.5			0.5	Pass	
1-Naphthylamine	mg/kg	< 0.5			0.5	Pass	
1.2-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2.3-Trichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2.3.4-Tetrachlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2.3.5-Tetrachlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2.4.5-Tetrachlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3.5-Trichlorobenzene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
1.4-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
2-Chloronaphthalene	mg/kg	< 0.5			0.5	Pass	
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2-Methylnaphthalene	mg/kg	< 0.5			0.5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
2-Naphthylamine	mg/kg	< 0.5			0.5	Pass	
2-Nitroaniline	mg/kg	< 0.5			0.5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2-Picoline	mg/kg	< 0.5			0.5	Pass	
2.3.4.6-Tetrachlorophenol	mg/kg	< 5			5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2.4-Dinitrotoluene	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.6-Dinitrotoluene	mg/kg	< 0.5			0.5	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
3-Methylcholanthrene	mg/kg	< 0.5			0.5	Pass	
3.3'-Dichlorobenzidine	mg/kg	< 0.5			0.5	Pass	
4-Aminobiphenyl	mg/kg	< 0.5			0.5	Pass	
4-Bromophenyl phenyl ether	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
4-Chlorophenyl phenyl ether	mg/kg	< 0.5			0.5	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
4.4'-DDD	mg/kg	< 0.5			0.5	Pass	
4.4'-DDE	mg/kg	< 0.5			0.5	Pass	
4.4'-DDT	mg/kg	< 0.5			0.5	Pass	
7.12-Dimethylbenz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
a-BHC	mg/kg	< 0.5			0.5	Pass	
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Acetophenone	mg/kg	< 0.5			0.5	Pass	
Aldrin	mg/kg	< 0.5			0.5	Pass	
Aniline	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
b-BHC	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzyl chloride	mg/kg	< 0.5			0.5	Pass	
Bis(2-chloroethoxy)methane	mg/kg	< 0.5			0.5	Pass	
Bis(2-chloroisopropyl)ether	mg/kg	< 0.5			0.5	Pass	
Bis(2-ethylhexyl)phthalate	mg/kg	< 0.5			0.5	Pass	
Butyl benzyl phthalate	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
d-BHC	mg/kg	< 0.5			0.5	Pass	
Di-n-butyl phthalate	mg/kg	< 0.5			0.5	Pass	
Di-n-octyl phthalate	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.j)acridine	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dibenzofuran	mg/kg	< 0.5			0.5	Pass	
Dieldrin	mg/kg	< 0.5			0.5	Pass	
Diethyl phthalate	mg/kg	< 0.5			0.5	Pass	
Dimethyl phthalate	mg/kg	< 0.5			0.5	Pass	
Dimethylaminoazobenzene	mg/kg	< 0.5			0.5	Pass	
Diphenylamine	mg/kg	< 0.5			0.5	Pass	
Endosulfan I	mg/kg	< 0.5			0.5	Pass	
Endosulfan II	mg/kg	< 0.5			0.5	Pass	
Endosulfan sulphate	mg/kg	< 0.5			0.5	Pass	
Endrin	mg/kg	< 0.5			0.5	Pass	
Endrin aldehyde	mg/kg	< 0.5			0.5	Pass	
Endrin ketone	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
g-BHC (Lindane)	mg/kg	< 0.5			0.5	Pass	
Heptachlor	mg/kg	< 0.5			0.5	Pass	
Heptachlor epoxide	mg/kg	< 0.5			0.5	Pass	
Hexachlorobenzene	mg/kg	< 0.5			0.5	Pass	
Hexachlorobutadiene	mg/kg	< 0.5			0.5	Pass	
Hexachlorocyclopentadiene	mg/kg	< 0.5			0.5	Pass	
Hexachloroethane	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Methoxychlor	mg/kg	< 0.5			0.5	Pass	
N-Nitrosodibutylamine	mg/kg	< 0.5			0.5	Pass	
N-Nitrosodipropylamine	mg/kg	< 0.5			0.5	Pass	
N-Nitrosopiperidine	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Nitrobenzene	mg/kg	< 0.5			0.5	Pass	
Pentachlorobenzene	mg/kg	< 0.5			0.5	Pass	
Pentachloronitrobenzene	mg/kg	< 0.5			0.5	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Pronamide	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Trifluralin	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	118			70-130	Pass	
TRH C10-C14	%	82			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	113			70-130	Pass	
Toluene	%	114			70-130	Pass	
Ethylbenzene	%	113			70-130	Pass	
m&p-Xylenes	%	110			70-130	Pass	
Xylenes - Total	%	112			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	%	126			70-130	Pass	
TRH C6-C10	%	117			70-130	Pass	
TRH >C10-C16	%	84			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	95			70-130	Pass	
Pyrene	%	110			70-130	Pass	
LCS - % Recovery							
Semivolatile Organics							
1.2-Dichlorobenzene	%	104			75-125	Pass	
1.2.3-Trichlorobenzene	%	110			75-125	Pass	
1.2.4-Trichlorobenzene	%	84			70-130	Pass	
1.4-Dichlorobenzene	%	77			70-130	Pass	
2-Chlorophenol	%	83			30-130	Pass	
2.4-Dinitrophenol	%	51			30-130	Pass	
2.4-Dinitrotoluene	%	127			70-130	Pass	
4-Chloro-3-methylphenol	%	107			30-130	Pass	
Acenaphthene	%	114			70-130	Pass	
N-Nitrosodipropylamine	%	75			70-130	Pass	
Pentachlorophenol	%	101			30-130	Pass	
Phenol	%	51			30-130	Pass	
Pyrene	%	121			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	112			80-120	Pass	
Mercury	%	101			75-125	Pass	
Nickel	%	112			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	M19-De08360	NCP	%	83			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M19-De08360	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	S19-De07563	CP	%	127			75-125	Fail	Q08
Mercury	S19-De07563	CP	%	96			70-130	Pass	
Nickel	S19-De07563	CP	%	167			75-125	Fail	Q08
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S19-De08909	NCP	%	108			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S19-De08909	NCP	%	122			70-130	Pass	
Toluene	S19-De08909	NCP	%	108			70-130	Pass	
Ethylbenzene	S19-De08909	NCP	%	119			70-130	Pass	
m&p-Xylenes	S19-De08909	NCP	%	120			70-130	Pass	
o-Xylene	S19-De08909	NCP	%	124			70-130	Pass	
Xylenes - Total	S19-De08909	NCP	%	121			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S19-De08909	NCP	%	116			70-130	Pass	
TRH C6-C10	S19-De08909	NCP	%	108			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	S19-De07562	CP	mg/kg	260	230	11	30%	Pass	
Mercury	S19-De07562	CP	mg/kg	0.6	0.6	6.0	30%	Pass	
Nickel	S19-De07562	CP	mg/kg	110	100	11	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-De07562	CP	%	16	16	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	S19-De07563	CP	mg/kg	270	230	14	30%	Pass	
Mercury	S19-De07563	CP	mg/kg	0.9	0.8	15	30%	Pass	
Nickel	S19-De07563	CP	mg/kg	120	110	15	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-De08911	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-De08911	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S19-De08911	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S19-De08911	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S19-De08911	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S19-De08911	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S19-De08911	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-De08911	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S19-De08911	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-De07572	CP	%	13	13	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S19-De07582	CP	mg/kg	610	610	<1	30%	Pass	
TRH C15-C28	S19-De07582	CP	mg/kg	5700	5500	3.0	30%	Pass	
TRH C29-C36	S19-De07582	CP	mg/kg	2000	2000	1.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S19-De07582	CP	mg/kg	1400	1400	1.0	30%	Pass	
TRH >C16-C34	S19-De07582	CP	mg/kg	6500	6300	3.0	30%	Pass	
TRH >C34-C40	S19-De07582	CP	mg/kg	920	920	1.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Acenaphthylene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Anthracene	S19-De07582	CP	mg/kg	2.7	2.4	10	30%	Pass	
Benz(a)anthracene	S19-De07582	CP	mg/kg	10	12	21	30%	Pass	
Benzo(a)pyrene	S19-De07582	CP	mg/kg	4.1	4.7	14	30%	Pass	
Benzo(b&j)fluoranthene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Benzo(g.h.i)perylene	S19-De07582	CP	mg/kg	2.3	2.5	12	30%	Pass	
Benzo(k)fluoranthene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Chrysene	S19-De07582	CP	mg/kg	12	12	6.0	30%	Pass	
Dibenz(a.h)anthracene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Fluoranthene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Fluorene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naphthalene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phenanthrene	S19-De07582	CP	mg/kg	11	13	12	30%	Pass	
Pyrene	S19-De07582	CP	mg/kg	9.1	10	12	30%	Pass	
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
2-Methyl-4.6-dinitrophenol	S19-De07582	CP	mg/kg	< 5	< 5	<1	30%	Pass	
1-Chloronaphthalene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
1-Naphthylamine	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
1.2-Dichlorobenzene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
1.2.3-Trichlorobenzene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
1.2.3.4-Tetrachlorobenzene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
1.2.3.5-Tetrachlorobenzene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
1.2.4-Trichlorobenzene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
1.2.4.5-Tetrachlorobenzene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
1.3-Dichlorobenzene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
1.3.5-Trichlorobenzene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
1.4-Dichlorobenzene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
2-Chloronaphthalene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
2-Chlorophenol	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
2-Methylnaphthalene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
2-Methylphenol (o-Cresol)	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
2-Naphthylamine	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
2-Nitroaniline	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
2-Nitrophenol	S19-De07582	CP	mg/kg	< 4	< 4	<1	30%	Pass	
2-Picoline	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
2.3.4.6-Tetrachlorophenol	S19-De07582	CP	mg/kg	< 5	< 5	<1	30%	Pass	
2.4-Dichlorophenol	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
2.4-Dimethylphenol	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
2.4-Dinitrophenol	S19-De07582	CP	mg/kg	< 25	< 25	<1	30%	Pass	
2.4-Dinitrotoluene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
2.4.5-Trichlorophenol	S19-De07582	CP	mg/kg	< 4	< 4	<1	30%	Pass	
2.4.6-Trichlorophenol	S19-De07582	CP	mg/kg	< 4	< 4	<1	30%	Pass	
2.6-Dichlorophenol	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
2.6-Dinitrotoluene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	S19-De07582	CP	mg/kg	< 4	< 4	<1	30%	Pass	
3-Methylcholanthrene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
3.3'-Dichlorobenzidine	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
4-Aminobiphenyl	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
4-Bromophenyl phenyl ether	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
4-Chloro-3-methylphenol	S19-De07582	CP	mg/kg	< 4	< 4	<1	30%	Pass	
4-Chlorophenyl phenyl ether	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
4-Nitrophenol	S19-De07582	CP	mg/kg	< 25	< 25	<1	30%	Pass	
4.4'-DDD	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
4.4'-DDE	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
4.4'-DDT	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
7.12-Dimethylbenz(a)anthracene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
a-BHC	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Acetophenone	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Aldrin	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Aniline	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
b-BHC	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Benzyl chloride	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	

Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
Bis(2-chloroethoxy)methane	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Bis(2-chloroisopropyl)ether	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Bis(2-ethylhexyl)phthalate	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Butyl benzyl phthalate	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
d-BHC	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Di-n-butyl phthalate	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Di-n-octyl phthalate	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Dibenz(a.j)acridine	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Dibenzofuran	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Dieldrin	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Diethyl phthalate	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Dimethyl phthalate	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Dimethylaminoazobenzene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Diphenylamine	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Endosulfan I	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Endosulfan II	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Endosulfan sulphate	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Endrin	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Endrin aldehyde	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Endrin ketone	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
g-BHC (Lindane)	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Heptachlor	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Heptachlor epoxide	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Hexachlorobenzene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Hexachlorobutadiene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Hexachlorocyclopentadiene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Hexachloroethane	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Methoxychlor	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
N-Nitrosodibutylamine	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
N-Nitrosodipropylamine	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
N-Nitrosopiperidine	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Nitrobenzene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Pentachlorobenzene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Pentachloronitrobenzene	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Pentachlorophenol	S19-De07582	CP	mg/kg	< 4	< 4	<1	30%	Pass	
Phenol	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Pronamide	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Trifluralin	S19-De07582	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-De07582	CP	%	12	11	1.0	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised By

Andrew Black	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)



Glenn Jackson

General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

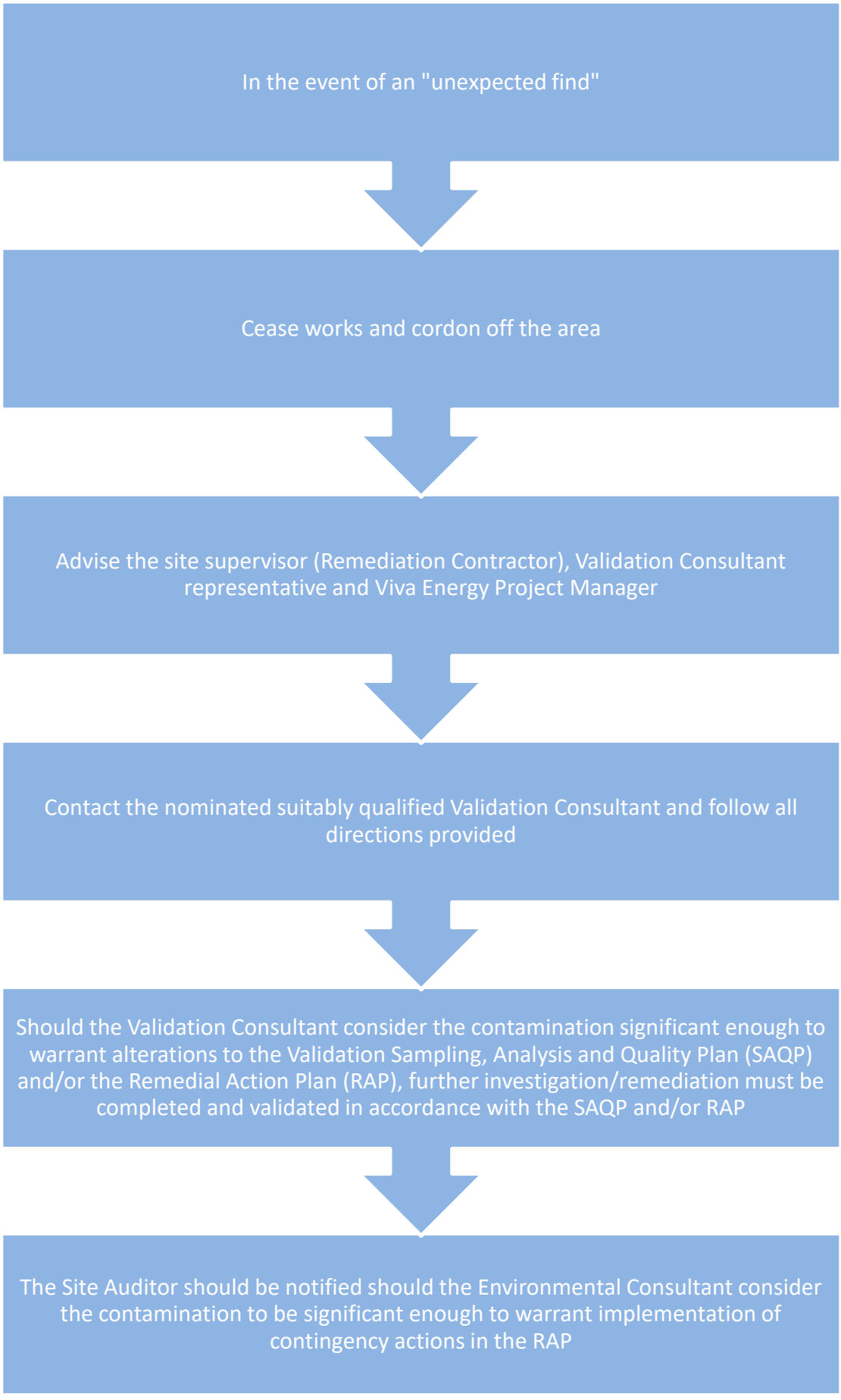
Measurement uncertainty of test data is available on request or please click here.

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APPENDIX C UNEXPECTED FINDS PROCEDURE

Unexpected Finds Protocol

Clyde Western Area Remediation Project



APPENDIX D REMEDIATION SITE SPECIFIC TARGET LEVELS (SSTLS)

COPC	Soil										Groundwater			Soil Vapour
	Direct Contact (mg/kg)			VI (mg/kg)						Management Limits (mg/kg)	VI (mg/L)			VI (mg/m3)
	Commercial	IMW	Construction	Commercial (0.15mbgl)	Commercial (1 mbgl)	Commercial (>2-4mbgl)	Commercial (>4mbgl)	IMW	Construction		Commercial (1.8mbgl)	IMW	Construction	Commercial (0.15mbgl)
Benzene	400	15000	1200	3.2	3.2	3.2	3.2	NL	NL	-	5.0	NL	NL	18
Naphthalene	9800	810000	67000	NL	NL	NL	NL	NL	NL	-	13	NL	NL	14
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	-	6.2	NL	NL	3200
TRH C6-C10	-	-	-	-	-	-	-	-	-	700	-	-	-	-
TRH C10-C16 (less N)	17000	540000	45000	NL	NL	NL	NL	NL	NL	-	NL	NL	NL	2400
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	-	NL	NL	NL	76000
TPH (>EC8-10) aliphatic	24000	740000	62000	760	980	1400	2200	NL	NL	-	4	NL	NL	4200
TPH (>EC10-12) aliphatic	24000	740000	62000	430	600	980	1800	NL	NL	-	NL	NL	NL	4200
TPH (>EC12-16) aliphatic	24000	740000	62000	4300	8300	17000	33000	NL	NL	-	NL	NL	NL	830
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	-	NL	NL	NL	4200
TPH (>EC10-12) aromatic	9500	300000	25000	280	430	750	1400	NL	NL	-	NL	NL	NL	830
TPH (>EC12-16) aromatic	9500	300000	25000	430	2800	5100	9800	NL	NL	-	NL	NL	NL	830
TPH (>EC16-21) aromatic	7100	220000	18000	-	-	-	-	-	-	-	-	-	-	-
TPH (>EC21-34) aromatic	7100	220000	18000	-	-	-	-	-	-	-	-	-	-	-
TPH (>34) aromatic	7100	220000	18000	-	-	-	-	-	-	-	-	-	-	-
Trimethylbenzene, 1,2,4-														250
Trimethylbenzene, 1,3,5-														250
Cyclohexane														25000
Heptane, N-														1700
Hexane, N-														2900
Isooctane														77000
Propene														12000

a - Assumes Total chromium is 17% Hexavalent chromium

APPENDIX E STAGE 2 - SITE SURVEY

M.G.A

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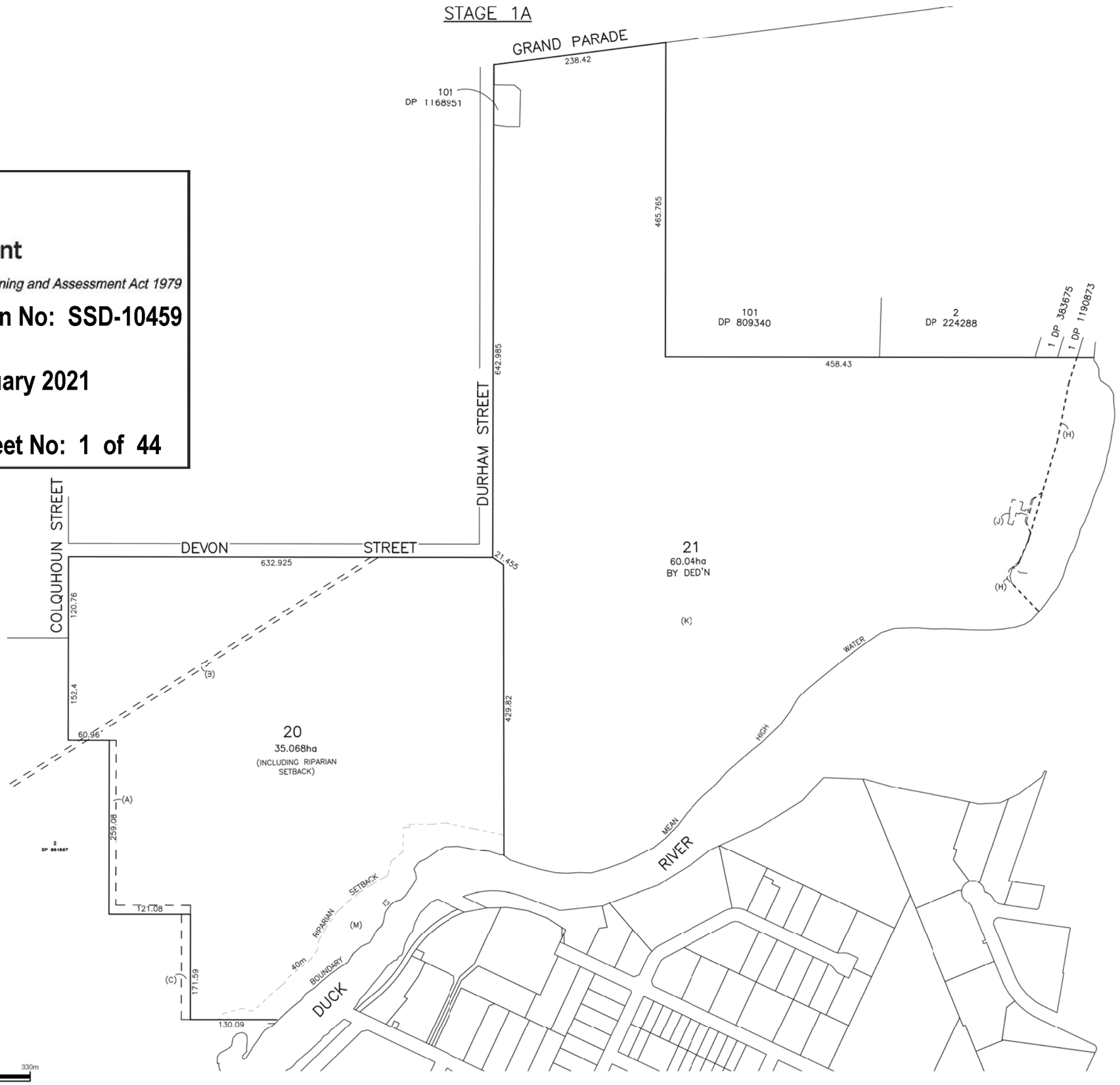
Approved Application No: SSD-10459

Granted on: 31 January 2021

Signed: JF Sheet No: 1 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 421785)
(B) EASEMENT 6.095 WIDE (B309159) – SYDNEY WATER PIPELINE
(C) EASEMENT TO DRAIN WATER 13.4 WIDE (AC424784)
(H) PIPELINE EASEMENT (V540637 & V540638)
(J) PIPELINE EASEMENT (V22813)
(K) PIPELINE EASEMENT WHOLE OF LOT (R297864)
(M) EASEMENT FOR PEDESTRIAN ACCESS 40 WIDE & VARIABLE WIDTH



30 0 60 150 330m

SCALE 1:3000

CLIENT

VE PROPERTY PTY LTD

PROJECT

PLAN OF PROPOSED SUBDIVISION OF LOT 100 IN DP 1168951 STAGE 1A

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.

5	GKO	11/11/2020	AMEND RIPARIAN SETBACK
4A	GKO	13/10/2020	SY074707.000.11.4 VER A
4	GKO	06/08/2020	APPROX AUSGRID LINE ADDED
3	GKO	23/07/2020	EASEMENTS ADDED
2	GKO	16/07/2020	LOT 6 DIMENSION AND AREA 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
	WTP	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

LANDPARTNERS built environment consultants

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PO Box 1144
Dundas NSW 2117

t (02) 9683 2000
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w www.landpartners.com.au

ISO 9001:2008 QEC 10000

HEIGHT DATUM: AHD	LOCAL AUTHORITY: CITY OF PARRAMATTA
HEIGHT ORIGIN: N/A	SCALE: 1:3000(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: 11/11/2020
AUTOCAD FILE: SY074707.000.11A.5	CHECKED: GKO — DATE: 11/11/2020
ARCHIVE FILE: SY074707.000.11.4_A	APPROVED: GKO — DATE: 11/11/2020

PLAN NUMBER: SY074707.000.11A.5 SHEET 1 OF 1

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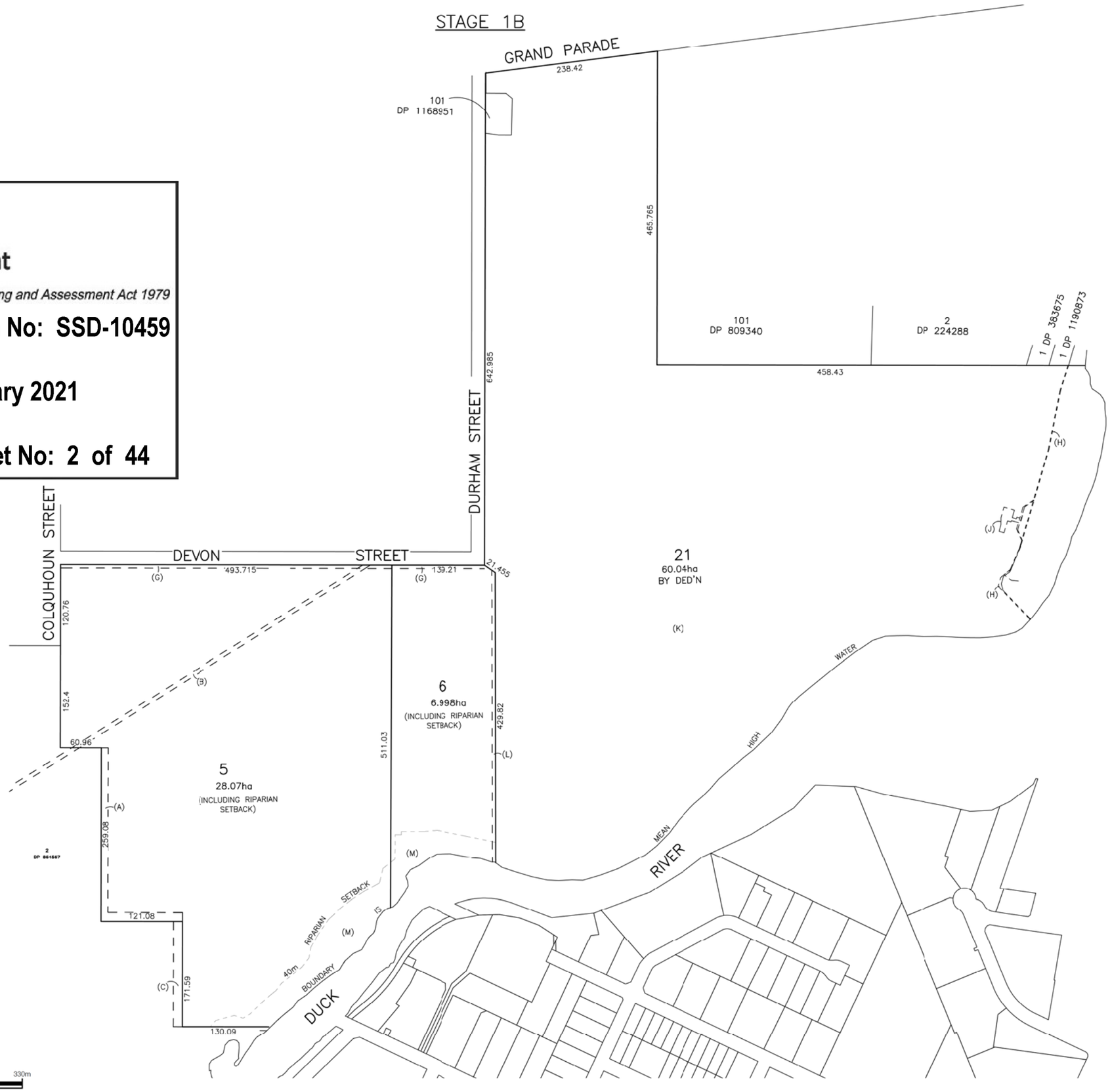
Approved Application No: SSD-10459

Granted on: 31 January 2021

Signed: JF Sheet No: 2 of 44

NOTES:
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(K) PIPELINE EASEMENT WHOLE OF LOT (R297864)
(L) EASEMENT FOR OVERLAND FLOW 5 WIDE
(M) EASEMENT FOR PEDESTRIAN ACCESS 40 WIDE & VARIABLE WIDTH



30 0 60 150 330m

SCALE 1:3000

CLIENT

VE PROPERTY PTY LTD

PROJECT

PLAN OF PROPOSED SUBDIVISION OF LOT 100 IN DP 1168951 STAGE 1B

NOTES

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6	GKO	11/11/2020	AMEND RIPARIAN SETBACK
5B	GKO	02/11/2020	LANDSCAPE SETBACK REMOVED
4B	GKO	13/10/2020	SY074707.11.4 VER B
4	GKO	06/08/2020	APPROX AUSGRID LINE ADDED
3	GKO	23/07/2020	EASEMENTS ADDED
2	GKO	16/07/2020	LOT 6 DIMENSION AND AREA AMENDED
1	GKO	22/06/2020	INITIAL ISSUE

SYM	CODE	DESCRIPTION
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	GMR	GAS METER
	GAS	GAS VALVE
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SYM	CODE	DESCRIPTION
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	OFP	OPTICAL FIBRE PIT
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	BUS	BUS STOP SIGN
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	SJX	TRAFFIC JUNCTION BOX
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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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w www.landpartners.com.au

ISO 9001:2008 QEC 10000

HEIGHT DATUM: AHD	LOCAL AUTHORITY: CITY OF PARRAMATTA
HEIGHT ORIGIN: N/A	SCALE: 1:3000(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: 11/11/2020
AUTOCAD FILE: SY074707.000.11B.6	CHECKED: GKO — DATE: 11/11/2020
ARCHIVE FILE: SY074707.000.11.5B	APPROVED: GKO — DATE: 11/11/2020
PLAN NUMBER: SY074707.000.11B.6	SHEET 1 OF 1

M.G.A

STAGE 2

DEVON STREET

COLQUHOUN STREET

UNWIN STREET

51 8060m²

52 8060m²

54 1.067ha

55 1.067ha

56 2.133ha

53 2.755ha

6 STAGE 1 SUBDIVISION

21

RESIDUE LOT 57 19.44ha

RIVER

DUCK

CARNARVAN STREET

WATER

HIGH

MEAN

RIPARIAN

SETBACK

40m

BOUNDARY

IS

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Issued under the Environmental Planning and Assessment Act 1979

Approved Application No: SSD-10459

Granted on: 31 January 2021

Signed: JF Sheet No: 3 of 44

2 DP 864567

NOTES.
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(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
(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 5 OF STAGE 1 OF SUBDIVISON OF LOT 100 IN DP1168951 STAGE 2

NOTES
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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.

7	GKO	11/11/2020	AMEND RIPARIAN SETBACK
6	GKO	02/11/2020	LANDSCAPE SETBACK REMOVED
5	GKO	19/10/2020	LOT BOUNDARIES AMENDED
4	GKO	19/08/2020	SMALL LOT 3 REMOVED
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

LANDPARTNERS built environment consultants

Sydney Office
Level 2, 39-41 South Street
Rydalmere NSW 2116
PO Box 1144
Dundas NSW 2117

t (02) 9683 2000
e info@landpartners.com.au
w www.landpartners.com.au

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: 2/11/2020
AUTOCAD FILE: SY074707.000.12.7	CHECKED: GKO — DATE: 2/11/2020
ARCHIVE FILE: SY074707.000.12.6	APPROVED: GKO — DATE: 2/11/2020
PLAN NUMBER: SY074707.000.12.7	SHEET 1 OF 1

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
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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
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	BUS	BUS STOP SIGN
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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

PROPOSED CENTRAL SYDNEY INDUSTRIAL ESTATE INCORPORATING NEW DOWNER SUSTAINABLE ROAD RESOURCE CENTRE.

9 DEVON STREET, CLYDE NSW 2142

PART LOT 100 DP1168951

CIVIL PACKAGE - SSD 10459

DRAWING LIST:

DRAWING NO.	DRAWING TITLE
C013919.01-DA10	DRAWING LIST & GENERAL NOTES
C013919.01-DA15	SERVICES ARRANGEMENT PLAN
C013919.01-DA21	EROSION AND SEDIMENT CONTROL PLAN- PHASE 1
C013919.01-DA22	EROSION AND SEDIMENT CONTROL PLAN- PHASE 2
C013919.01-DA23	EROSION AND SEDIMENT CONTROL PLAN- FINAL STAGE
C013919.01-DA25	EROSION AND SEDIMENT CONTROL DETAILS
C013919.01-DA31	BULK EARTHWORKS PLAN - PHASE 1
C013919.00-DA32	BULK EARTHWORKS PLAN - PHASE 2
C013919.00-DA35	BULK EARTHWORKS SECTIONS
C013919.00-DA41	STORMWATER DRAINAGE PLAN - PHASE 1
C013919.00-DA42	STORMWATER DRAINAGE PLAN - PHASE 2
C013919.00-DA45	STORMWATER DRAINAGE DETAILS - SHEET 1
C013919.00-DA46	STORMWATER DRAINAGE DETAILS - SHEET 2
C013919.00-DA51	FINISHED LEVELS PLAN - PHASE 1
C013919.00-DA60	PROPOSED PUBLIC ACCESS ROAD & TYPICAL SECTION



LOCALITY PLAN
NOT TO SCALE

ELECTRONIC INFORMATION NOTES:

1. THE ISSUED DRAWINGS IN HARD COPY OR PDF FORMAT TAKE PRECEDENCE OVER ANY ELECTRONICALLY ISSUED INFORMATION, LAYOUTS OR DESIGN MODELS.
2. THE CONTRACTOR'S DIRECT AMENDMENT OR MANIPULATION OF THE DATA OR INFORMATION THAT MIGHT BE CONTAINED WITHIN AN ENGINEER-SUPPLIED DIGITAL TERRAIN MODEL AND ITS SUBSEQUENT USE TO UNDERTAKE THE WORKS WILL BE SOLELY AT THE DISCRETION OF AND THE RISK OF THE CONTRACTOR.
3. THE CONTRACTOR IS REQUIRED TO HIGHLIGHT ANY DISCREPANCIES BETWEEN THE DIGITAL TERRAIN MODEL AND INFORMATION PROVIDED IN THE CONTRACT AND/OR DRAWINGS AND IS REQUIRED TO SEEK CLARIFICATION FROM THE SUPERINTENDENT.
4. THE ENGINEER WILL NOT BE LIABLE OR RESPONSIBLE FOR THE POSSIBLE ON-GOING NEED TO UPDATE THE DIGITAL TERRAIN MODEL, SHOULD THERE BE ANY AMENDMENTS OR CHANGES TO THE DRAWINGS OR CONTRACT INITIATED BY THE CONTRACTOR.

GENERAL NOTES:

G1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

G2 ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.

G3 ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE. ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. ENGINEER'S DRAWINGS ISSUED IN ANY ELECTRONIC FORMAT MUST NOT BE USED FOR DIMENSIONAL SETOUT. REFER TO THE ARCHITECT'S DRAWINGS FOR ALL DIMENSIONAL SETOUT INFORMATION.

G4 DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.

G5 UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.

G6 ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH ACCEPTABLE SAFETY STANDARDS & APPROPRIATE SAFETY SIGNS SHALL BE INSTALLED AT ALL TIMES DURING THE PROGRESS OF THE JOB.

G7 ALL SERVICES ARE BASED ON 'DIAL BEFORE YOU DIG' INFORMATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL SERVICES ARE IDENTIFIED PRIOR TO THE COMMENCEMENT OF ANY WORKS.

SITE PREPARATION NOTES:

1. ALL EARTHWORKS SHALL BE COMPLETED GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED BY THE GEOTECHNICAL REPORT.
2. EXISTING LEVELS ARE BASED ON INFORMATION PROVIDED BY LANDPARTNERS TITLED AS0205 Clyde_BE_200620 TIN DATED 08/07/20.
3. STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND DISPOSE OF FROM SITE OR STORE AS DIRECTED.
4. COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF +0mm/-10mm THROUGH BUILDING PADS/PAVEMENTS AND +0mm/-20mm ELSEWHERE.
5. PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO FACILITATE FILL PLACEMENT AND COMPACTION.
6. AREAS TO RECEIVE FILL (THAT ARE NOT ON BENCHED BATTERS) AND AREAS IN CUT SHALL BE PROOF ROLLED TO IDENTIFY ANY SOFT HEAVING MATERIAL. SOFT MATERIAL SHALL BE BOXED OUT AND REMOVED PRIOR TO FILL PLACEMENT. PROOF ROLLING TO BE INSPECTED BY A GEOTECHNICAL ENGINEER OR THE EARTHWORKS DESIGNER.
7. SITE WON FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
8. IMPORTED FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
9. ALL ENGINEERED FILL PARTICLES SHALL BE ABLE TO BE INCORPORATED WITHIN A SINGLE LAYER. FURTHER, LESS THAN 30% OF PARTICLES SHALL BE RETAINED ON THE 37.5 MM SIEVE. ENGINEERED FILL SHALL BE ABLE TO BE TESTED IN ACCORDANCE WITH THE STANDARD COMPACTION METHOD (AS1289.5.4.1) OR HILF TEST METHOD (AS1289.5.7.1). THESE METHODS REQUIRE LESS THAN 20% RETAINED ON THE 37.5 MM SIEVE, WHERE BETWEEN 20% AND 30% OF PARTICLES ARE RETAINED ON THE 37.5 MM SIEVE THE ABOVE TEST METHODS SHALL STILL BE ADOPTED AND TEST REPORTS ANNOTATED APPROPRIATELY. THESE REQUIREMENTS SHOULD BE MET BY THE MATERIAL AFTER PLACEMENT AND COMPACTION
10. ALL THE EARTHWORKS UNDERTAKEN AND THE SUBGRADE CONDITION IN THE CUT AREAS (IN THE STATED PERIOD) ARE DOCUMENTED IN THE REPORTS AND HAVE BEEN UNDERTAKEN IN ACCORDANCE WITH THE SPECIFICATION.
11. PRIOR TO ANY EARTHWORKS, EROSION CONTROL AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE COMPLETED.
12. EXISTING ROCK, IF ANY, SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING.
13. MATCH EXISTING LEVELS AT BATTER INTERFACE.
14. CONTRACTOR TO MATCH EXISTING LEVELS AT THE INTERFACE OF EARTHWORKS AND EXISTING SURFACE AT BATTER LOCATIONS OR WHERE NO RETAINING WALLS ARE PRESENT. ANY DISCREPANCY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS.
15. DURING EARTHWORKS THE CONTRACTOR IS TO ENSURE ALL AREAS ARE FREE DRAINING & WILL NOT RETAIN WATER DURING RAINFALL. PROVIDE TEMPORARY MEASURES AS REQUIRED TO ENSURE FREE FLOWING RUNOFF THROUGH MANAGED DRAINAGE PATHS, DIVERSION DRAINS OR OTHER SUITABLE DISPOSAL METHOD AS AGREED DURING THE WORKS. REFER ANY CONCERNS TO THE ENGINEER. REFER TO EROSION AND SEDIMENT CONTROL DRAWINGS AND NOTES.

STORMWATER DRAINAGE NOTES:

1. ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3:2003 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE.
2. THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 20 YEAR ARI STORM EVENT AND THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR ARI STORM EVENT.
3. ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS C013730.00-C51 TO C53.
4. PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
5. EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
6. ALL STORMWATER PIPES Ø375 OR GREATER SHALL BE CLASS 2 (WITH HS2 SUPPORT) REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
7. ALL PIPES UP TO AND INCLUDING Ø300 TO BE uPVC GRADE SN8 UNO.
8. PIPE CLASS NOMINATED ARE FOR IN-SERVICE LOADING CONDITIONS ONLY. CONTRACTOR IS TO MAKE ANY NECESSARY ADJUSTMENTS REQUIRED FOR CONSTRUCTION CONDITIONS.
9. ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTERED IN WALL AND BASE. LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE F'c 25 MPA. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
10. IN ADDITION TO ITEM 6 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
11. PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER SUITABLE TAMPING DETAILS.
12. CONCRETE PIPES UNDER, OR WITHIN THE ZONE OF INFLUENCE OF PAVED AREAS SHALL BE LAID USING HS2 TYPE SUPPORT, AS A MINIMUM, IN ACCORDANCE WITH AS 3725. AGGREGATE BACKFILL SHALL NOT BE USED FOR PIPE BEDDING AND OR HAUNCH/SIDE SUPPORT.
13. WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED Ø100 uPVC TO EACH SIDE OF PIPE.
14. ALL SUBSOIL DRAINAGE LINES SHALL BE Ø100 SLOTTED uPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR 1 IN 200 MINIMUM. PROVIDE CAPPED CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT/ LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
15. ALL PIPE GRADES 1 IN 200 MINIMUM UNO.
16. PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
17. MIN. 600 COVER TO PIPE OBVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
18. PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY', THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' U.N.O.
19. PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
20. DOWN PIPES (DP) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP SIZE U.N.O. ON PLAN. PROVIDE CLEANING EYE AT GROUND LEVEL.
21. PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.

EROSION CONTROL NOTES :

ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

1. SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
2. HAY BALE BARRIERS AND GEOFABRIC FENCES ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
3. ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
4. CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
6. ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING. TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.
7. ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
8. ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
9. ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200MM.
10. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
11. AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
12. ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE SITE MANAGER TO PREVENT WIND AND WATER EROSION.
13. ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
14. ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
15. ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOIL MATERIALS FORM MOTOR VEHICLES.
16. THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
17. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP.

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: 5 of 44

FOR INFORMATION

AMENDMENTS	DATE	ISSUE
ISSUED FOR INFORMATION	12.08.20	C
REVISED AS CLOUDED	21.07.20	B
ISSUED FOR INFORMATION	08.07.20	A

ARCHITECT | CLIENT

PROJECT: SUSTAINABLE ROAD RESOURCE CENTRE (PHASE 1)
9 DEVON STREET, CLYDE NSW

DESIGNED XC | DRAWN HU | DATE MAY 20 | CHECKED | SCALE A0 AS SHOWN | CAD REF: C013919.01-DA10

Costin Roe Consulting Pty Ltd.
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Walsh Bay, Sydney NSW 2000
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Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE: DRAWING LIST & GENERAL NOTES

DRAWING NO. C013919.01-DA10 | ISSUE C

DEVON STREET

COLQUHOUN STREET

UNWIN STREET

UPSTREAM FLOWS TO DISCHARGE TO RELOCATED STORMWATER DRAINAGE INFRASTRUCTURE

UPSTREAM FLOWS TO DISCHARGE TO RELOCATED STORMWATER DRAINAGE INFRASTRUCTURE

IL 3.05m

EXISTING PIPES TO BE REMOVED. SIZE TBC

PIPE SIZE TO MATCH EXISTING PIPE BEING REMOVED. SIZE TBC ON SITE

EXISTING HEADWALL TO BE REMOVED

IL 2.67m

IL 2.65m

IL 2.45m

CONSTRUCT NEW HEADWALL TO DISCHARGE TO EXISTING SWALE AT APPROX IL 2.40

10.2m WIDE EASEMENT

DRAINAGE EASEMENT

DRAINAGE EASEMENT

DRAINAGE EASEMENT

EASEMENT FOR SYDNEY WATER LINE 6.09M WIDE (B)99159)

EASEMENT FOR SYDNEY WATER LINE 6.09M WIDE (B)99159)

REFER DRAWING DA41 FOR DETAILS.

13.4m WIDE EASEMENT

13.4m WIDE EASEMENT

LIMIT OF WORKS FOR PHASE 2 OF THE DEVELOPMENT

SITE DISCHARGE POINT 1
DISCHARGE INTO DUCK RIVER AT APPROX IL 1.00m & FINAL POSITION TBC ON SITE. PROVIDE 'NATURAL' ENERGY DISSIPATOR OUTLET REFER DA46.

APPROXIMATE EXTENT OF TREE LINE

APPROXIMATE SETBACK TO BE MEASURED FROM TOP OF BANK USING A PEGGING INSET

DUCK RIVER

DUCK CARNARVAN

DP 864567

DP 864567

DP 864567

SUBDIVISION

DEVELOPMENT AREA

PROPOSED ROAD

STAGE

51 52 54 55 56 57 58 59 60 61 62 63 64

2.135ha 3.318ha 1.553ha 3.097ha 3.633ha 2.125ha

255.23 255.23 255.23

DEVON STREET

DEVON STREET

COLQUHOUN STREET

UNWIN STREET

1 DA25

STABILISED CONSTRUCTION ENTRY. REFER TO DETAIL ON DA25

CLEAN WATER FROM UPSTREAM CATCHMENT

PROVIDE DIVERSION DRAIN TO SEDIMENT BASIN

PROVIDE TEMPORARY BUND BETWEEN DIRTY WATER AND CLEAN WATER DIVERSION DRAIN. TYPICAL

LIMIT OF WORKS FOR PHASE 1 OF THE DEVELOPMENT

PROVIDE DIVERSION DRAIN TO SEDIMENT BASIN

PROVIDE SILT FENCE

PROVIDE SILT FENCE

REFER DRAWING DA22 FOR EROSION AND SEDIMENT CONTROL PLAN - PHASE 2.

PROVIDE DIVERSION DRAIN TO SEDIMENT BASIN

SEDIMENT BASIN (PHASE 1):
CATCHMENT AREA = 6.4Iha
REQUIRED BASIN VOLUME = 2037m³
BASE DIMENSIONS (L X W) = 18m x 56m
TOP DIMENSIONS (L X W) = 27m x 65m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 2100m³

PROVIDE SILT FENCE

EMERGENCY OVERFLOW WEIR LENGTH = 5.0m. DETAILS ON DA25

CLEAN WATER DISCHARGE TO DUCK RIVER VIA PUMPED SYSTEM

APPROXIMATE 40m RIPARIAN SETBACK

APPROXIMATE EXTENT OF TREELINE

DUCK RIVER

DP 864567

DP 864567

SEDIMENTATION BASIN NOTE:

FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO DRAWING C013919.01-DA25.
SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWATER-THE BLUE BOOK'.
CAPACITY BASED UPON 5 DAY RAINFALL DEPTH AT 85th PERCENTILE INTENSITY (33.1mm).

SEDIMENTATION BASINS TO COLLECT RUN-OFF IN EXTREME RAINFALL EVENTS. COLLECTED RUN-OFF TO BE ASSESSED BY A QUALIFIED LABORATORY FOR DOUSING RATES OF ALUM OR GYPSUM TO ENSURE COAGULATION OF SEDIMENTS PRIOR TO WATER BEING DISCHARGED TO COUNCIL STORMWATER SYSTEM.

EACH BASIN IS TO HAVE A MARKER PLACED AS PER THE DETAIL TO INDICATE WHEN SEDIMENT IS TO BE REMOVED. REMOVED SEDIMENT IS TO BE CLASSED AND DEWATERED PRIOR TO REMOVAL FROM SITE.

ALLOWANCE TO BE MADE DURING BENCHING OF SITE TO ENSURE RUN-OFF IS DIRECTED TO SEDIMENTATION BASINS.

NOTES:
1. ASSUME TYPE D SOIL (CLAY)
2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)

LEGEND:

PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS. TYPICAL (N.S.O.?.)

- SILT FENCE ONLY
- SITE BOUNDARY
- DIVERSION DRAIN
- CLEAN WATER DIVERSION DRAIN
- OVERLAND FLOW DIRECTION
- APPROXIMATE EXTENT OF TREE LINE
- RIPARIAN SETBACK

EROSION & SEDIMENT CONTROL NOTE:

REFER TO DA10 FOR EROSION & SEDIMENT CONTROL NOTES

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: 7 of 44

EROSION & SEDIMENT CONTROL PLAN - PHASE 1
SCALE 1:1000

10m 0 10 20 30 40 50 60 70 80 90 100m
SCALE 1:1000 AT A0 SHEET SIZE

FOR INFORMATION

AMENDMENTS	DATE	ISSUE
REVISED PER NEW SITE PLAN	30.11.20	F
REVISED PER CLIENT COMMENTS	20.11.20	E
REVISED PER NEW SITE PLAN	16.11.20	D
ISSUED FOR INFORMATION	12.08.20	C
REVISED AS CLOUDED	21.07.20	B
ISSUED FOR INFORMATION	03.07.20	A

ARCHITECT

CLIENT

PROJECT
SUSTAINABLE ROAD RESOURCE CENTRE (PHASE 1)
9 DEVON STREET, CLYDE. NSW

DESIGNED XC | DRAWN MJ | DATE MAY 20 | CHECKED | DATE AO | SCALE AS SHOWN | CAD REF C013919.01-DA21

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Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
EROSION & SEDIMENT CONTROL PLAN - PHASE 1

DRAWING No. C013919.01-DA21

ISSUE F

STABILISED CONSTRUCTION ENTRY (ALTERNATE). REFER TO DETAIL ON DA25

PROVIDE SILT FENCE

PROVIDE SILT FENCE

STABILISED CONSTRUCTION ENTRY. REFER TO DETAIL ON DA25

CLEAN WATER FROM UPSTREAM CATCHMENT

PROVIDE DIVERSION DRAIN TO SEDIMENT BASIN

PROVIDE DIVERSION DRAIN TO SEDIMENT BASIN

PROVIDE DIVERSION DRAIN TO SEDIMENT BASIN

EASEMENT FOR SYDNEY WATER LINE 6.09M WIDE (B3091959)

PROVIDE TEMPORARY BUND BETWEEN DIRTY WATER AND CLEAN WATER DIVERSION DRAIN. TYPICAL

PROVIDE DIVERSION DRAIN TO SEDIMENT BASIN

PROVIDE SILT FENCE

PROVIDE EARTH BUND TO DIVERT DIRTY WATER TO SEDIMENT BASIN AND TO SEPARATE PHASE 1 & 2 OF THE DEVELOPMENT.

REFER DRAWING DA21 FOR EROSION AND SEDIMENT CONTROL PLAN - PHASE 1.

PROVIDE CLEAN WATER DIVERSION DRAIN

LIMIT OF WORKS FOR PHASE 2 OF THE DEVELOPMENT

KEEP EXISTING HEADWALL AND CLEAN WATER DRAIN TO DISCHARGE INTO EXISTING SWALE

PROVIDE SILT FENCE

PROVIDE DIVERSION DRAIN TO SEDIMENT BASIN

SEDIMENT BASIN (PHASE 2):

CATCHMENT AREA	= 25.3ha
REQUIRED BASIN VOLUME	= 8039m³
BASE DIMENSIONS (L X W)	= 120m x 40m
TOP DIMENSIONS (L X W)	= 129m x 49m
MAX SIDE SLOPE	= 1V:3H
DEPTH	= 1.5m
PROVIDED BASIN VOLUME	= 8315m³

EXISTING GRASSED SWALE REMAINS IN PLACE.

PROVIDE SILT FENCE

CLEAN WATER DISCHARGE TO DUCK RIVER VIA PUMPED SYSTEM

LIMIT OF WORKS FOR PHASE 2 OF THE DEVELOPMENT

NO LAND DISTURBED. EXISTING GRASS AND PAVEMENT TO REMAIN IN PLACE TO MINIMISE SEDIMENT RUNOFF.

EXISTING GRASSED SWALE REMAINS IN PLACE.

APPROXIMATE TOP BRAKEN VETIVER (HIGH) AFFORESTED REED

APPROXIMATE EXTENT OF TREE LINE

DUCK RIVER

DEVELOPMENT AREA 35.087ha

PROPOSED ROAD 21 WIDE

SEDIMENTATION BASIN NOTE:

FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO DRAWING C013919.01-DA25.
SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWATER-THE BLUE BOOK'. CAPACITY BASED UPON 5 DAY RAINFALL DEPTH AT 85th PERCENTILE INTENSITY (33.1mm).

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ALLOWANCE TO BE MADE DURING BENCHING OF SITE TO ENSURE RUN-OFF IS DIRECTED TO SEDIMENTATION BASINS.

NOTES:
1. ASSUME TYPE D SOIL (CLAY)
2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)

LEGEND:

PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS. TYPICAL (N.S.O.?.)

- SILT FENCE ONLY
- SITE BOUNDARY
- DIVERSION DRAIN
- CLEAN WATER DIVERSION DRAIN
- OVERLAND FLOW DIRECTION
- APPROXIMATE EXTENT OF TREE LINE
- RIPARIAN SETBACK

EROSION & SEDIMENT CONTROL NOTE:

REFER TO DA10 FOR EROSION & SEDIMENT CONTROL NOTES

EROSION & SEDIMENT CONTROL PLAN - PHASE 2
SCALE 1:1000

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: 8 of 44

FOR INFORMATION

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SCALE 1:1000 AT A0 SHEET SIZE

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ARCHITECT

CLIENT

PROJECT: SUSTAINABLE ROAD RESOURCE CENTRE (PHASE 1)
9 DEVON STREET, CLYDE NSW

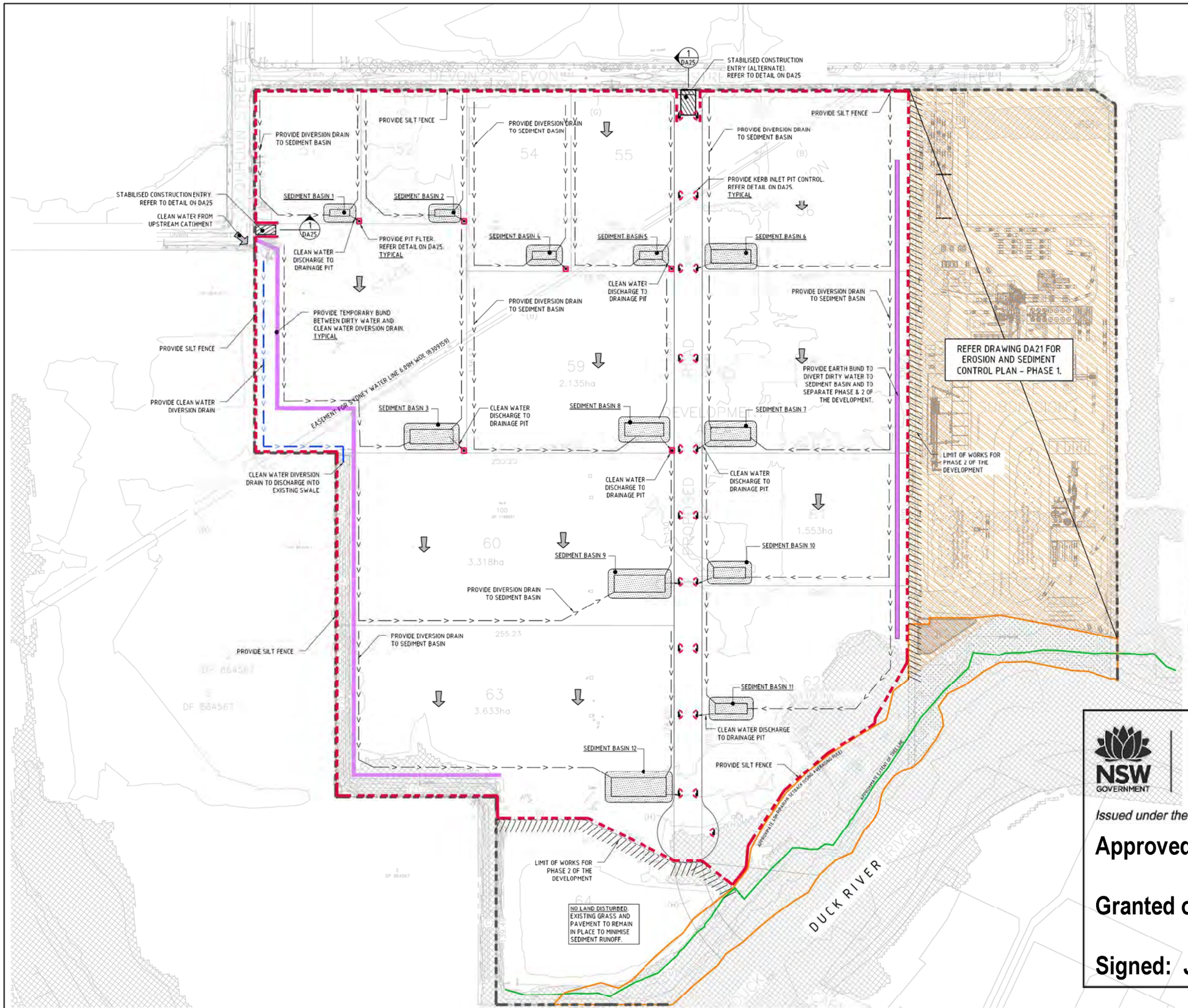
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Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE: EROSION & SEDIMENT CONTROL PLAN - PHASE 2

DRAWING No. C013919.01-DA22 | ISSUE F



EROSION & SEDIMENT CONTROL PLAN – FINAL STAGE
SCALE 1:1000

SEDIMENTATION BASIN NOTE:

FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO DRAWING C013919.01-DA25.
SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION; MANAGING URBAN STORMWATER-THE BLUE BOOK'. CAPACITY BASED UPON 5 DAY RAINFALL DEPTH AT 85th PERCENTILE INTENSITY (33.1mm).

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ALLOWANCE TO BE MADE DURING BENCHING OF SITE TO ENSURE RUN-OFF IS DIRECTED TO SEDIMENTATION BASINS.

NOTES:
1. ASSUME TYPE D SOIL (CLAY)
2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)

LEGEND:

PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS. TYPICAL (N.S.O.P.)

- SILT FENCE ONLY
- SITE BOUNDARY
- DIVERSION DRAIN
- CLEAN WATER DIVERSION DRAIN
- OVERLAND FLOW DIRECTION
- APPROXIMATE EXTENT OF TREE LINE
- RIPARIAN SETBACK

EROSION & SEDIMENT CONTROL NOTE:

REFER TO DA10 FOR EROSION & SEDIMENT CONTROL NOTES

SEDIMENT BASIN SCHEDULE

BASIN No.	CATCHMENT AREA (Ha.)	REQUIRED BASIN VOLUME	BASE DIMENSIONS (LxW)	TOP DIMENSIONS (LxW)	MAX SLIDE SLOPE	DEPTH	PROVIDED BASIN VOLUME
SEDIMENT BASIN 1	0.77	244m³	15mX5m	24mX14m	1V:3H	1.5m	285m³
SEDIMENT BASIN 2	0.77	244m³	15mX5m	24mX14m	1V:3H	1.5m	285m³
SEDIMENT BASIN 3	2.76	876m³	33mX11m	42mX20m	1V:3H	1.5m	878m³
SEDIMENT BASIN 4	1.03	327m³	18mX6m	27mX15m	1V:3H	1.5m	361m³
SEDIMENT BASIN 5	1.03	327m³	18mX6m	27mX15m	1V:3H	1.5m	361m³
SEDIMENT BASIN 6	2.06	654m³	30mX10m	39mX19m	1V:3H	1.5m	756m³
SEDIMENT BASIN 7	2.13	675m³	30mX10m	39mX19m	1V:3H	1.5m	756m³
SEDIMENT BASIN 8	2.14	678m³	30mX10m	39mX19m	1V:3H	1.5m	756m³
SEDIMENT BASIN 9	3.32	1054m³	39mX13m	48mX22m	1V:3H	1.5m	1147m³
SEDIMENT BASIN 10	1.55	493m³	24mX8m	33mX17m	1V:3H	1.5m	541m³
SEDIMENT BASIN 11	1.50	477m³	24mX8m	33mX17m	1V:3H	1.5m	541m³
SEDIMENT BASIN 12	3.63	1154m³	42mX14m	51mX23m	1V:3H	1.5m	1296m³

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Approved Application No: SSD-10459

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Signed: JF Sheet No: 9 of 44

FOR INFORMATION

10m 0 10 20 30 40 50 60 70 80 90 100m
SCALE 1:1000 AT A0 SHEET SIZE

AMENDMENTS	DATE	ISSUE
REVISED PER NEW SITE PLAN	30.11.20	F
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ISSUED FOR INFORMATION	08.07.20	A

ARCHITECT

CLIENT

PROJECT: SUSTAINABLE ROAD RESOURCE CENTRE (PHASE 1)
9 DEVON STREET, CLYDE. NSW

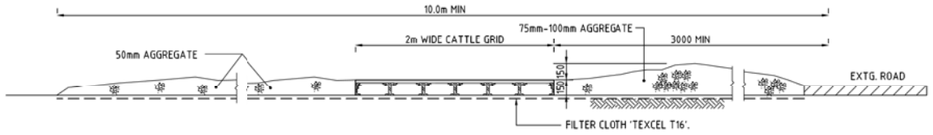
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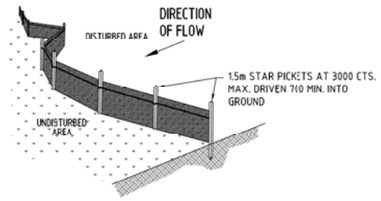
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DRAWING TITLE: EROSION & SEDIMENT CONTROL PLAN – FINAL STAGE

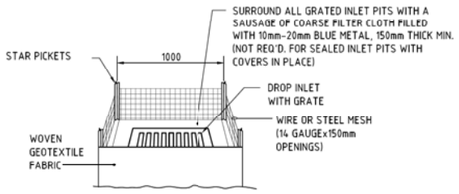
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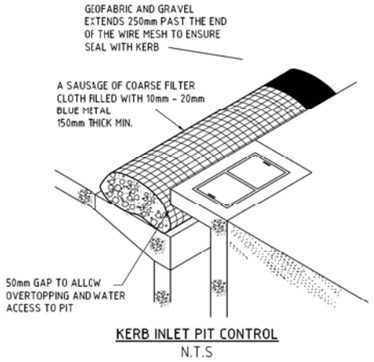
SECTION 1:20 (1 / DA25) : STABILISED CONSTRUCTION ENTRANCE 'TRUCK SHAKER'



TYPICAL SILT FENCE DETAIL
N.T.S.
PROVIDE 1m RETURNS AT 30m INTERVALS.
TYPICAL

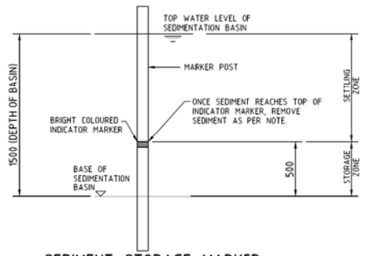


GRATED INLET PIT FILTER DETAIL
N.T.S

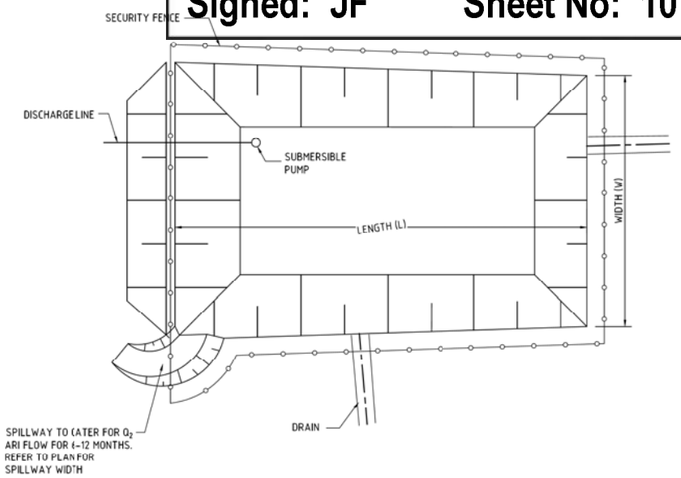


KERB INLET PIT CONTROL
N.T.S

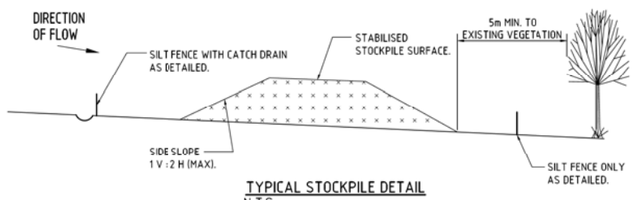
NOTE: ADOPT ABOVE DETAILS AROUND ALL PITS WITHIN AREA ENCOMPASSED BY SILT FENCE & TO PITS ON THE ROAD ADJACENT TO SITE BOUNDARY.



SEDIMENT STORAGE MARKER
SCALE 1:20



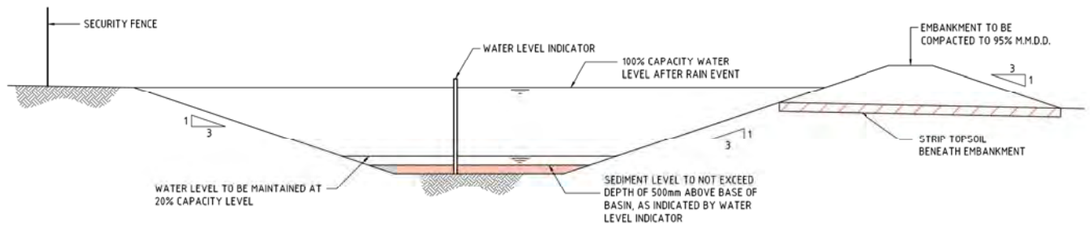
TYPICAL SEDIMENT CONTROL POND PLAN
SCALE 1:250



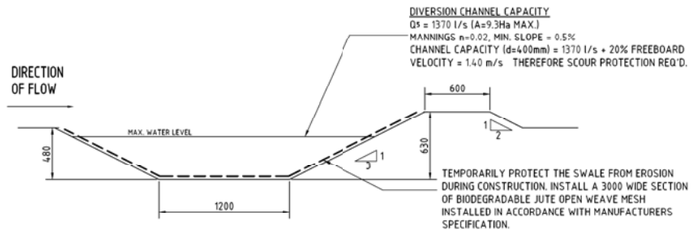
TYPICAL STOCKPILE DETAIL
N.T.S.

STOCKPILE NOTES

1. PLACE ALL STOCKPILES IN LOCATIONS MORE THAN 5m FROM EXISTING VEGETATION, ROADS & HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT ELONGATED MOUNDS. SIDE SLOPE TO BE 1 V: 2 H MAX.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE STOCKPILES ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE USING WOOD CHIP MULCH - 16 TONNE/Ha.
5. CONSTRUCT SILT FENCE WITH CATCH DRAIN ON UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES & SILT FENCE ONLY 1 TO 2m DOWNSLOPE AS SHOWN.



TYPICAL SEDIMENT CONTROL BASIN SECTION
SCALE 1:50



DIVERSION DRAIN SECTION
SCALE 1:20

500mm 0 1 2 3 4 5m
SCALE 1:50 AT A0 SHEET SIZE

2m 0 5 10 15 20 25m
SCALE 1:250 AT A0 SHEET SIZE

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT A0 SHEET SIZE

FOR INFORMATION

NSW GOVERNMENT Planning, Industry & Environment

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Approved Application No: SSD-10459

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Signed: JF Sheet No: 10 of 44

AMENDMENTS	DATE	ISSUE
ISSUED FOR INFORMATION	12.08.20	B
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ARCHITECT

CLIENT

PROJECT: SUSTAINABLE ROAD RESOURCE CENTRE (PHASE 1)
9 DEVON STREET, CLYDE, NSW

DESIGNED XC | DRAWN HU | DATE MAY.20 | CHECKED | SIZE A0 | SCALE AS SHOWN | CAD #REF: C013919.01-DA25

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Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE: EROSION AND SEDIMENT CONTROL DETAILS

DRAWING No: C013919.01- DA25

ISSUE: B

DEVON STREET

DEVON STREET

COLQUHOUN STREET

UNWIN STREET

PROPOSED PAD
FFL 4.50
BEL 4.20

PROPOSED SWALE AND WALL ALONG EASTERN BOUNDARY. REFER TO DA35 FOR DETAILS.

LIMIT OF WORKS FOR PHASE 1 OF THE DEVELOPMENT

PROPOSED PAD
FFL 3.80
BEL 3.50

REFER DRAWING DA32 FOR BULK EARTHWORKS PLAN - PHASE 2.

LOCALLY FILL THROUGH 1%AEP FLOOD EXTENT AND PROVIDE FLOOD COMPENSATION IN PHASE 2 AS NOTED ON DRAWING DA32.

APPROXIMATE EXTENT OF TREE LINE

APPROXIMATE RIPARIAN SETBACK (CORE RIPARIAN ZONE + 10 MANAGEMENT ZONE + 10 RIPARIAN ZONE)

HATCHED AREA DENOTES APPROXIMATE EXTENT OF PRE-DEVELOPMENT FLOOD EXTENT FOR 1% AEP.

DUCK RIVER

DUCK RIVER

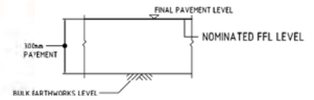
CARNARVAN

BULK EARTHWORKS PLAN - PHASE 1
SCALE 1:1000

LEGEND

LEVELS DATUM IS AHD.

- DESIGN CONTOUR (MAJOR 0.5m)
- DESIGN CONTOUR (MINOR 0.1m)
- EXISTING CONTOUR (0.25m INTERVALS)
- APPROXIMATE EXTENT OF TREE LINE
- RIPARIAN SETBACK



PAVEMENT DETAIL (LOT 6)
N.T.S.

PRELIMINARY BULK EARTHWORKS VOLUMES

PHASE 1 - DOWNER PAD (LOT 6) BULK EARTHWORKS VOLUME

CUT	= -	17,800 m³
FILL	= +	17,800 m³
BALANCE	=	NIL
IMPORT ALLOWANCE (FOR SITE PRESENTATION & GENERAL FILLING OF REMEDIATED WORKS)	= +	10,000 m³ (MAX.)

NO ALLOWANCE HAS BEEN MADE FOR DELETERIOUS MATERIAL, UNCONTROLLED FILL MATERIAL TO BE REWORKED, EROSION AND SEDIMENT CONTROL, BULKING OR COMPACTION OF FILLED SOILS OR TOPSOIL BLENDING.

NOTE:
FILLING LEVELS ARE APPROXIMATE ONLY.
LEVELS ARE BASED ON AN ANTICIPATED MASTERPLAN LAYOUT TO SUIT GENERAL INDUSTRIAL DEVELOPMENTS.
CHANGES MAY BE REQUIRED TO SUIT FUTURE DESIGN OF THE ESTATE AND FUTURE WAREHOUSE FACILITY ARRANGEMENT.

LEVELS NOTE:

LEVELS TO BE ±200mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO MINOR VARIATIONS TO SUIT DETAILED DESIGN.

FILL DEPTH RANGE

No.	FROM DEPTH	TO DEPTH	COLOUR
1	-3.000m	-2.500m	
2	-2.500m	-2.000m	
3	-2.000m	-1.500m	
4	-1.500m	-1.000m	
5	-1.000m	-0.500m	
6	-0.500m	0.000m	
7	0.000m	0.100m	
8	0.100m	0.300m	
9	0.300m	0.500m	
10	0.500m	1.000m	
11	1.000m	1.500m	
12	1.500m	2.000m	
13	2.000m	2.500m	
14	2.500m	3.000m	
15	3.000m	3.500m	

10m 0 10 20 30 40 50 60 70 80 90 100m
SCALE 1:1000 AT A0 SHEET SIZE

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Issued under the Environmental Planning and Assessment Act 1979

Approved Application No: SSD-10459

Granted on: 31 January 2021

Signed: JF Sheet No: 11 of 44

FOR INFORMATION

AMENDMENTS	DATE	ISSUE
REVISED PER CLIENT COMMENTS	20.11.20	F
REVISED PER NEW SITE PLAN	19.11.20	E
ISSUED FOR INFORMATION	12.08.20	D
REVISED AS CLOUDED	10.08.20	C
REVISED AS CLOUDED	21.07.20	B
ISSUED FOR INFORMATION	08.07.20	A
REVISED PER NEW SITE PLAN	30.11.20	G

ARCHITECT

CLIENT

PROJECT
SUSTAINABLE ROAD RESOURCE CENTRE (PHASE 1)
9 DEVON STREET, CLYDE. NSW

DESIGNED XC | DRAWN MJ | DATE MAY 20 | CHECKED | DATE | SCALE AO AS SHOWN | CAD REF C013919.01-DA31

Costin Roe Consulting Pty Ltd.
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Walsh Bay, Sydney NSW 2000
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Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
BULK EARTHWORKS PLAN - PHASE 1

DRAWING No. C013919.01-DA31

ISSUE G

DEVON STREET

COLQUHOUN STREET

UNWIN STREET

PROPOSED PAD BEL 4.80 AHD

PROPOSED PAD BEL 4.80 AHD

PROPOSED PAD BEL 4.80 AHD

PROPOSED ROAD

SUBDIVISION

STAGE 1

REFER DRAWING DA31 FOR BULK EARTHWORKS PLAN – PHASE 1.

LIMIT OF WORKS FOR PHASE 2 OF THE DEVELOPMENT

LOCALLY FILL THROUGH 1%AEP FLOOD EXTENT AND PROVIDE FLOOD COMPENSATION AS NOTED ON PLAN.

FLOOD COMPENSATION AREA PROVIDES APPROX. 6000m³ ADDITIONAL STORAGE. (TBC BY FLOOD MODELING)

HATCHED AREA DENOTES APPROXIMATE EXTENT OF PRE-DEVELOPMENT FLOOD EXTENT FOR 1% AEP.

DUCK RIVER

CARNARVAN

51 52 53 54 55 56 57 58 59 60 61 62 63 64

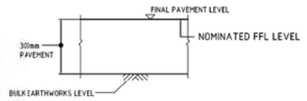
3.318ha 1.553ha 2.125ha 3.633ha 2.35ha

BULK EARTHWORKS PLAN – PHASE 2
SCALE 1:1000

LEGEND

LEVELS DATUM IS AHD.

- DESIGN CONTOUR (MAJOR 0.5m)
- DESIGN CONTOUR (MINOR 0.1m)
- EXISTING CONTOUR (0.25m INTERVALS)
- APPROXIMATE EXTENT OF TREE LINE
- RIPARIAN SETBACK



PAVEMENT DETAIL (LOT 6)
N.T.S.

PRELIMINARY BULK EARTHWORKS VOLUMES

PHASE 2 - LOT 1-7 BULK EARTHWORKS VOLUME

CUT	= -	33,000 m³
FILL	= +	33,000 m³
BALANCE	=	NIL
IMPORT ALLOWANCE (FOR STE PRESENTATION & GENERAL FILLING OF REMEDIATED WORKS)	= +	20,000 m³ (MAX.)

EARTHWORKS VOLUME MAY CHANGE DEPENDING ON QUALITY OF SOURCE MATERIAL. NO ALLOWANCE HAS BEEN MADE FOR DELETERIOUS MATERIAL, UNCONTROLLED FILL MATERIAL TO BE REWORKED, EROSION AND SEDIMENT CONTROL, BULKING OR COMPACTION OF FILLED SOILS OR TOPSOIL BLENDING. ALLOW FOR CIRCA +20,000 m³ IMPORT FOR PAD.

NOTE:
FILLING LEVELS ARE APPROXIMATE ONLY.
LEVELS ARE BASED ON AN ANTICIPATED MASTERPLAN LAYOUT TO SUIT GENERAL INDUSTRIAL DEVELOPMENTS.
CHANGES MAY BE REQUIRED TO SUIT FUTURE DESIGN OF THE ESTATE AND FUTURE WAREHOUSE FACILITY ARRANGEMENT.

LEVELS NOTE:
LEVELS TO BE ±200mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO MINOR VARIATIONS TO SUIT DETAILED DESIGN.

FILL DEPTH RANGE

No.	FROM DEPTH	TO DEPTH	COLOUR
1	-2.000m	-0.500m	
2	-0.500m	-0.400m	
3	-0.400m	-0.300m	
4	-0.300m	-0.200m	
5	-0.200m	-0.100m	
6	-0.100m	0.000m	
7	0.000m	0.100m	
8	0.100m	0.200m	
9	0.200m	0.300m	
10	0.300m	0.400m	
11	0.400m	0.500m	
12	0.500m	0.600m	
13	0.600m	0.700m	
14	0.700m	0.800m	
15	0.800m	3.000m	

10m 0 10 20 30 40 50 60 70 80 90 100m
SCALE 1:1000 AT A0 SHEET SIZE

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Approved Application No: SSD-10459

Granted on: 31 January 2021

Signed: JF Sheet No: 12 of 44

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ARCHITECT

CLIENT

PROJECT: SUSTAINABLE ROAD RESOURCE CENTRE (PHASE 1)
9 DEVON STREET, CLYDE, NSW

DESIGNED: XC | DRAWN: MJ | DATE: MAY 20 | CHECKED | SIZE: A0 | SCALE: AS SHOWN | CAD REF: C013919.01-DA32

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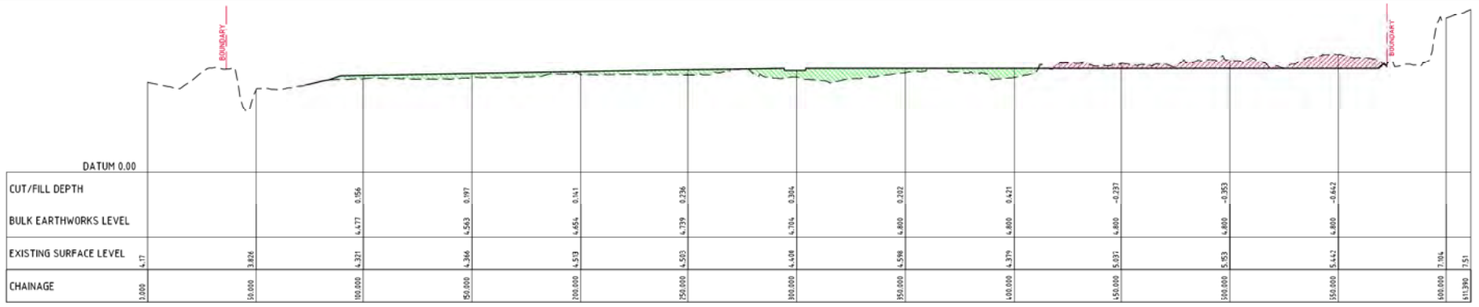
Costin Roe Consulting

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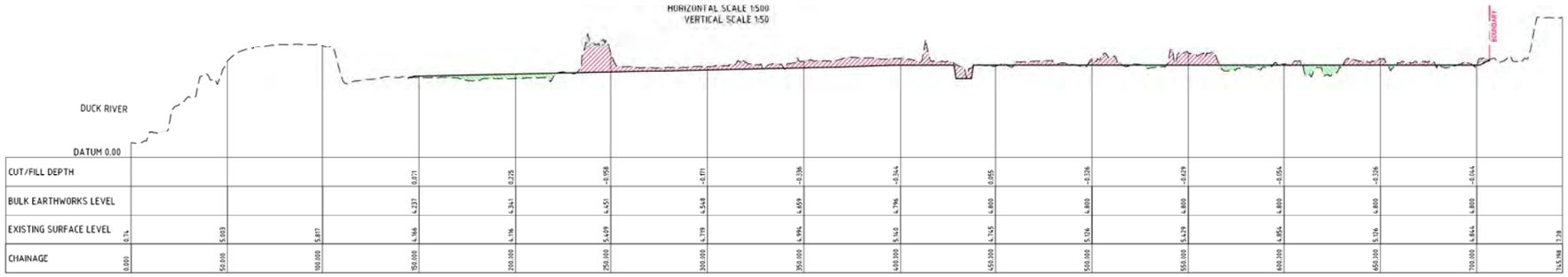
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DRAWING No: C013919.01-DA32

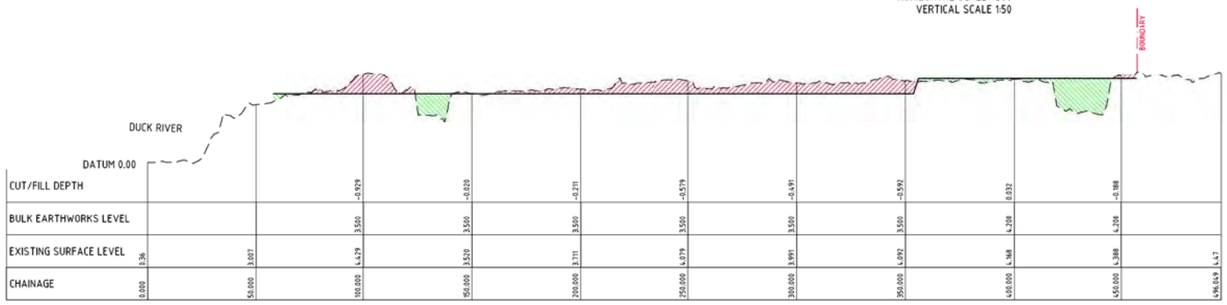
ISSUE: G



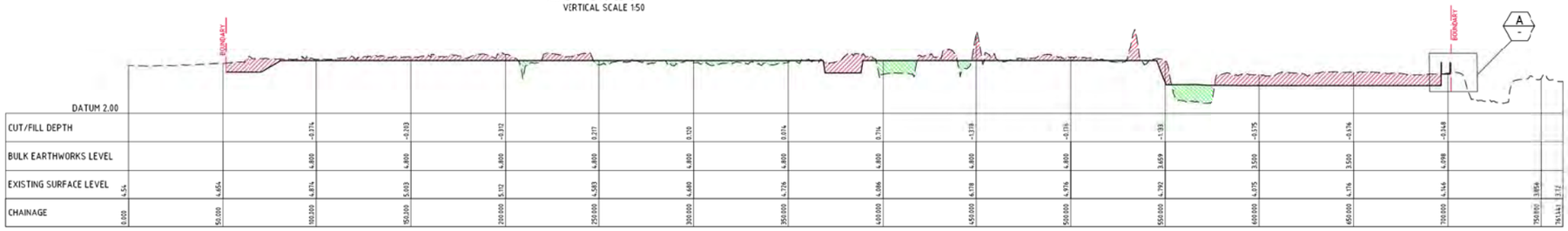
SECTION 5
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:50



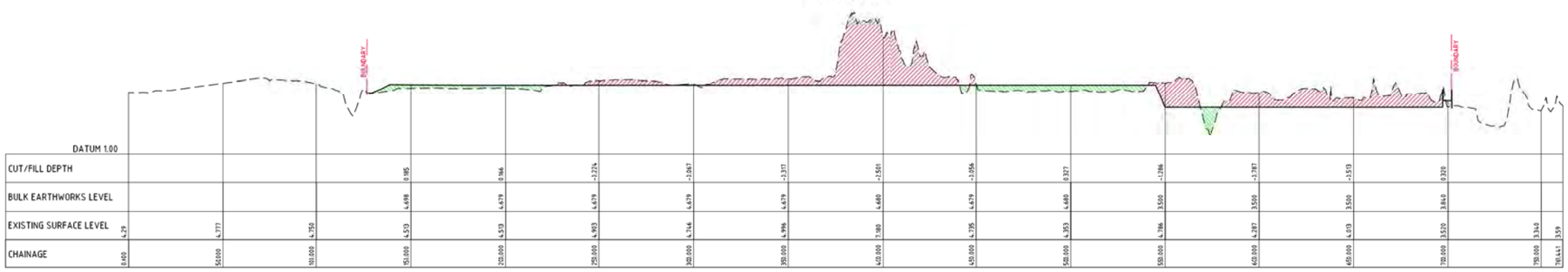
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VERTICAL SCALE 1:50



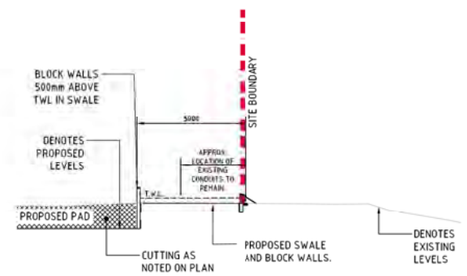
SECTION 3
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:50



SECTION 2
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:50



SECTION 1
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:50



DETAIL :100 A
TYPICAL EASTERN SWALE

1m 0 1 2 3 4 5 6 7 8 9 10m
SCALE 1:100 AT A0 SHEET SIZE

10m 0 10 20 30 40 50 60 70 80 90 100m
SCALE 1:1000 AT A0 SHEET SIZE

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Signed: JF Sheet No: 13 of 44

FOR INFORMATION

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ISSUED FOR INFORMATION	12.08.20	C
REVISED FOR NEW SURVEY LEVELS	21.07.20	B
ISSUED FOR INFORMATION	08.07.20	A

ARCHITECT

CLIENT

PROJECT
SUSTAINABLE ROAD RESOURCE CENTRE (PHASE 1)
9 DEVON STREET, CLYDE, NSW

DESIGNED XC | DRAWN MJ | DATE MAY 20 | CHECKED | SIZE A0 | SCALE AS SHOWN | CAD REF C013919.01-DA35

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DRAWING TITLE
BULK EARTHWORKS SECTIONS

DRAWING No. C013919.01-DA35

ISSUE C

REFER DRAWING DA42 FOR STORMWATER DRAINAGE PLAN - PHASE 2.

BIO-RETENTION BASIN
FILTER MEDIA AREA = 600 m²
BASIN FSL = 2.00m AHD
FILTER MEDIA = 0.5m DEEP
EXTENDED DETENTION DEPTH = 0.3m DEEP
SURFACE AREA NOMINATED FOR BIO-RETENTION FILTRATION EXCLUSIVE OF SCOUR PROTECTION, INLET STRUCTURE & OUTLET STRUCTURE.

PROVIDE SEDIMENT FOREBAY & SCOUR PROTECTION AT OUTLET TO BASIN

GPT UNIT
ROCLA CDS1518 OR APPROVED EQUIVALENT

EXISTING OPEN CHANNEL SHOWN HATCHED

LIMIT OF WORKS FOR PHASE 1 OF THE DEVELOPMENT

PROVIDE CUT OFF VALVE TO FURTHEST DOWNSTREAM PIT PRIOR TO DISCHARGE FROM SITE. FULLY AUTOMATIC FOR FIRE FIGHTING EMERGENCIES. MANUAL OVERRIDE FOR SHUTTING DOWN DURING SPILLAGE.

SITE DISCHARGE POINT 1
DISCHARGE INTO DUCK RIVER AT APPROX IL 1.00m & FINAL POSITION TBC ON SITE. PROVIDE 'NATURAL' ENERGY DISSIPATOR OUTLET, REFER DA46.

Q100 FLOOD LEVEL = RL 3.76m AHD. (APPROX.)

PROPOSED RETAINING WALL (BOULDER WALL H=1.0m)

BASIN FSL 2.00

TOP OF BASIN RL 3.80

RAP Layout indicative only. Note: RAP trucks can exit past site location, and possibly use Agg. Truck WB instead of going back to RAP WB

RAP Entry or Exit

ASPHALT

EXISTING 600ø PIPE

PROPOSED RAINWATER TANKS

PROPOSED RAINWATER TANKS

Truck Parking Bay 2x

27 m

103.3 m

123.6 m

PROVIDE 3.0m BREAK IN THE KERB FOR OVERLAND FLOW. NOMINAL

PROVIDE 3.0m BREAK IN THE KERB FOR OVERLAND FLOW. NOMINAL

FIRST FLUSH PIT.

REFER STRUCTURAL DRAWINGS FOR INTERFACE OF RECONOMY SLAB AND EXISTING PIPE.

PROPOSED FRONT BLOCK CONNECTION.

SITE DISCHARGE POINT
DISCHARGE INTO DUCK RIVER. FINAL POSITION TBC ON SITE. PROVIDE 'NATURAL' ENERGY DISSIPATOR OUTLET.

EXISTING HEADWALLS

5.0m WIDE OVERLAND FLOW CHANNEL FOR UPSTREAM CATCHMENT

PUMP OUT PIT
CONNECT TO NEAREST STORMWATER PIT

UNDERGROUND RWS PIPES TO BE INSTALLED & CAPPED FOR FUTURE DP CONNECTION TO EMULSION/IBC ROOFS.

DEVON STREET

NSW GOVERNMENT
Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

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Granted on: 31 January 2021

Signed: JF Sheet No: 14 of 44

CONCEPT STORMWATER DRAINAGE PLAN - PHASE 1
SCALE 1:500

PIT SCHEDULE - NETWORK A

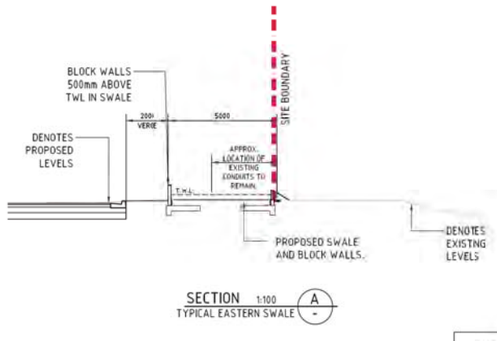
PIT No.	GRATE RL	TYPE	LID SIZE	COMMENT
PIT A01	3.80	SGGP	900X900	
PIT A02	3.80	SGGP	900X900	
PIT A02-1	3.70	SGGP	900X900	
PIT A03	3.93	SGGP	900X900	
PIT A04	3.93	SGGP	900X900	
PIT A5	3.80	SGGP	900X900	
PIT A6	3.82	SGGP	900X900	
PIT A6-1	3.90	SGGP	900X900	
PIT A7	3.80	SGGP	900X900	
PIT A8	3.80	SGGP	900X900	
PIT A9	3.80	SGGP	900X900	
PIT A10	3.80	SGGP	900X900	
PIT A11	3.80	SGGP	900X900	
PIT A12	3.75	SGGP	900X900	
PIT A13	3.80	SGGP	900X900	
PIT A14	3.80	SGGP	900X900	
PIT A15	3.70	SGGP	900X900	○ WITH PIT INSERT
PIT A16	3.70	SGGP	900X900	
PIT A17	3.70	SGGP	900X900	○ WITH PIT INSERT
PIT A18	3.75	SGGP	900X900	
PIT A19	3.80	SGGP	900X900	

PIT SCHEDULE - NETWORK B

PIT No.	GRATE RL	TYPE	LID SIZE	COMMENT
PIT B01	4.00	SGGP	900X900	
PIT B02	4.10	SGGP	900X900	
PIT B03	4.10	SGGP	900X900	
PIT B04	3.80	SGGP	900X900	
PIT B05	3.70	SGGP	900X900	○ WITH PIT INSERT
PIT B06	3.70	SGGP	900X900	○ WITH PIT INSERT
PIT B07	3.70	SGGP	900X900	○ WITH PIT INSERT
PIT B08	3.70	SGGP	900X900	○ WITH PIT INSERT
PIT B09	3.70	SGGP	900X900	○ WITH PIT INSERT

PIT SCHEDULE - NETWORK C

PIT No.	GRATE RL	TYPE	LID SIZE	COMMENT
PIT C01	3.90	SGGP	900X900	
PIT C02	3.90	SGGP	900X900	
PIT C02-1	3.90	SGGP	900X900	
PIT C03	4.10	SGGP	900X900	
PIT C04	4.10	SGGP	900X900	
PIT C5	3.90	SGGP	900X900	
PIT C6	3.90	SGGP	900X900	
PIT C7	3.80	SGGP	900X900	
PIT C8	3.80	SGGP	900X900	



SECTION 1:100 A
TYPICAL EASTERN SWALE

LEGEND:
LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY LANDPARTNERS TITLED AS0205 Clyde_BE_200620 TIN DATED 08/07/20.

- SINGLE GRATED GULLY PIT (SGGP)
- SGGP WITH PIT INSERT OR SILT MESH
- GD, GRATED DRAIN (300W x 225D UNO)
- ROOFWATER DOWNPIPE (INDICATIVE)
- ROOFWATER LINE
- DISH DRAIN
- PROPOSED DRAINAGE LINE
- EXISTING DRAINAGE LINE
- EXISTING DRAINAGE LINE TO BE REMOVED
- SUPER LOT BOUNDARY
- Q100 FLOOD EXTENT
- APPROXIMATE EXTENT OF TREE LINE
- RIPARIAN SETBACK

LEVELS NOTE:
LEVELS TO BE ±500mm FROM THOSE SHOWN. FINAL LEVELS SUBJECT TO MINOR VARIATIONS TO SUIT DETAILED DESIGN.

5m 0 10 20 30 40 50m
SCALE 1:500 AT A0 SHEET SIZE

FOR INFORMATION

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ISSUED FOR INFORMATION	08.07.20	A

AMENDMENTS	DATE	ISSUE
REVISED PER NEW SITE PLAN	18.11.20	D

AMENDMENTS	DATE	ISSUE

ARCHITECT

CLIENT

PROJECT
SUSTAINABLE ROAD RESOURCE CENTRE (PHASE 1)
9 DEVON STREET, CLYDE NSW

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
XC	MJ	MAY 20		A0	AS SHOWN	C013919.01-DA41

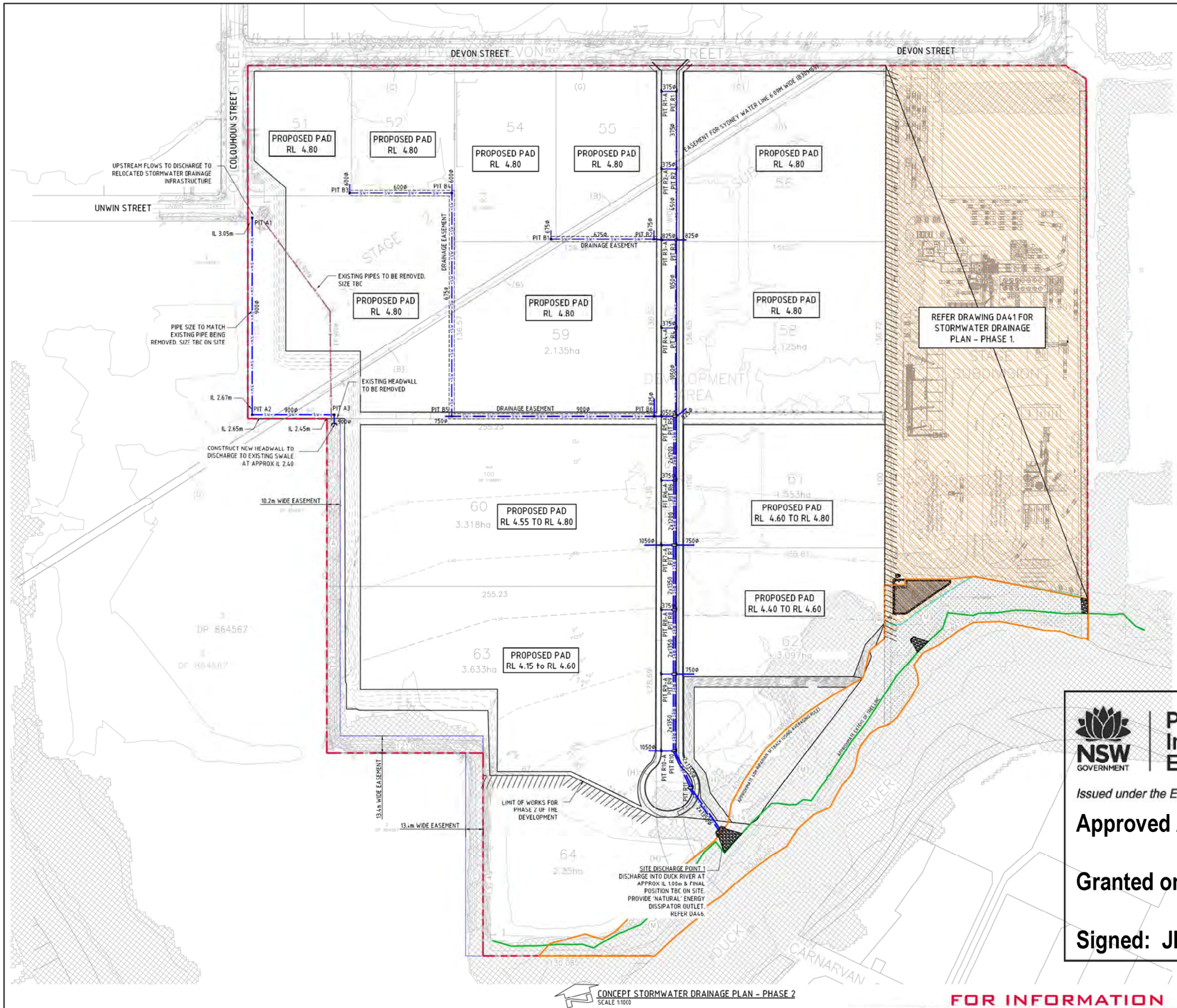
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Tel: (02) 8251-7600 Fax: (02) 9241-7722
email: mail@costinroe.com.au

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DRAWING TITLE
CONCEPT STORMWATER DRAINAGE PLAN - PHASE 1

DRAWING No. C013919.01-DA41 ISSUE G



LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY LANDPARTNERS TITLED AS0205 Clyde_BE_240620 TIN DATED 08/07/20.

- SINGLE GRATED GULLY PIT (SGGP)
- PROPOSED DRAINAGE LINE
- EXISTING DRAINAGE LINE
- EXISTING DRAINAGE LINE TO BE REMOVED
- SUPER LOT BOUNDARY
- Q100 FLOOD EXTENT
- APPROXIMATE EXTENT OF TREE LINE
- RIPARIAN SETBACK

PIT SCHEDULE

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT A1	4.60	S.G.G.P	1200x1200	
PIT A2	4.50	S.G.G.P	1200x1200	
PIT A3	4.15	S.G.G.P	1200x1200	
PIT B1	4.80	S.G.G.P	1200x1200	
PIT B2	4.80	S.G.G.P	1200x1200	
PIT B3	4.80	S.G.G.P	1200x1200	
PIT B4	4.80	S.G.G.P	1200x1200	
PIT B5	4.80	S.G.G.P	1200x1200	
PIT B6	4.80	S.G.G.P	1500x1500	
PIT R1	4.19	K.I.P	900x900	
PIT R1-A	4.19	K.I.P	900x900	
PIT R2	4.17	K.I.P	900x900	
PIT R2-A	4.17	K.I.P	900x900	
PIT R3	4.15	K.I.P	1500x1500	
PIT R3-A	4.15	K.I.P	1200x1200	
PIT R4	4.13	K.I.P	1500x1500	
PIT R4-A	4.13	K.I.P	900x900	
PIT R5	4.10	K.I.P	3000x1500	
PIT R5-A	4.10	K.I.P	1500x900	
PIT R6	4.07	K.I.P	3000x900	
PIT R6-A	4.07	K.I.P	900x900	
PIT R7	4.05	K.I.P	3600x1500	
PIT R7-A	4.05	K.I.P	1500x900	
PIT R8	4.03	K.I.P	3600x1200	
PIT R8-A	4.03	K.I.P	900x900	
PIT R9	4.00	K.I.P	3600x1500	
PIT R9-A	4.00	K.I.P	900x900	
PIT R10	3.96	K.I.P	3600x1500	
PIT R10-A	3.96	K.I.P	1500x900	
PIT R11	3.92	K.I.P	3600x1500	

STORMWATER DRAINAGE NOTES:

REFER TO DA10 FOR STORMWATER NOTES.

NSW GOVERNMENT | Planning, Industry & Environment

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Approved Application No: SSD-10459

Granted on: 31 January 2021

Signed: JF Sheet No: 15 of 44

CONCEPT STORMWATER DRAINAGE PLAN – PHASE 2
SCALE 1:1000

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SCALE 1:1000 AT A0 SHEET SIZE

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ARCHITECT

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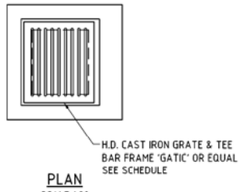
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Consulting Engineers
Level 4, 6 Windmill Street
Walsh Bay, Sydney NSW 2000
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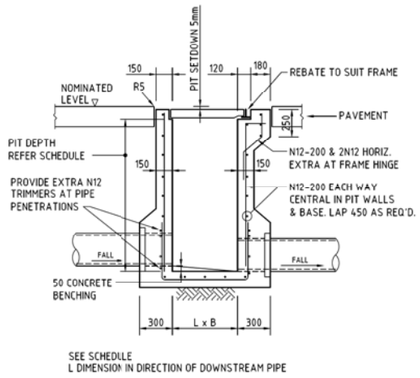
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DRAWING TITLE: CONCEPT STORMWATER DRAINAGE PLAN – PHASE 2

DRAWING No.: C013919.01-DA42 | ISSUE: H

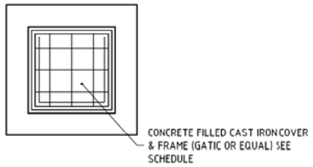


PLAN
SCALE 1:20

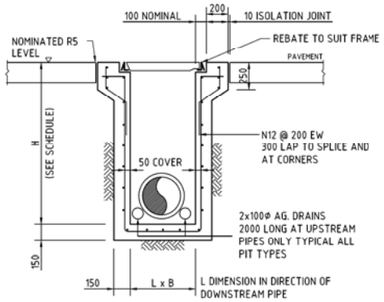


SECTION
SCALE 1:20

SINGLE GRATED GULLY PIT - SGGP

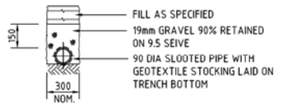


PLAN
1:20

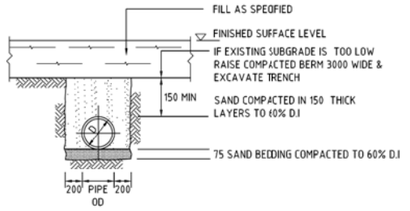


SECTION
SCALE 1:20

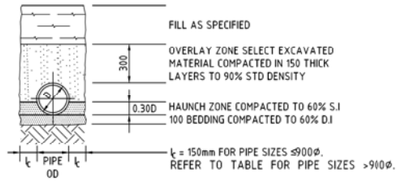
SEALED JUNCTION PIT - SJP



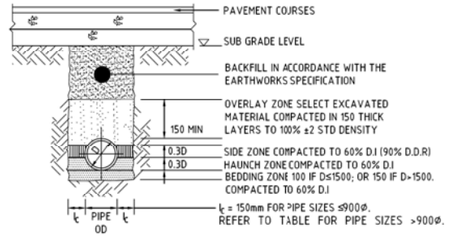
SUPPORT TO AG. DRAIN



SUPPORT TO uPVC PIPES



TYPE H1 SUPPORT TO CONCRETE PIPES AT LANDSCAPED AREAS



TYPE HS2 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT

D≤ 1350, MAX FILL = 4.0m
D> 1350, MAX FILL = 3.0m

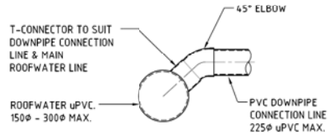
BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE	WEIGHT PASSING(%)
19	100
2.36	100 TO 50
0.60	90 TO 20
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

SIDE ZONE MATERIAL GRADING	
SIEVE SIZE	WEIGHT PASSING(%)
75	110
9.5	110 TO 50
2.36	110 TO 30
0.60	50 TO 15
0.075	25 TO 0

SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725

SIDE ZONE WIDTH	
PIPE SIZE	t (mm)
≤900Φ	150
1050Φ	175
1200Φ	200
1350Φ	225
1500Φ	250
1650Φ	275
1800Φ	300

REFER TO ENGINEER FOR TRENCH WIDTHS FOR PIPE SIZES GREATER THAN 1800Φ

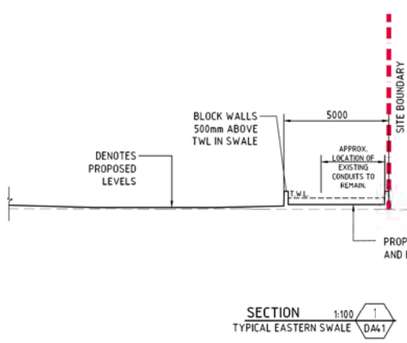


DOWN PIPE CONNECTION TO uPVC PIPE

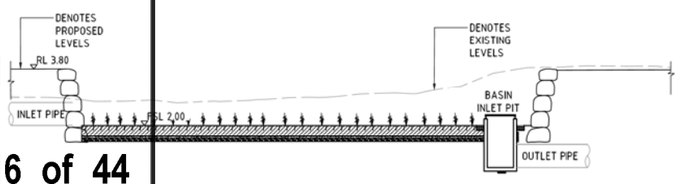
1. PROPRIETARY T-PIECE CONNECTORS SHALL BE USED TO WHERE DIRECT CONNECTIONS ARE REQUIRED TO uPVC PIPES .
2. ALL JOINTS TO BE SEALED WITH SOLVENT WELDED JOINTS.
3. THE PVC PIPE SHALL NOT PROTUDE BEYOND THE INNER SURFACE OF THE STORMWATER PIPE.

DOWNPIPE CONNECTION DETAILS

SCALE 1:20



SECTION 1:100 1 DA41
TYPICAL EASTERN SWALE



SECTION 1:100 2 DA41
BIO-RETENTION BASIN

PIPE LAYING DETAILS

SCALE 1:20

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Approved Application No: SSD-10459

Granted on: 31 January 2021

Signed: JF **Sheet No: 16 of 44**

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT A0 SHEET SIZE

FOR INFORMATION

ISSUED FOR INFORMATION	12.08.20	B
ISSUED FOR INFORMATION	21.07.20	A
AMENDMENTS	DATE	ISSUE

ARCHITECT

CLIENT

PROJECT
SUSTAINABLE ROAD RESOURCE CENTRE (PHASE 1)
9 DEVON STREET, CLYDE. NSW

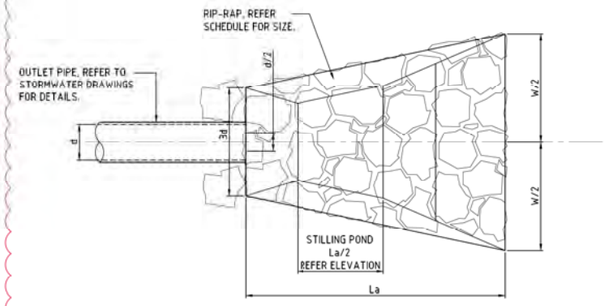
DESIGNED XC | DRAWN MJ | DATE MAY 20 | CHECKED | SIZE A0 | SCALE AS SHOWN | CAD REF C013919.DA45

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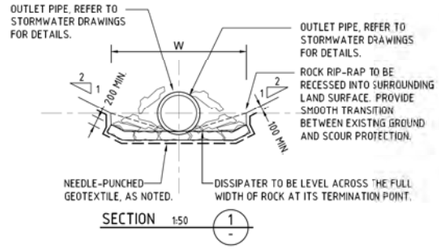
Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

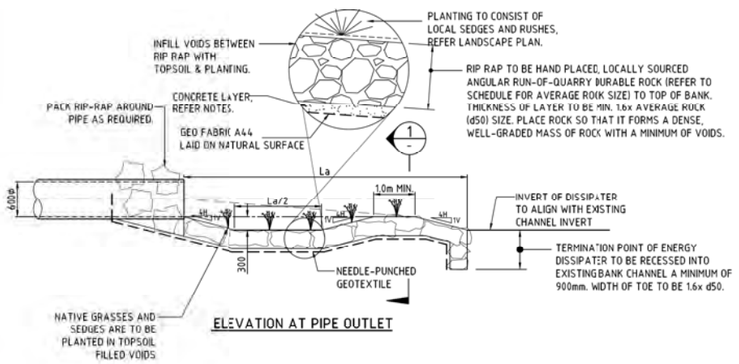
DRAWING TITLE
CONCEPT STORMWATER DRAINAGE DETAILS - SHEET 1

DRAWING No. C013919.01-DA45 | ISSUE B



PLAN VIEW AT PIPE OUTLET





ELEVATION AT PIPE OUTLET

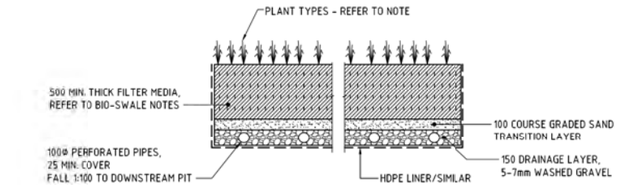
DISSIPATER NOTES:

1. ALIGN STRUCTURE EVENLY WITH BANK.
2. LOCATE STRUCTURE AT INVERT LEVEL OF STREAM AND POINT IN A DOWNSTREAM DIRECTION.
3. PIPE TO REST ON, AND BE PACKED IN, BY RIP-RAP (SIZE AS NOTED)
4. DISCHARGE INTO STREAM WHERE BEDROCK IS PRESENT. OTHERWISE SCOUR PROTECT AS REQUIRED.
5. SCOUR PROTECT THE OPPOSITE BANK AS REQUIRED. SCOUR PROTECTION TO BE PROVIDED WHERE OPPOSITE BANK IS WITHIN 12-14 TIMES THE PIPE DIAMETER.
6. RIP-RAP TO CONSIST OF ANGULAR RUN-OF-QUARRY ROCK (d50= 150mm MINIMUM) AS NOTED IN THE SCHEDULE RIP-RAP TO BE MINIMUM THICKNESS OF RIP-RAP LAYER TO BE 1.6x AVERAGE ROCK SIZE (d50).
7. RIP-RAP IS TO BE PLACED OVER A 200mm LAYER OF MASS CONCRETE OVER NEEDLE-PUNCHED GEOFAB A44
8. PLACE ROCK SO THAT IT FORMS A DENSE, WELL-GRADED MASS OF ROCK WITH A MINIMUM OF VOIDS. THE FINISHED RIP-RAP SURFACE SHOULD BE FREE OF POCKETS OF SMALL ROCK OR CLUSTERS OF LARGE ROCKS.
9. GAPS IN RIP-RAP TO BE HAND PACKED WITH TOPSOIL & PLANTED WITH NATIVE SEDGES & RUSHES TO PROVIDE. THE INTENT IS FOR THERE TO BE NO VOIDS BETWEEN RIP-RAP BOULDERS.
10. ENSURE THE FINISHED ROCK SURFACE BLENDS WITH THE SURROUNDING GROUND LEVELS. NO OVERFALL OR PROTRUSION OF ROCK SHOULD BE APPARENT.
11. ENSURE THAT STORMWATER FROM SURROUNDING GROUND IS FREE TO ENTER THE STRUCTURE WITHOUT CAUSING UNDESIRABLE PONDING OR SCOUR.

OUTLET	PIPE ϕ	La	W	d_{50}	Q_1		Q_{20}	
					FLOW	VELOCITY	FLOW	VELOCITY
OUTLET 1 (DOWNER)	1050ϕ	10m	12m	0.8m	0.86m³/s	0.30m/s	1.90m³/s	0.50m/s
OUTLET 2 (ESTATE)	2x1350ϕ	15m	20m	1.0m	2.73m³/s	0.40m/s	6.18m³/s	0.60m/s

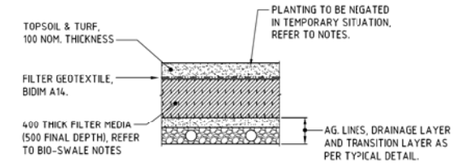
OUTLET STRUCTURES

SCALE 1:50



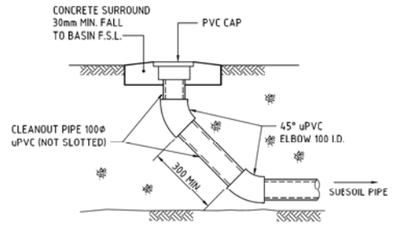
TYPICAL BIO-RETENTION DETAIL

SCALE 1:20



TEMPORARY BIO-RETENTION PROTECTION DETAIL

SCALE 1:20
TEMPORARY CONSTRUCTION REQUIREMENT DETAIL - REFER TO NOTES FOR IMPLEMENTATION PERIODS.



BIORETENTION CLEANOUT EYE ELEVATION

SCALE 1:20
DENOTED C.E. ON PLAN

BIO-RETENTION BASIN DETAILS

BIO-RETENTION NOTES :

FILTER MEDIA TO BE LOAMY SAND WITH A PERMEABILITY NOT LESS THAN 200mm/hr. FILTER MEDIA TO BE FREE OF RUBBISH, DELETERIOUS MATERIAL, TOXICANTS, DECLARED PLANTS AND LOCAL WEEDS, AND IS TO NOT BE HYDROPHOBIC.

FILTER MEDIA TO HAVE THE FOLLOWING COMPOSITION RANGE:

CLAY & SILT (<0.05mm)	<3%
VERY FINE SAND (0.05-0.15mm)	5-30%
FINE SAND (0.15-025mm)	10-30%
MEDIUM TO COARSE SAND (0.25-1.00mm)	40-60%
COARSE SAND (1.0-2.0mm)	7-10%
FINE GRAVEL (2.0-3.4mm)	<3%

FILTER MEDIA THAT DOES NOT MEET THE FOLLOWING CRITERIA SHALL BE REJECTED:

a. ORGANIC MATTER CONTENT TO BE IDEALLY WITHIN 1% TO 3% (W/W) AND TO BE NO GREATER THAN 5%(W/W).
b. PH TO BE BETWEEN 5.5 AND 7.5
c. PHOSPHOROUS CONTENT TO BE NO GREATER THAN 35mg/kg

FILTER MEDIA TO BE ASSESSED BY QUALIFIED HORTICULTURALIST TO ENSURE CAPABILITY OF SUPPORTING PLANT LIFE.

DRAINAGE LAYER TO BE CLEAN GRAVEL 5-7mm.

PLANTS TO BE IN ACCORDANCE WITH PARRAMATTA CITY COUNCIL.

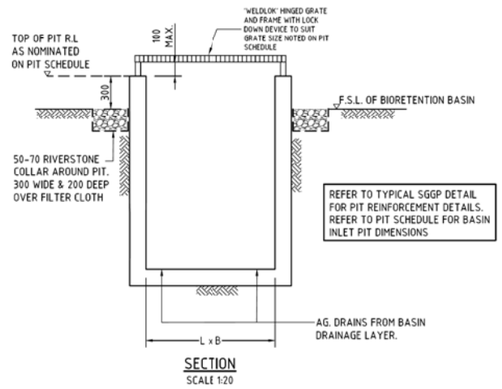
PROVIDE 100mm TOPSOIL AND TEMPORARY EROSION PROTECTION (JUTEMASTER OR EQUIV) TO SWALE BATTER SLOPES AND ADJACENT LANDSCAPED AREAS. NOTE THAT NO TOPSOIL IS TO BE PLACED OVER FILTRATION MEDIA. PROVIDE SILT FENCE TO TOP OF BANK UNTIL SUCH TIME AS THIS STABILISING AND VEGETATION HAS BEEN COMPLETED.

BIO-RETENTION TO BE PARTIALLY INSTALLED, FOLLOWING COMPLETION OF THE ROAD, WITH THE TOP 75-100mm OF FILTER MEDIA REPLACED WITH A FINE TO COARSE SAND UNDERLAIN WITH A GEOTEXTILE LAYER (REFER TO DETAIL). FOLLOWING COMPLETION OF THE UPSTREAM DEVELOPMENT AND SITE STABILISATION, THE SAND IS TO BE REMOVED, REPLACED WITH FILTER MATERIAL AND PLANTED OUT. REFER TO TEMPORARY BIO-BASIN DETAIL

PRIOR TO PLANTING, THE TOP 100mm OF THE BIORETENTION FILTER MEDIA IS TO BE AMELIORATED WITH APPROPRIATE ORGANIC MATTER, FERTILISER AND TRACE ELEMENTS TO AID PLANT ESTABLISHMENT AS PER THE TABLE BELOW:

TABLE: RECIPE FOR AMELIORATING TOP 100mm OF BIORETENTION FILTER MEDIA

CONSTITUENT	QUANTITY (kg/m² OF FILTER AREA)
GRANULATED POULTRY MANURE FINES	50
SUPERPHOSPHATE	2
MAGNESIUM SULPHATE	3
POTASSIUM SULPHATE	2
TRACE ELEMENT MIX	1
FERTILISER NPK (16.4.14)	4
LIME	20



SECTION

SCALE 1:20

BASIN INLET PIT - BIP

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: 17 of 44

SCALE 1:20 AT A0 SHEET SIZE

200mm 0 500 1000 1500 2000mm

SCALE 1:20 AT A0 SHEET SIZE

FOR INFORMATION

AMENDMENTS	DATE	ISSUE
REVISED AS CLOUDED	18.11.20	C
ISSUED FOR INFORMATION	12.08.20	B
ISSUED FOR INFORMATION	21.07.20	A

ARCHITECT

CLIENT

PROJECT: SUSTAINABLE ROAD RESOURCE CENTRE (PHASE 1)
9 DEVON STREET, CLYDE NSW

DESIGNED XC | DRAWN HU | DATE MAY 20 | CHECKED | SIZE A0 | SCALE AS SHOWN | CAD REF C013919.01-DA46

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Walsh Bay, Sydney NSW 2000
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email mail@costinroe.com.au

Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE: CONCEPT STORMWATER DRAINAGE DETAILS - SHEET 2

DRAWING No. C013919.01-DA46 | TITLE C

NO WORKS FOR PHASE 1
OF THE DEVELOPMENT

LIMIT OF WORKS FOR PHASE 1
OF THE DEVELOPMENT

DEVON STREET

BIO-RETENTION BASIN
REFER DRAVING DA41 FOR DETAILS

GPT UNIT

APPROXIMATE EXTENT OF TREE LINE

APPROXIMATE RIPARIAN SETBACK

SITE DISCHARGE POINT

Q100 FLOOD LEVEL = RL
3.76m AHD. (APPROX.)

RAP SHED
FFL 4.10

PROPOSED
RAINWATER
TANKS

PROPOSED
RAINWATER
TANKS

RAP Layout indicative only.
Note: RAP trucks can turn in front of any location and possibly use Agg. Truck WB instead of going back to RAP WB

ASPHALT

RAP Entry

RAP Exit

RECONOMY
RECEIVING
FFL 4.30

RECONOMY
PLANT
FFL 4.10

WAREHOUSE
& SILOS
FFL 4.10

CONCRETE

103.3 m

123.6 m

PROVIDE 3.0m BREAK IN THE
KERB FOR OVERLAND FLOW.
NOMINAL

PROVIDE 3.0m BREAK IN THE
KERB FOR OVERLAND FLOW.
NOMINAL

RETAINING WALL 1
L= 170m
MAX H = 1.0m
SA = 120m²
SURCHARGE = 20kPa

SITE BOUNDARY

SITE BOUNDARY

SITE DISCHARGE POINT

5.0m WIDE OVERLAND FLOW
CHANNEL FOR UPSTREAM
CATCHMENT

CONCEPT FINISHED LEVELS PLAN - PHASE 1
SCALE 1:500

LEGEND:
LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY LANDPARTNERS TITLED AS0205 Clyde_BE_200620 TIN DATED 08/07/20.

- 4.00 - DESIGN CONTOUR (MAJOR 0.5m)
- 3.90 - DESIGN CONTOUR (MINOR 0.1m)
- EXISTING CONTOUR (0.25m INTERVALS)
- SINGLE GRATED GULLY PIT (SGGP)
- Q100 FLOOD EXTENT
- APPROXIMATE EXTENT OF TREE LINE
- RIPARIAN SETBACK

5m 0 10 20 30 40 50m
SCALE 1:1000 AT A0 SHEET SIZE

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Approved Application No: SSD-10459

Granted on: 31 January 2021

Signed: JF Sheet No: 18 of 44

FOR INFORMATION

REVISED PER NEW SITE PLAN	30.11.20	E
REVISED PER NEW SITE PLAN	20.11.20	D
ISSUED FOR INFORMATION	12.08.20	C
REVISED AS CLADDED	21.07.20	B
ISSUED FOR INFORMATION	08.07.20	A

AMENDMENTS | DATE | ISSUE

ARCHITECT

CLIENT

PROJECT
SUSTAINABLE ROAD
RESOURCE CENTRE (PHASE 1)
9 DEVON STREET, CLYDE NSW

DESIGNED XC | DRAWN HU | DATE MAY 20 | CHECKED | SIZE A0 | SCALE AS SHOWN | CAD REF: C013919.01-DA51

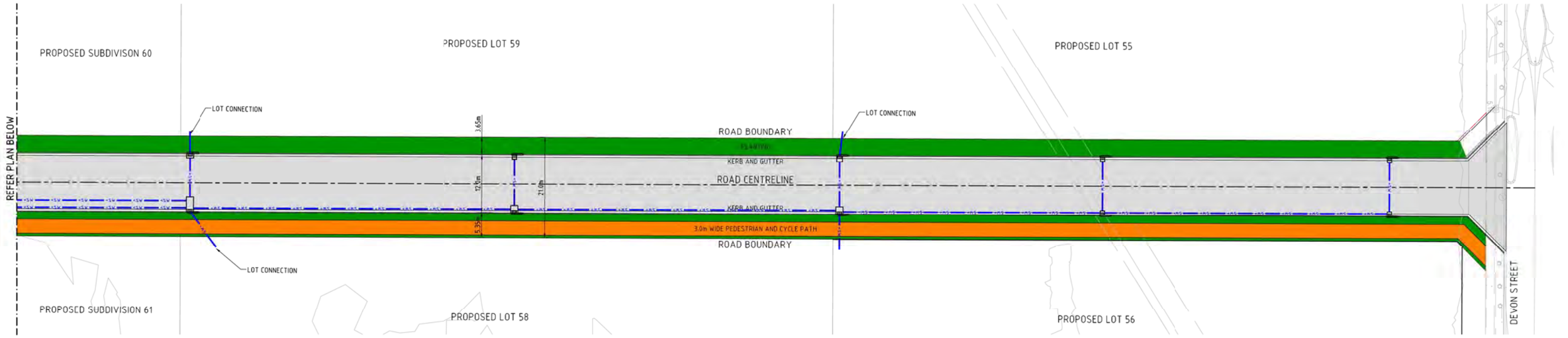
Costin Roe Consulting Pty Ltd.
Consulting Engineers
Level 1, 8 Windmill Street
Walsh Bay, Sydney NSW 2000
Tel: (02) 8251-7900 Fax: (02) 9241-7725
email: mail@costinroe.com.au

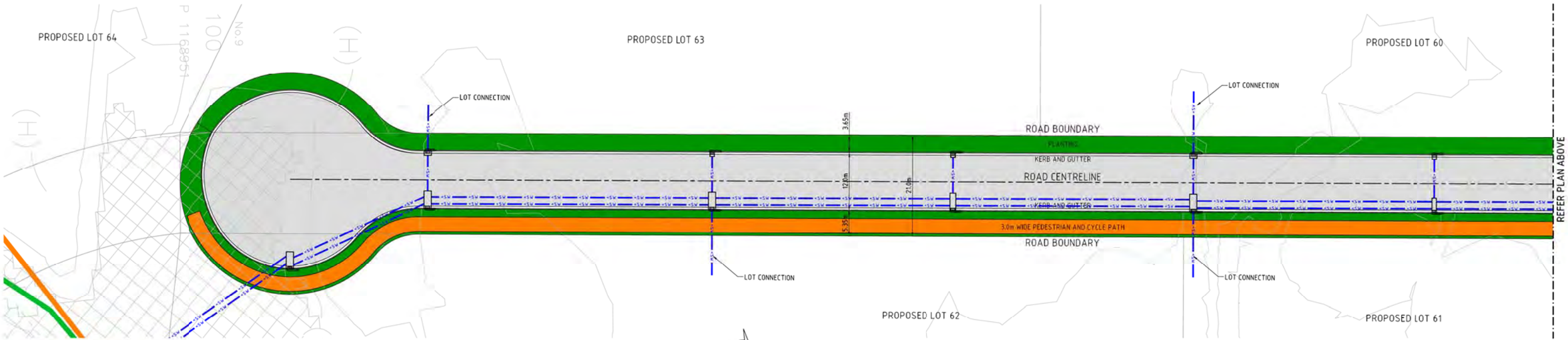
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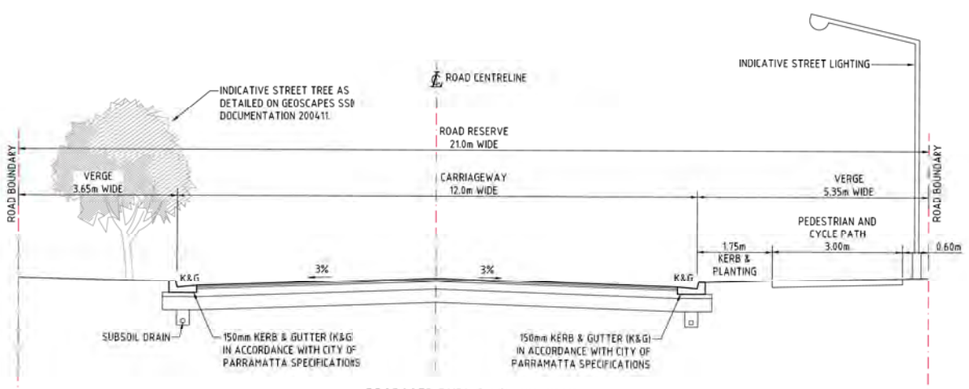
DRAWING TITLE
CONCEPT FINISHED
LEVELS PLAN - PHASE 1

DRAWING No C013919.01-DA51 | ISSUE E





PROPOSED ACCESS ROAD
SCALE 1:300



PROPOSED PUBLIC ACCESS ROAD
TYPICAL CROSS SECTION
SCALE 1:50

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Granted on: 31 January 2021

Signed: JF Sheet No: 19 of 44

500mm 0 1 2 3 4 5m
SCALE 1:50 AT A0 SHEET SIZE

3m 0 5 10 15 20 25 30m
SCALE 1:300 AT A0 SHEET SIZE

FOR INFORMATION

REVISED PER NEW SITE PLAN	30.11.20	F
REVISED PER CLIENT COMMENTS	19.11.20	E
ISSUED FOR INFORMATION	16.11.20	D
ISSUED FOR INFORMATION	12.08.20	C
REVISED AS CLOUDED	21.07.20	B
ISSUED FOR INFORMATION	08.07.20	A
AMENDMENTS	DATE	ISSUE

ARCHITECT

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SUSTAINABLE ROAD RESOURCE CENTRE (PHASE 1)
9 DEVON STREET, CLYDE NSW

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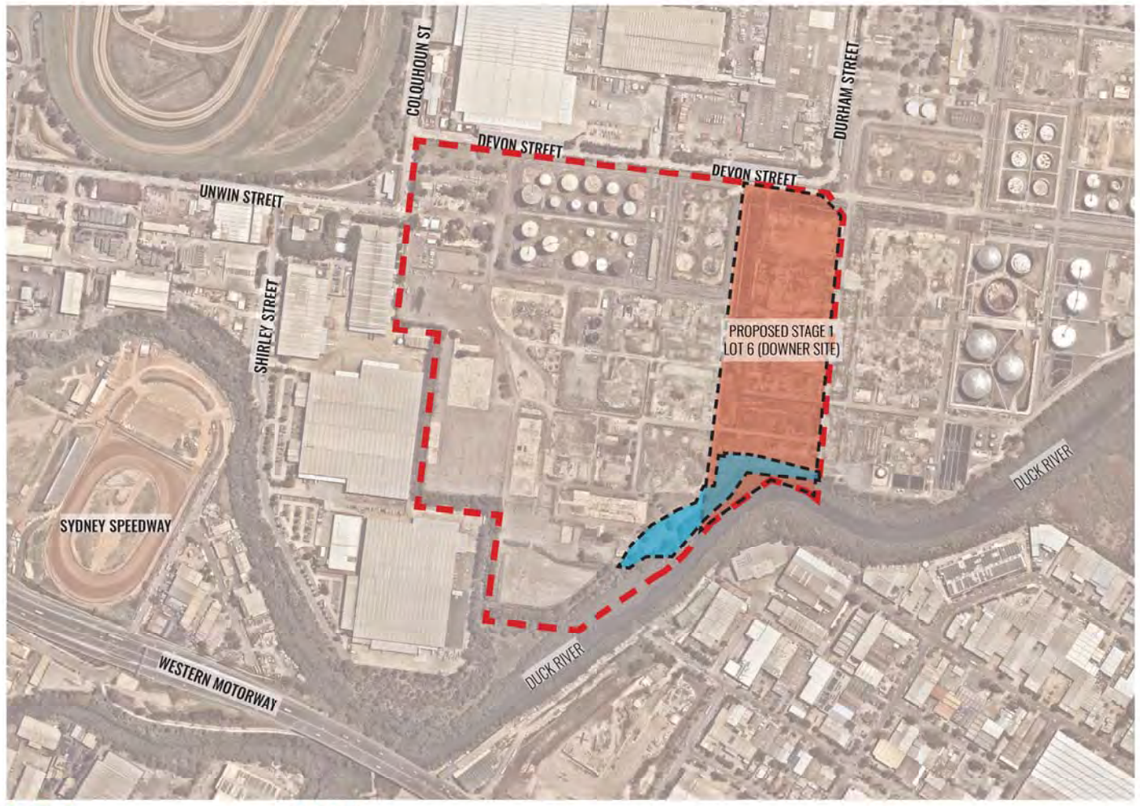
DRAWING TITLE
PROPOSED PUBLIC ACCESS ROAD AND TYPICAL SECTION

DRAWING No. C013919.01-DA60

ISSUE F

SSD - CENTRAL SYDNEY INDUSTRIAL ESTATE - 9 DEVON STREET, ROSEHILL, NSW 2142

Landscape Documentation for State Significant Development Application

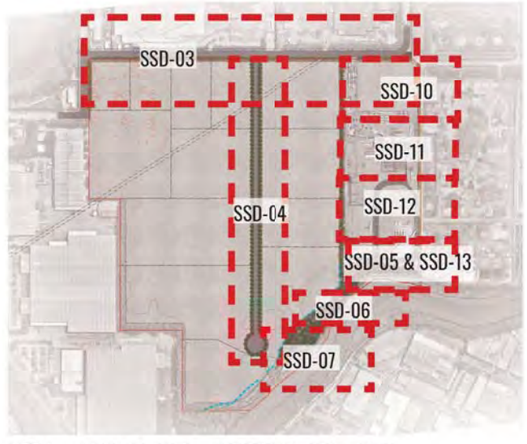


SUBDIVISION BOUNDARY | EXTENT OF RIPARIAN WORKS | EXTENT OF STAGE 1 (LOT 6) WORKS

IMAGE TAKEN FROM NEARMAP 2020

Drawing Register

Dwg No.	Drawing Name	Dwg No.	Drawing Name
SSD-00	Cover Sheet	SSD-09	Riparian Corridor Section B-B
SSD-01	Overall Master Plan	SSD-10	Stage 1 Lot 6 (Downer) Detail Plan - 1
SSD-02	Temporary Erosion Control Plan	SSD-11	Stage 1 Lot 6 (Downer) Detail Plan - 2
SSD-03	Streetscape Plan - Devon Street	SSD-12	Stage 1 Lot 6 (Downer) Detail Plan - 3
SSD-04	Streetscape Plan - Proposed Access Road	SSD-13	Stage 1 Lot 6 (Downer) Detail Plan - 4
SSD-05	Riparian Corridor Detail Plan - 1	SSD-14	Stage 1 Lot 6 (Downer) Section CC
SSD-06	Riparian Corridor Detail Plan - 2	SSD-15	Stage 1 Lot 6 (Downer) Section DD & EE
SSD-07	Riparian Corridor Detail Plan - 3	SSD-16	Specifications & Typical Details
SSD-08	Riparian Corridor Section A-A	SSD-17	Plant Schedules & Imagery



KEY PLAN - SHEET LAYOUTS

SCALE 1:6000

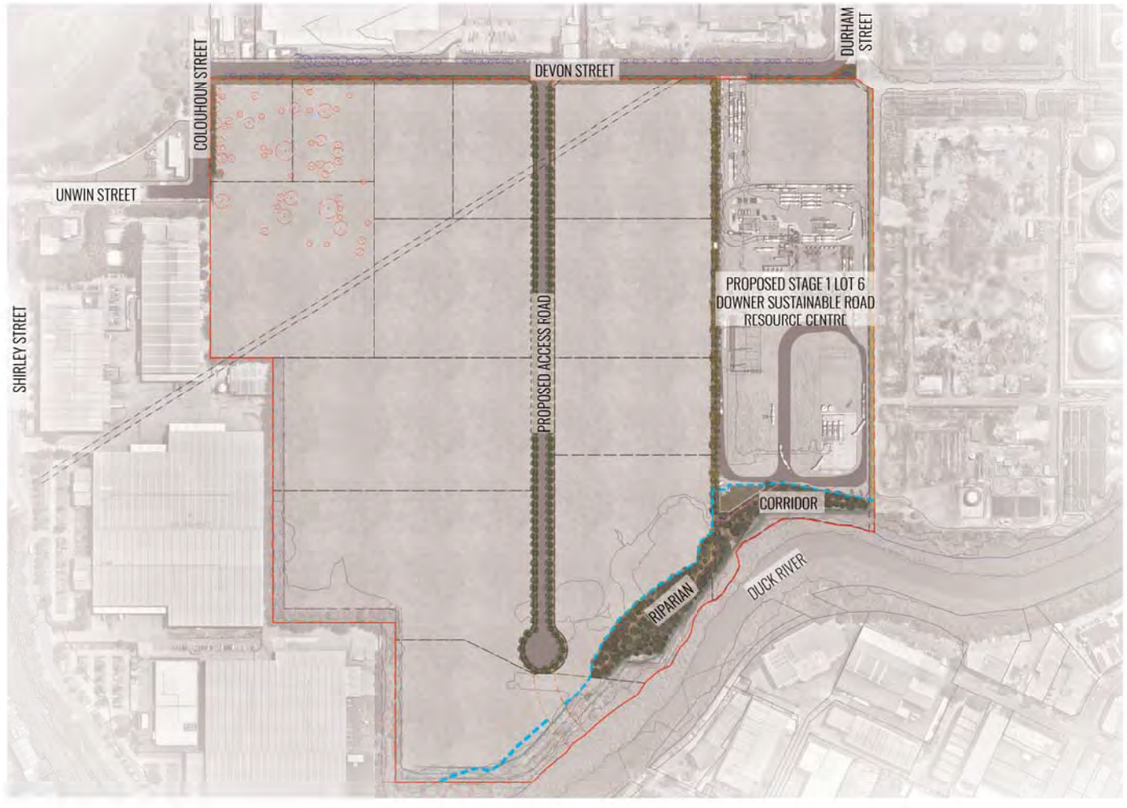
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Granted on: 31 January 2021

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SITE PLAN

SCALE 1:3000

Drawing Title: **Cover Sheet**

DWG No: **SSD-00**

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Suite 215, 284 Victoria Ave, Chatswood NSW 2067 Ph. (02) 9411 1485
www.geoscapes.com.au
ABN 84 620 205 781 ACN 620 205 781

Project Manager: Element Environment Pty. Ltd.

Client: VE PROPERTY
LEVEL 16, 720 BOURKE STREET
DOCKLANDS VIC 3008
PH: (03) 8823 444

Scale: As shown @ A1 | Date: 26.11.2020 | Job Number: 200411 | North:

Project: SSD - Central Syney Industrial Estate
9 Devon Street, Rosehill, NSW 2142

FOR SSD APPLICATION

Revision	Date	Description	Drawn	Checked
H	09.09.20	UPDATED FOR SSD	SB	BG
I	11.09.20	UPDATED FOR SSD	SB	BG
J	11.11.20	UPDATED FOR RTS	PT	BG
K	26.11.20	UPDATED FOR RTS	PT	BG

5M LANDSCAPE SETBACK TO DEVON STREET SUBJECT TO FUTURE APPLICATION. NO LANDSCAPE WORKS PROPOSED FOR THIS SSD.

RETAIN EXISTING STREET TREE PLANTING AND GRASS VERGE.

5M LANDSCAPE SETBACK TO DEVON STREET SUBJECT TO FUTURE APPLICATION. NO LANDSCAPE WORKS PROPOSED FOR THIS SSD.

DEVON STREET

COLQUHOUN STREET

5M WIDE EASEMENT FOR SERVICES

5M WIDE EASEMENT FOR SERVICES

5M LANDSCAPE SETBACK TO DEVON STREET SUBJECT TO FUTURE APPLICATION. NO LANDSCAPE WORKS PROPOSED FOR THIS SSD.

UNWIN STREET

0.695M WIDE EASEMENT

0.695M WIDE EASEMENT

FRONT LAND
+RL 4.50

LOT 6 LANDSCAPE SETBACK

PROPOSED 21M WIDE ROAD RESERVE

NEW CYCLE & PEDESTRIAN PATH IN TURFED VERGE

PROPOSED 5m WIDE SWALE WITH GRASSES & 30-40MM RIVER PEBBLE MULCH ALONG DRAINAGE. SPECIES TO INCLUDE NATIVE GRASSES SUCH AS CAREX APPRESSA, JUNCUS USITATUS & LOMANDRA LONGIFOLIA.

PROPOSED 5M WIDE LANDSCAPE BUFFER WITH STRUCTURED & DENSELY LAYERED SCREEN PLANTING ALONG WESTERN BOUNDARY OF LOT 6. PLANTING TO INCLUDE NATIVE SPECIES SUCH AS WATERHOUSEA FLORIBUNDA, CALLISTEMON SALIGNUS, ETC.

PROPOSED STAGE 1 LOT 6 DOWNER SUSTAINABLE ROAD RESOURCE CENTRE
+RL 3.80
REFER SSD-09 TO SSD-14

DRAINAGE EASEMENT'S

MELALEUCA LINARIIFOLIA AS STREET TREES LOCATED AT 8M CENTRES ALONG PROPOSED ACCESS ROAD

DRAINAGE EASEMENT

RIGHT OF ACCESS & EASEMENT FOR LOT 5 SERVICES

REVEGETATION WORKS TO CONSTITUTE SPECIES LISTED IN THE VMP. TREE CANOPY COVER TO BE 60% OF REVEGETATION AREA.

PROPOSED BIORETENTION BASIN TO ENGINEER'S DETAIL. SPECIES TO INCLUDE GRASSES SUCH AS CAREX APPRESSA, JUNCUS USITATUS, ETC.

NEW FENCE TO ARCHITECT'S DETAILS

2.5M WIDE DECO GRAVEL MAINTENANCE TRACK

RETAIN EXISTING VEGETATION

DUCK RIVER

STORMWATER OUTLET 1 TO ENGINEER'S DETAIL

PROPOSED STRUCTURED RIPARIAN PLANTING AS SPECIFIED IN THE VMP.

STORMWATER OUTLET 2 TO ENGINEER'S DETAIL

DRAINAGE EASEMENT

DRAINAGE EASEMENT

RETAIN EXISTING VEGETATION

DUCK RIVER

LEGEND

- SITE BOUNDARY
- LOT BOUNDARIES
- EASEMENT TO DRAIN WATER. REFER TO SURVEY DRAWINGS.
- EASEMENT 6.095M WIDE FOR SYDNEY WATER. REFER TO SURVEY DRAWINGS.
- RIGHT OF ACCESS & EASEMENT FOR LOT 5 SERVICES. REFER TO SURVEY DRAWINGS.
- 5M WIDE EASEMENT FOR SERVICES. REFER TO SURVEY DRAWINGS.
- 5M WIDE LANDSCAPE SETBACK. REFER TO LOT 6 DETAIL PLANS SSD-09 TO SSD-12.
- EXISTING VEGETATION TO BE RETAINED.
- EXISTING VEGETATION TO BE REMOVED.
- PROPOSED TREES.
- PROPOSED MASS HEDGE PLANTING & SHRUBS.
- PROPOSED GROUNDCOVERS
- PROPOSED SWALE. REFER TO ENGINEER'S DRAWINGS.
- 40M AVERAGE RIPARIAN CORRIDOR. REFER TO VMP FOR DETAILS.
- MEAN HIGH WATER LEVEL OF DUCK RIVER. REFER TO CIVIL DRAWINGS.
- APPROXIMATE EXTENT OF EXISTING TREE CANOPY TO BE RETAINED
- NEW FENCE TO ARCHITECT'S DETAIL. REFER SSD-03 TO SSD-14 FOR DETAILS.
- EXISTING FENCE REFER TO CIVIL ENGINEER'S DRAWINGS
- PROPOSED SITE CONTOURS TO ENGINEERS DETAILS
- DECO GRAVEL MAINTENANCE TRACK. REFER TO SSD-05 & SSD-06.
- HARDSTAND
- FOOTPATH & TURFED VERGE
- ROAD
- RETAINING WALL TO ENGINEER'S DETAIL. REFER TO CIVIL DRAWINGS.

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: 21 of 44**

Drawing Title:
Overall Master Plan
DWG No: **SSD-01**

GEOSCAPES LANDSCAPE ARCHITECTS
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Scale:	Date:	Job Number:	North:
1:1500@ A1 1:3000 @ A3	26.11.2020	200411	

Project: SSD - Central Syney Industrial Estate
9 Devon Street, Rosehill, NSW 2142

Revision — **FOR SSD APPLICATION**

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DEVON STREET

COLQUHOUN STREET

UNWIN STREET

PROPOSED 21M WIDE ROAD RESERVE

FRONT LAND
+RL 4.50

PROPOSED STAGE 1 LOT 6 DOWNER
SUSTAINABLE ROAD RESOURCE CENTRE
+RL 3.80

SETBACK

RIPARIAN

DUCK RIVER

RETAIN EXISTING VEGETATION

DUCK RIVER

DP 864567

LEGEND

- SITE BOUNDARY
- LOT BOUNDARY
- AREAS TO BE HYDROSEEDED OR SUBJECTED TO TACKIFIER FOR SOIL STABILISATION (23.25 ha). REFER TO CIVIL DRAWINGS.
- CONSTRUCTION STAGING AREA (1.2 ha). POST CONSTRUCTION TREATED WITH GRAVEL OR HYDROSEED FOR SHORT TERM PARKING AS REQUIRED. FUTURE USE SUBJECT TO FUTURE DA.
- APPROXIMATE EXTENT OF EXISTING TREE CANOPY TO BE RETAINED
- 40M AVERAGE RIPARIAN CORRIDOR EXTENT. REFER TO VMP FOR DETAILS.
- MEAN HIGH WATER LEVEL OF DUCK RIVER. REFER TO CIVIL DRAWINGS.
- EXISTING FENCE REFER TO CIVIL ENG'S DRAWINGS
- PROPOSED SITE CONTOURS. REFER TO CIVIL ENGINEER'S DRAWINGS.

NSW GOVERNMENT | Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No: SSD-10459

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Signed: JF Sheet No: 22 of 44

Drawing Title:
Temporary Erosion Control Plan
DWG No: **SSD-02**

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Scale: 1:1500@ A1, 1:3000 @ A3
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Job Number: 200411
North:

Project: SSD - Central Syney Industrial Estate
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APPENDIX F LNAPL CONCEPTUAL SITE MODEL (L-CSM)

1. INTRODUCTION

An LNAPL CSM (LCSM) is an extension of the conventional hydrogeological CSM to include LNAPL specific properties and parameters.

The LCSM describes the three-dimensional extent, behaviour and recoverability of the LNAPL, and forms a foundation for subsequent decision making on the requirement for active remediation of LNAPL.

An assessment of the Light Non-Aqueous Phase Liquid (LNAPL) observed within the Stage 2 Area was conducted using a weight of evidence approach to establish its characteristics, extent and mobility. Key lines of evidence used for evaluation included:

- Site geological and hydrogeological characteristics;
- Soil analytical data, including laboratory analysis of soils identified to contain LNAPL;
- Groundwater analytical data, of dissolved phase constituents of concern;
- Groundwater gauging data, including LNAPL thickness and extent; and
- Targeted soil vapour data.

This LNAPL Conceptual Site Model (LCSM) has been developed based on the framework provided within the below technical guidance:

- CRC Care (2015). A Practitioner's guide for the analysis, management and remediation of LNAPL. Technical Report No 34. CRC for Contamination Assessment and Remediation of the Environment, Adelaide, Australia, (herein referred to as 'CRC Care 2015').

The content of this LCSM is to be read in conjunction with the relevant data sources outlined below and the consolidated CSM..

1.1 Relevant Data Sources

Data collected and reviewed as part of the LCSM for the Stage 2 Area has been sourced from the following historical data sources:

- ERM (2009). Phase Separated Hydrocarbon Assessment, Sub Area CSM2. Clyde Refinery, Rosehill
- The routine groundwater monitoring dataset, including groundwater gauging data and laboratory analysis undertaken by ERM across the Site and Stage 2 Area from 2008 – 2020.
- Site Investigation Data relevant to the Western Area, including the following investigation works historically undertaken across the Western Area:
    - AECOM (2018). Viva Energy Clyde Western Area Remediation Project – Targeted Site Investigation. September 2018.
    - ERM 2012. Tank 30 (Tank farm A1) Release Investigation (0150552RP01_Final), Clyde Refinery and Parramatta Terminal, Durham Street, Rosehill, NSW. February 2012.
    - ERM 2012. Stage 1 and 2 Environmental Site Assessment, Clyde Refinery and Parramatta Terminal, Durham Street, Rosehill, NSW. May 2012.
    - ERM 2018a. Environmental Site Assessment AutoNexus – Cnr Unwin and Colquhoun Street, Rosehill NSW. May 2018.
    - ERM 2020a. Clyde Western Area Remediation Project – Remediation Site Investigation. February 2020.
    - ERM 2021. Clyde Western Area Remediation Project – Supplementary ESA (AEC-4). May 2020

- ERM 2021. Clyde Western Area Remediation Project – Stage 2 Environmental Site Assessment. May 2020.
- ERM 2021. Clyde Western Area Remediation Project – Stage 2 Drainage Decommissioning Validation Report. May 2021.

- Soil, groundwater and soil vapour data from the Remediation Site Investigation, undertaken by ERM in July/August 2019.

1.2 Report Structure and Data Gaps

A summary of available data sources and data gaps as specified within Table 1 of CRC Care (2015) for LNAPL Desktop Review Information is provided in the table below:

LCSM Information	Description	Relevant Section	Comments
Site Setting (Historical and Current)	Land use (historical, current and future)	Section 1.3	
	Surficial and bedrock geology characterisation, including presence of aquifers	Section 1.4.1	
	Groundwater Characterisation, including depth to groundwater, groundwater flow direction and velocity, hydraulic conductivity and transmissivity	Section 1.4.2	
Site Structures	Mechanism of Release	Section 1.5.1	
	Subsurface Infrastructure	Section 1.5.2	
	Potential migration conduits and preferential pathways	Section 1.5.3	
LNAPL physical properties	Density, dynamic viscosity, interfacial tensions, vapour pressure, Henry's Law Constant	Not Available	
LNAPL chemical properties	Constituent solubilities and mole fractions	Not Available	
	Weathering profile and breakdown products	Not Available	
	Hydrocarbon compound ratios	Appendix A (Historical Data Tables)	Soil and groundwater laboratory data from areas of LNAPL impact
LNAPL Mobility and body stability information	Depth to LNAPL, water levels and LNAPL – water interface measurements	Section 1.6.1	Routine groundwater monitoring dataset (2008 – 2019)
	Diurnal and seasonal water level fluctuations	Section 1.6.3	

LCSM Information	Description	Relevant Section	Comments
	LNAPL thickness in wells	Section 1.6.1	
	LNAPL transmissivity	Not available	
	Losses, including Source zone natural attenuation	Not available	No specific data available relevant to the Stage 2 Area
	Evidence of migration	Section 1.7	Sourced from routine groundwater monitoring dataset (2008 – 2019)
	Stable/shrinking dissolved phase associated with LNAPL	Section 1.8	Sourced from routine groundwater monitoring dataset (2008 – 2019)
Potential Receptors	Identification of receptors and potentially complete exposure pathways	Section 1.9.1	

1.3 Site Setting

The Stage 2 Area is an approximate 28 hectare parcel of land owned by Viva Energy within the footprint of the wider Clyde Terminal Site and is bordered to the south by Duck River, to the east by current Clyde Terminal Operations and to the north and west by other industrial zoned properties.

The Western Area contained the former refinery processing areas, tank farms and pipe tracks along with numerous warehouses, workshops, fire station, sub stations, office space and an area formerly leased to 'AutoNexus' for the storage of imported vehicles.

Full details of site history and site setting are provided within Section 2 of the RSI Report.

1.4 Hydrogeological Information

1.4.1 Geology

The geology of the Site has been characterised into four (4) units, based on investigations completed by ERM and interpretation of soil bore log data obtained during previous investigations. A summary of the strata identified at the wider Clyde Refinery site detailed below.

- **Unit 1 (Fill Material)** - This material is described as poorly compacted mixture of silt, clay and gravel, with localised areas of slag, furnace ash and concrete, with a maximum reported thickness of 3 metres. This material was used to raise the level of the surface of the low-lying tidal swamp/mangrove area along the Parramatta and Duck Rivers. The fill material pinches out to the west;
- **Unit 2 (Estuarine Sediments)** - This unit comprises of silty clay – clayey silt with occasional sandy lenses and shell fragments to a thickness of approximately 4 m. The unit generally thickens towards the Parramatta River and represents the natural profile prior to development and filling; and
- **Units 3 and 4 (Alluvial Sediments and Residual Clay)** - Tertiary alluvial sediments (up to 20 m thick, including clay with sandy lenses) and residual Ashfield Shale were reported in previous reports;

1.4.2 Hydrogeology

A detailed summary of hydrogeology across the wider Western Area has been provided within the RSI Report (ERM, 2020a). A summary relevant to the Stage 2 Area is provided in Table 1-1 below.

Table 1-1 – Hydrogeology Summary (Stage 2 Area)

Stage	Comment
Groundwater Depth	Groundwater is represented as a shallow unconfined water zone within the fill material and estuarine-alluvial sediments at depths between 1-3 m bgl. Preferential pathways for groundwater flow have been identified as being present within sandy lenses within the fill and estuarine units along with anthropogenic structures, such as the on-site storm water drainage network.
Groundwater Flow Direction	Direction of groundwater flow may be subject to fluctuation following rainfall events and localised groundwater mounding, but has generally been established to be towards the bounding Duck and Parramatta Rivers. Inferred groundwater flow direction based upon recent gauging activities since demolition works in 2016 is towards the Duck River, to the south and south-east. Within AEC-4, groundwater flows radially in line with site topography from the central northern portion of the buried waste mound towards the Duck River in the south and south east. Groundwater contours indicate a westerly to south-westerly flow towards an unlined drainage channel west of the buried waste mound. Groundwater flow in the north east is effected by the localised mounding of groundwater associated with unsealed ground.
Hydraulic Gradient	Average hydraulic gradients calculated parallel to groundwater flow direction indicated the hydraulic gradient to range between 0.003 m/m along the up gradient portion of the Western Area to 0.011 m/m across the southern portions of the Western Area. Hydraulic gradients were found to increase with proximity to the Duck River (ERM, 2018).
Hydraulic Conductivity	Based on historical assessments undertaken: ■ Hydraulic conductivity has been established to be low across the large majority of the Site, with estimated hydraulic conductivity values estimated for wells that were screened across clay, sandy clay and gravelly clay typically ranging from $5x10^{-5}$ m / day to $6x10^{-3}$ m/day. ■ Higher hydraulic conductivity values were reported for wells screened across coarser grained sandy clay soils within the southern portion of the Site and are consistent with the more transmissive nature of these geologies. ■ Generally, hydraulic conductivity values increased from a minimum 5×10^{-5} m/day at the up gradient site boundary to up to 4×10^{-2} m/day closer to the southern site boundary due to the presence of sand/silt estuarine deposits closer to the Duck River. ■ laterally continuous higher hydraulic conductivity lithological units are not expected to be encountered within the Stage 2 Area. Specifically to AEC-4: ■ estimated hydraulic conductivity values estimated for wells that were screened across fill (gravelly clay), sandy clay and clay ranged from $1x10^{-3}$ m / day to 3 m/day.
Tidal Influence	On the basis of static water level data obtained from monitoring wells adjacent to the Duck River (including AEC-4), tidal interaction of surface water within the Duck River with groundwater within is not considered likely to be occurring, and is consistent with tidal assessments undertaken within other area of the Clyde Terminal.

- The focus of investigation activities and the CSM has been on assessment of the shallow water bearing unit. This is due to the nature of soil and groundwater sources within the Stage 2 Area being at or near surface (historical aboveground storage and pipework and near surface drainage). The presence of fill material underlain by impermeable clay lithology has limited vertical migration of impacts in soil and groundwater to within the surficial shallow water bearing unit. This is supported by soil analytical results indicating that COPCs in soil samples collected from within the clay layer (or at depths greater than 2 m bgl) do not exceeded applicable screening criteria
- Based upon the understanding of geology and hydrogeology at the site, the lateral migration potential of COPCs in groundwater is limited by the low permeability of the lithology, relatively flat hydraulic gradient and low average groundwater velocity. This is supported by the limited extent of impacted groundwater reported, indicating that, where present, areas of impacted groundwater are relatively stable and do not appear to be migrating; and
- Given the nature of soil and groundwater sources within the Stage 2 Area (aboveground storage and pipework and near surface drainage), the low permeability clay layer underlying fill material appears to have limited the vertical migration of COPCs. This is supported by the soil analytical results indicating that COPCs in soil samples collected from within the clay layer (or at depths greater than 2 m bgl) do not exceeded applicable screening criteria, with only a few exceptions (i.e. the Southern Buried Waste Area). This is further supported by soil data obtained from depths greater than 2 m.

1.5 Site Structures

1.5.1 Mechanism of release

Soil and groundwater contamination at the Site has been the subject of extensive investigation since 1990. LNAPL sources are disconnected in nature and are indicative of smaller spill events throughout the refinery's operating history.

During former refinery operation, there were a number of potential and known contamination sources identified across the Stage 2 Area which have resulted in soil and groundwater contamination and the presence of LNAPL within the subsurface, including leaks, releases and/or seepage from:

- Aboveground storage tanks;
- Above and below ground pipelines, noting the vast majority of product pipelines are understood to have been constructed above ground;
- Former refinery process and production units;
- Petroleum product transfer areas;
- Landfilling and on-site placement/ burial of sludges and other wastes.
- Since decommissioning and demolition of the above historical primary sources of LNAPL impacts, the following secondary sources of LNAPL remain at the Site:
- Residual LNAPL in shallow soil and groundwater from the above historical sources; and
- Leaks of residual LNAPL from the on-site drainage network and interceptor systems to soil and/or groundwater.

1.5.2 Subsurface Infrastructure

The vast majority of product storage tanks, vessels and product lines associated with historical refining operations were historically operated above ground.

Subsurface infrastructure transferring stormwater and products to the on-site interceptor system occurred within the subsurface via the Continuously Oil Contaminated (COC) and Accidentally Oil Contaminated (AOC) Drainage Systems. A layout of the Site Drainage network is provided on Figure 5 of the RSI report.

The AOC and COC drainage systems delivered contaminated water to the on-site wastewater interceptors, where bulk separation of oils took place. Water from these interceptors was fed into the bio-treater, located in the south-eastern portion of the Western Area. This system treated the wastewater prior to being discharged to the Duck River via licensed discharge points specified by Environmental Protection Licence 570.

The AOC and COC Drainage infrastructure was decommissioned within Stage 2 throughout 2020 and 2021, including pits, pipework and interceptors which were cleaned to remove residual hydrocarbons to the extent practical. Pits and interceptor units were backfilled with stabilised sand and the network has been permanently isolated from the Clyde Terminal Wastewater Treatment Plant (WWTP).

1.5.3 Potential Migration Conduits and Preferential Pathways

Sandy lenses within fill material and estuarine units may create preferential pathways for groundwater and/or LNAPL flow within the subsurface. While lenses of more permeable material are present, their lateral extent is limited with the clay lithology appearing to be dominant across the Stage 2 Area. The discontinuous nature of sand lenses are a key impediment to vertical and lateral LNAPL mobility, with the high pre-entry pressures of the silts and clays impeding lateral migration.

Coarser backfill material (such as bedding sands) around subsurface infrastructure, including the subsurface drainage network has been previously identified as a potential preferential pathway for LNAPL within surrounding less permeable clay lithology. Limited investigation surrounding subsurface drainage infrastructure undertaken as part of the RSI, targeted bedding sands and surrounding material nearby LNAPL source areas indicated limited backfilling material was utilised around drainage lines and minimal penetration of LNAPL was observed within surrounding clay material.

1.6 LNAPL mobility and Stability information

1.6.1 Depth to LNAPL, water levels and LNAPL – water interface measurements

LNAPL has been identified at a measurable thickness within the following groundwater monitoring wells, situated within the Western Area since 2008:

- MW11/17 (AEC-5) – located immediately south of Platformer 3;
- MW12/01 (AEC-4) – situated within the southern buried waste area;
- MW20/06 (AEC-4) – situated within the southern buried waste area;
- MW12/16 (AEC-9) – situated within the former footprint of the distillate splitter (Former Process West);
- MW12/18 and MW12/19 (AEC-10) – Situated within the northern portion of former Process East;
- MW18/24 (AEC-3) – Situated within the footprint of the former laboratory; and
- MW98/6 (AEC-10) – located adjacent substation 24.

Well ID	Minimum Depth to LNAPL (m BTOC)	Maximum Depth to LNAPL (m BTOC)	Maximum LNAPL thickness (m)	Comments
MW18/24 (AEC-3)	1.310 (0.7m BGL)	2.050 (1.33m BGL)	0.324	Monument – 0.72m stickup
MW12/01 (AEC-4)	1.420	3.495	-	LNAPL/ water interface unable to be accurately determined due to highly viscous nature of LNAPL
MW20/06	3.052	3.2	-	LNAPL/ water interface unable to be accurately determined due to highly viscous nature of LNAPL
MW11/17 (AEC-5)	1.575	2.745	0.14	

1.6.2 LNAPL in soils

In addition to the above LNAPL observations within groundwater monitoring wells, the nature and extent of LNAPL observations identified within soil investigation areas for each of the RSI Areas of Environmental Concern (AECs) is provided below.

Soil analytical data from the below locations and depths has been collected and screened against tier 1 criteria for relevant receptors, and due to the weathered nature of identified impacts does not necessarily constitute a potential exposure risk to receptors. A summary of identified potentially complete source-pathway receptor linkages related to LNAPL is provided within Section I.6.

Area of Environmental Concern (AEC)	Location and depth (m BGL)	Soil Maximum PID reading (ppm)	Observations
AEC-1 Old Administration Area	-	-	No LNAPL identified during soil and groundwater investigations undertaken
AEC-2 Buried Waste Area 8 – CDU tank farm sludge	TP18/29 (2.2 – 3.0)	2.2 – 3.0	Sheen visible on soil, strong hydrocarbon odour.
AEC-3 Southern Contractor Area (Former Laboratory)	MW18/24 (2-4)	258.5	LNAPL has been identified during groundwater monitoring within MW18/24 since December 2018 at a maximum thickness of 0.324m in November 2019.
	TP18/20 (0.7)	642	Sheen visible on soil, strong hydrocarbon odour
AEC-3 Southern Contractor Area (Contractor Warehouse)	TP19/16 (0.7-0.8 m)	10	Black silty clay/sludge, strong hydrocarbon odour

Area of Environmental Concern (AEC)	Location and depth (m BGL)	Soil Maximum PID reading (ppm)	Observations
AEC-4 Southern Buried Waste Area (1a)	TP18/27 (2.5m)	179.4	Strong sheen observed on soil and hydrocarbon odour
	MW12/01 (2.5m)	1357	LNAPL – Dark black/brown, highly viscous
	TP19/77 (1.2 – 2m, 3.8 – 4.8m)	520	Free-flowing black viscous LNAPL
	TP19/20 (1.0m)	205	Observed to be entering test pit from a concrete lined pit on southern edge of test pit. Identified as diesel oil by laboratory analysis.
	TP19/75 (2.0m)	241	Black sludge with free phase hydrocarbons observed
	MW20/03 (5.0 – 5.6m)	634.1	Strong hydrocarbon odour. LNAPL observed at 5.0 m and 5.6 m bgl.
	MW20/07 (4.4 – 5.0m)	485.1	Strong hydrocarbon odour and LNAPL observed.
	MW20/13 (1 - 6m)	243.1	Strong hydrocarbon odours, staining observed between 1.5 m and 1.9 m bgl. LNAPL globules present.
AEC-4 Southern Buried Waste Area (1b)	TP19/31 (0.9-1.2m)	7.7	Free phase hydrocarbon and odour noted in wall of test pit at groundwater interface
AEC-5 Platformer 3	MW11/17	0.0	No indication of impact during drilling in 2011. LNAPL has been identified during groundwater monitoring since 2013. Extent of LNAPL appears localised due to no visual indication of LNAPL within surrounding investigation locations.
AEC-6 Buried Waste – Ex Solvents Plant	TP18/32 (1.8-2 m)	80.4	Strong Hydrocarbon Odour, staining observed
	TP19/45 (1.2m)	10.7	Oily sheen, slight hydrocarbon odour from potential sludge leaking out of poly pipe
AEC-7 Pipe Track Areas	-	-	LNAPL has not been identified during soil and groundwater investigations undertaken

Area of Environmental Concern (AEC)	Location and depth (m BGL)	Soil Maximum PID reading (ppm)	Observations
AEC-8 Tank farm J	TP18/31 (0.7 - 2.4m)	146.3	Hydrocarbon odour and elevated PIDs
AEC-9 Process West	TP18/09 (1.0)	99.1	Dark free flowing LNAPL encountered, strong hydrocarbon odour
	MW12/16 (0.5m)	1487 (0.7m)	Strong odour present, no staining observed during drilling. LNAPL has been identified within groundwater during previous investigations within monitoring well MW12/16. LNAPL has been measured at a maximum thickness of 0.025m in this well during the Quarter 2 2016 GME.
	TP19/47 (0.2-2.0)	1140	Black impacted sand, strong hydrocarbon odour, oily substance.
AEC-10 Process East	TP18/11 (1 - 2.3) (south of main area)	7.4	Dark brown and black staining and sheen present between 1.0 – 2.3m BGL
	MW12/18 (0.9m)	320	product entering borehole at 0.9m BGL
	MW12/19 (0.9m)	940.2	product entering borehole at 0.9m BGL
	TP19/43 (1.0m)	3.5	Oily sheen and brown LNAPL entering at 1m
	TP19/44 (0.3m)	43	Oily sheen on perched water at 0.3m
	SB18/07 (0.6-4m)	562	Black staining and strong hydrocarbon odour
AEC-11 Tank farms A1, A2, A3	SB18/12 (0.5, 1.5m)	216.8	yellow/brown liquid, appears to be degraded product
	SB18/13 (0.3m)	114.8	staining, hydrocarbon odour
	SB18/16 (0.3m)	120.9	staining, hydrocarbon odour
	BH12/34 (0.6 – 1.3m)	545	oil-like staining and sheen
	HA19/06 (1.5m)	4.5	LNAPL/oil observed
AEC-12 Tank farm C	HA19/12 (0.45m)	370	Liquid in borehole at 0.45m, potential free phase

Area of Environmental Concern (AEC)	Location and depth (m BGL)	Soil Maximum PID reading (ppm)	Observations
	HA19/14 (0.55m)	273	Strong hydrocarbon odour, oily sheen, potential free phase
AEC-13 Substation Areas and Transformer Yards	-	-	LNAPL has not been identified during soil and groundwater investigations undertaken
AEC-14 Subsurface Drainage Network	TP20/21 (0.8m)	5.4	Groundwater inflow described as 'oily water' was observed at 0.8m bgl
	TP20/22 (1.5m)	93.4	Oily Water Inflow
	TP20/23 (1.5m)	50.4	Water and LNAPL inflow
	TP20/24 (0.9-1.0)	15.2	Groundwater inflow described as 'oily water' was observed at 0.9m bgl
AEC-14B (Compromised Pipes 15D100-4, 15D100-5)	TP20/30	912	Groundwater inflow described as 'oily water' was observed at 0.8m bgl
	TP20/29A	400	Groundwater inflow described as 'oily water' was observed at 0.5m bgl
AEC-15 Other Site Areas	TP18/15		LNAPL observed as "oily water" at a depth of 0.9m BGL

1.6.3 Diurnal and seasonal water level fluctuations

Due to the shallow nature of groundwater underlying the Stage 2 Area, groundwater levels may be influenced by localised infiltration of rainfall, where hardstanding is not present.

Some minor diurnal variability in groundwater levels was noted within wells situated to the south of the AEC-4 area and is attributed to evapo-transpiration processes from surrounding trees and vegetation within this localised portion of the Stage 2 Area.

Result of tidal assessment undertaken as part of the RSI and AEC-4 Supplementary ESA works indicate negligible tidal influence from the Duck River on groundwater levels in wells adjacent to the Duck River at the southern boundary of the Stage 2 Area. Details of the tidal assessment undertaken are provided within these reports.

1.7 Migration Potential

1.7.1 Stage 2 Area

In general, the fate and transport of LNAPL and petroleum hydrocarbons at the Site can be summarised as follows:

- Given the removal of ongoing primary sources from within the Stage 2 Area and cleaning and assessment of the drainage network undertaken, there are no known ongoing primary source of LNAPL to groundwater within the Stage 2 Area. The lack of driving head following removal of potential sources greatly limits the potential for further lateral migration of residual LNAPL identified within the subsurface;

- Biannual groundwater monitoring has been undertaken by ERM since 2008 focusing on monitoring down gradient of potential primary sources, within and down gradient of residual LNAPL impacted areas and along the southern site boundary for changes in conditions. While the configuration of LNAPL impacted areas has been modified over time through the addition of new monitoring wells, LNAPL has not been identified in monitoring wells down-gradient of residual impacted areas over the course of monitoring since 2008;
- Based upon previously observed soil and groundwater impacts identified as part of routine groundwater monitoring, strong links can be made between observed soil and groundwater impacts. As such, the absence of groundwater monitoring wells where LNAPL has been observed within soils is not considered to represent a significant data gap;
- The nature and extent of impacted groundwater, including LNAPL, appear to be stable and limited to the Site. No indication of off-site migration have been established based on the available soil and groundwater analytical data, which is expected based on the limitations posed by the site-specific geological and hydrogeological conditions limiting potential for migration; and
- Vertical migration of constituents of concern does not appear to be significant based on analytical results of soil samples collected from within the low permeability clay layer and of groundwater samples collected from deeper monitoring wells which do not report detections of petroleum based COCs;

Natural attenuation of petroleum hydrocarbons through biodegradation is likely to at least be partially contributing to plume stability. Petroleum hydrocarbons are biodegradable under both aerobic and anaerobic conditions, and this biodegradation can stabilize groundwater plumes and control their migration.

A key finding of investigations works since 2018 investigations (AECOM, 2019) and routine GMEs is that Silica gel clean-up of TRH C_{10}-C_{40} fractions demonstrated a large portion of polar metabolites contribute to concentrations of TRH C_{10} – C_{40} Fractions detected in soil and groundwater samples at the Site. Polar compounds may occur as a result of biological origin (ie humic acids, fats, vegetable oils) or as a by-product of bio-degradation of petroleum hydrocarbons. Given the site history, the Silica gel analysis provides a line of evidence that natural attenuation of petroleum hydrocarbons is occurring at the Site.

Silica gel cleanup of TRH C_{10} – C_{40} Fractions in groundwater samples has consistently reported below the laboratory limit of reporting down-gradient of LNAPL source areas, providing further evidence of stability of LNAPL sources. Reporting of polar metabolites (as indicated by TRH C10-C40 without silica gel cleanup undertaken) is noted down-gradient of these source areas and is a line of evidence that significant degradation processes have already taken place.

1.7.2 AEC-4 (Southern Buried Waste Area)

Specifically to AEC-4, the following lines of evidence indicate limited potential for LNAPL migration:

The occurrence of Light Non-Aqueous Phase Liquids (LNAPL) was limited to the AEC-4 buried waste mound and therefore does not currently present a risk to off-site receptors. Ongoing stability of LNAPL and dissolved phase impacts is expected based on the following:

- The significant time since deposition of waste in AEC-4 (greater than 40 years). The absence of LNAPL or dissolved phase concentrations in down gradient boundary wells suggest that the observed LNAPL is immobile. Ongoing contribution of contaminants to dissolved phase is also low given the weathered nature of the LNAPL source;
- The residual nature of LNAPL source and presence of an impermeable asphalt cap over the majority of AEC-4 to limit infiltration do not provide sufficient driving head to allow significant LNAPL migration in the subsurface;

- The viscous properties of the product (diesel oil/ lube oil mixture) observed across the buried waste area have a demonstrated tendency to bind to soil particles and these properties are anticipated to inhibit mobility of LNAPL through the soil matrix;
- A relatively high proportion of LNAPL mass has been observed to be buried at depths below the water table (phreatic zone) within laterally discontinuous zones of more porous materials (higher sand content) which results in restriction of available pore-space for migration of LNAPL;
- No tidal connectivity with the Duck River limits the potential for migration of LNAPL or dissolved phase hydrocarbons to the Duck River.

1.8 Stable/Shrinking Dissolved Phase extent associated with LNAPL

Mann-Kendall statistical analysis of key dissolved phase contaminants of concern is undertaken routinely to assess for potential adverse changes in environmental conditions or contaminant migration.

During the Quarter 4 (2020) GME, the following conclusions were made with regard to trends of dissolved phase associated with LNAPL:

- TRH Silica Gel Clean-up analysis was undertaken for TRH C_{10}-C_{36} fractions on all wells to determine potential for false positive results arising from the presence of polar (non-petroleum) hydrocarbons in groundwater. Concentrations reported post silica gel clean-up during the Q2 2019 GME were below the laboratory limit of detection, with the exception of 6 samples. It is considered that the use of analytical data for TRH C_{10}-C_{36} fractions for trend analysis may be unreliable for decision-making and was therefore not undertaken due to the potential influence of biodegradation on reported concentrations;
- The reported dissolved phase groundwater conditions for BTEXN and TRH C6-C9 do not indicate the occurrence of previously undetected release events. A statistically increasing trend for TRH C6-C9 fractions was identified at MW12/03 (AEC-3) when the dataset was considered as a whole. However, concentrations were reported at consistent concentrations to that of recent years and are therefore not considered significant in the context of the CSM; and
- The nature and extent of LNAPL and dissolved phase hydrocarbon impacts are currently considered to be stable, well characterised in the context of the current land use and the monitoring well network is considered suitable to assess potential changes in environmental conditions as well as source/pathway/receptor linkages.

1.9 Potential Exposure Pathways

1.9.1 Receptors

On the basis of the CSM developed for the Stage 2 Area, potential receptors associated with identified LNAPL are limited to the following:

- Current and future on-site intrusive maintenance workers;
- Future onsite construction workers conducting excavation works; and
- Future onsite commercial/industrial workers (in indoor settings)

Beneficial groundwater users (potable or non-potable) are excluded as a potential receptor given the absence of registered extraction bores down gradient of the Site, poor natural background quality of groundwater and likely low yields.

Given delineation of LNAPL which has been achieved within the site boundary, complete SPR linkages have not been identified with offsite human health or ecological receptors.

1.9.2 Potential Exposure Pathways

Potential exposure pathways associated with the presence of LNAPL in the subsurface within the Stage 2 Area are limited to the following:

- Direct contact or ingestion of impacted soils, groundwater containing LNAPL during future intrusive maintenance works or sampling works;
- Inhalation of vapours by future on site workers from hydrocarbon impacted soil, groundwater and/or LNAPL in indoor air; and
- Potential acute hazards due to the generation and pooling of ground gases from LNAPL and impacted soil/ groundwater.

In addition to the above, potential for aesthetic impacts (soil staining) or generation of odours during future excavation works is relevant to future site occupants conducting intrusive works.

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

1.10 Identified Source Pathway Receptor Linkages associated with LNAPL

AEC	LNAPL Source(s)	Analytical Results Summary	SPR Linkages
AEC-1 Old Administration Area	No LNAPL sources Identified	■ No LNAPL sources identified based on known historical land use as office space, car park; ■ No secondary sources of LNAPL have been identified in soil or groundwater investigations undertaken.	Nil
AEC-2 Buried Waste Area 8 – CDU tank farm sludge	■ Primary sources within AEC-2 include buried waste materials associated within the CDU tank farm sludge. ■ Secondary sources include subsurface soils/groundwater containing LNAPL	■ LNAPL was identified in soil at TP18/29 (as a visible sheen on soil, with a strong hydrocarbon odour) at a depth of 2.2 – 3m during previous investigations. ■ Results from previous investigations and this RSI returned concentrations of all CoPCs within soil and soil vapour less than the adopted assessment criteria. ■ Based on soil vapour monitoring undertaken, concentrations and flow of hazardous ground gases (methane, carbon dioxide) associated with LNAPL pose a “very low” safety risk in accordance with risk categorisation completed in accordance with the Hazardous Ground Gas Guidance[1]. ■ Based on the lack of an ongoing source and driving head, the significant distance to offsite receptors and lateral delineation achieved via test pitting completed during this RSI, potential migration of LNAPL to offsite receptors from LNAPL within this AEC is considered unlikely.	No exceedances of tier 1 screening criteria were noted for this AEC; ■ Based on the observed presence of LNAPL within the soil profile at TP18/29 within this AEC, aesthetics (odour/staining encountered during future earthworks) and the potential effects of hydrocarbons on future buried infrastructure should be considered within the detailed RAP and/or future Long Term Environmental Management Plans.
AEC-3 Southern Contractor Area	Potential historical sources of LNAPL impacts which have been decommissioned	Based on the available dataset, the following Tier 1 exceedances are noted: <u>Soil</u>	■ Inhalation of vapours from hydrocarbon impacted soil, groundwater and LNAPL by future on

[1] NSW Environment Protection Authority (2019). *Assessment and Management of Hazardous Ground Gases*. Contaminated Land Guidelines

AEC	LNAPL Source(s)	Analytical Results Summary	SPR Linkages
	/ removed from AEC-3 included: ■ laboratory; ■ contractor warehouse; ■ workshop area; Secondary sources include: ■ subsurface soils containing LNAPL	■ TRH C6-C10 (F1) - was reported exceeding the adopted vapour intrusion screening criteria within the former contractor warehouse area (TP19/17 at a depth of 0.5 m bgl) and former laboratory area (TP18/20 and MW18/24, to a depth of 1.2m BGL). An exceedance was also noted at TP21/79 (to a depth of 0.2m, vertically delineated to the upper 1m) ■ Soil analytical results from collected soil samples reported concentrations of TRH Fractions exceeding NEPM management limits to a maximum depth of 1.2m bgl across this AEC. ■ Carcinogenic PAHs (reported as BaP TEQ) and TRH >C16-C34 Fractions exceeded direct contact criteria at a depth of 0.8 m bgl at TP19/16. It is noted that direct contact by current on-site commercial/industrial workers is limited by the presence of hardstanding and overlying fill material. As such, this exposure pathway is limited to direct contact or ingestion of PAHs in soil by intrusive maintenance/ construction workers undertaking earthworks. <u>Groundwater</u> ■ LNAPL has been identified during groundwater monitoring within MW18/24 since December 2018 at a maximum thickness of 0.324m in November 2019. ■ Benzene, ethylbenzene and naphthalene concentrations have been reported exceeding adopted recreational or ecological criteria for offsite receptors in localised monitoring wells (MW12/03 and MW18/24). These groundwater impacts have been delineated to within the site boundary via down gradient wells and are therefore not considered to represent a complete exposure pathway to offsite receptors. <u>Soil Vapour</u> ■ Results of soil vapour assessment exceeded the adopted assessment criteria for volatile petroleum hydrocarbon COPCs. ■ Based on soil vapour monitoring undertaken, concentrations and flow of hazardous ground gases (methane) associated with SV19/03 and SV19/05 pose a “low” safety risk in accordance with risk categorisation completed in accordance with the Hazardous Ground Gas Guidance[2]. As such, consideration of hazardous ground gases in future	site commercial workers in indoor air; ■ Direct contact or ingestion of soils impacted with carcinogenic PAHs (TP19/16) or TRH C16-C34 fractions by on-site intrusive maintenance workers or construction workers undertaking earthworks. ■ Based on the observed presence of LNAPL within soil/ and groundwater within this AEC, and elevated LEL/ methane readings in soil vapour there is potential for pooling of ground gases within future excavations in the former contractor warehouse and laboratory areas. The potential effects of hydrocarbons on future buried infrastructure and aesthetics should also be considered within the detailed RAP and/or future Long Term Environmental Management Plans.

[2] NSW Environment Protection Authority (2019). *Assessment and Management of Hazardous Ground Gases*. Contaminated Land Guidelines

AEC	LNAPL Source(s)	Analytical Results Summary	SPR Linkages
		management and/or remediation decisions for these areas of the site will be required.	
AEC-4 Southern Buried Waste Area	■ Primary sources of LNAPL within AEC-4 include buried waste materials from former refinery operations. ■ Secondary sources include subsurface soils/groundwater containing LNAPL ■ LNAPL has been identified as being "composed of primarily diesel oil with a minor component of an unresolved complex mixture of higher molecular weight, possibly lube oil"	Soil ■ LNAPL and "sludge materials" were identified at variable depths and locations throughout the fill materials within "Southern Buried Waste Area 1a", located within the south-western portion of the Stage 2 Area, within the former "Autonexus Leased Area". ■ Laboratory analysis of collected soil samples returned concentrations of a range of CoPCs (TRH C6-C40 fractions, Benzene, carcinogenic PAHs (reported as Benzo(a)pyrene TEQ) exceeding the adopted assessment criteria. Groundwater The following key observations are noted regarding groundwater results from the investigation: ■ No exceedances of SSTLs for current and future on-site receptors were reported for contaminants of concern in groundwater. ■ Reported exceedances of off-site ecological criteria were situated within the AEC-4 buried waste area and are directly associated with observation of LNAPL in the soil profile at these well locations noted during well installation. ■ No exceedances of assessment criteria for off-site receptors on the down gradient site boundary bordering Duck River, with a minor exceedance of recreational criteria for benzene and ecological criteria for PAHs noted on the western extent of the AEC-4 area. Dissolved phase groundwater impacts are localised to within the AEC-4 Buried waste area. Dissolved phase groundwater impacts have been delineated to below adopted screening criteria via down gradient monitoring wells, with the exception of benzene exceeding recreational assessment criteria and PAHs exceeding ecological assessment criteria at MW20/03, situated on the western extent of the AEC-4 area adjacent an unlined storm water channel. A risk to offsite receptors at this location is considered unlikely based on the following lines of evidence: ■ direct exposure by recreational receptors to benzene in groundwater is not a likely exposure pathway given no feasible access by recreational users to the storm water channel. The average groundwater discharge concentration for benzene from AEC-4 to the drainage channel could also be expected to be below recreational criteria given no benzene detections bordering the drainage channel in other wells to the south and to the north; ■ contribution of groundwater to overall flows within the drainage channel is considered negligible in the context of contributing flows from the 3 x 910mm concrete drainage pipes from public roadways to the north and would be expected to provide	■ Indoor inhalation of vapours by future commercial/industrial workers (benzene, TRH C6-C10 (F1) fractions) from LNAPL and hydrocarbon impacted soil; ■ Direct contact or ingestion of LNAPL impacted soils (TRH >C10-C16 (F2) Fraction, TRH >C16-C34 Fraction, carcinogenic PAHs), by on-site intrusive maintenance workers or construction workers undertaking earthworks. ■ Based on the observed presence of LNAPL within soil/ and groundwater within this AEC, there is potential for pooling of ground gases within future excavations undertaken by on-site intrusive maintenance or construction workers or within future buildings. The potential effects of hydrocarbons on future buried infrastructure and aesthetics should also be considered within the detailed RAP and/or future Long Term Environmental Management Plans for this AEC.

AEC	LNAPL Source(s)	Analytical Results Summary	SPR Linkages
		further dilution effect prior to discharge to the Duck River. ■ Ecological exceedances of PAHs are considered indicative of a near source impact (immobile NAPL within the soil profile) rather than a down gradient plume of PAHs. The low solubility and high sorption properties of these PAHs restrict their potential to migrate in groundwater flow, as is evident with no detections reported down-gradient of other source areas. Considering this, the exceedances of PAHs at MW20/03 are not considered to indicate a risk to the down-gradient aquatic environment. ■ Light Non-Aqueous Phase Liquids (LNAPL) were also limited to the AEC-4 buried waste mound and therefore does not currently present a risk to off-site receptors. Ongoing stability of LNAPL and dissolved phase impacts is expected based on the following: ▪ The significant time since deposition of waste in AEC-4 (greater than 40 years). The absence of LNAPL or dissolved phase concentrations in down gradient boundary wells suggest that the observed LNAPL is immobile. Ongoing contribution of contaminants to dissolved phase is also low given the weathered nature of the LNAPL source; ▪ The residual nature of LNAPL source and presence of an impermeable asphalt cap over the majority of AEC-4 to limit infiltration do not provide sufficient driving head to allow significant LNAPL migration in the subsurface; ▪ The viscous properties of the product (diesel oil/ lube oil mixture) observed across the buried waste area have a demonstrated tendency to bind to soil particles and these properties are anticipated to inhibit mobility of LNAPL through the soil matrix; ▪ A high proportion of LNAPL mass has been observed to be buried at depths below the water table (phreatic zone) within laterally discontinuous zones of more porous materials (higher sand content) which results in restriction of available pore-space for migration of LNAPL; ▪ No tidal connectivity with the Duck River limits the potential for migration of LNAPL or dissolved phase hydrocarbons to the Duck River.	
AEC-5 Platformer 3	■ Historical primary sources of LNAPL include former Platformer 3 operations. This plant has been decommissioned and removed from the Site. ■ Secondary sources include subsurface	<u>Soil</u> ■ Field observations during soil sampling identified strong hydrocarbon odours and elevated PID readings to a depth of 0.4 m bgl. No evidence of staining, odour or other visual / olfactory indications of contamination were recorded within underlying natural material. ■ Laboratory analysis of collected soil samples were below the adopted assessment criteria <u>Groundwater</u>	■ No exceedances of tier 1 screening criteria are noted for this AEC; ■ Based on the observed presence of LNAPL within groundwater at MW/11/17 within this AEC, aesthetics (odour/staining

AEC	LNAPL Source(s)	Analytical Results Summary	SPR Linkages
	soils/groundwater containing LNAPL	■ LNAPL has been identified in monitoring well MW11/17, located immediately south of Platformer 3 during groundwater monitoring events undertaken since March 2013 at a maximum thickness of 0.077m. LNAPL or elevated dissolved phase concentrations have not been detected within monitoring wells situated down gradient of this locations. ■ Concentrations of dissolved phase COPCs in groundwater samples collected from MW11/17 have been reported below adopted assessment criteria, indicating low solubility and volatility of LNAPL. ■ Based on the lack of an ongoing source and driving head, the significant distance to offsite receptors and lateral delineation achieved via test pitting completed during this RSI, potential migration of LNAPL to offsite receptors from LNAPL within this AEC is considered unlikely. <u>Soil Vapour</u> ■ Concentrations of COPCs in soil vapour sample SV19/09, targeted at MW11/17 were not detected above the laboratory LOR or adopted assessment criteria. ■ Hazardous ground gas categorisation was undertaken for methane and carbon dioxide concentrations in accordance with the NSW EPA ground gas guidance (NSW EPA 2019). Based on soil vapour monitoring undertaken, these gases were categorised as having a “very low” safety risk in accordance with of the Ground Gas Guidance[3]. As such, no further management of hazardous ground gases are considered necessary for LNAPL at this location.	encountered during future earthworks) and the potential effects of hydrocarbons on future buried infrastructure should be considered within the detailed RAP and/or future Long Term Environmental Management Plans.
AEC-6 Buried Waste – Ex Solvents Plant	■ Primary sources of LNAPL within AEC-6 include the bio-treatment facility and buried waste materials. ■ Secondary sources include subsurface soils containing LNAPL	■ Fill comprising black shale, bricks with an observed oily sheen and hydrocarbon odour was identified within TP19/45 at a depth of between 1.0 – 1.2m bgl. ERM notes that section of poly-pipe was identified within this material with a sludge like material leaking from the pipe. Concentrations of COPCs within the soil material surrounding the section of pipe were reported by the laboratory below the adopted assessment criteria; ■ LNAPL has historically been identified within soil at TP18/32 at depths between 2 and 4 m bgl; ■ Laboratory analysis of collected soil samples returned concentrations of CoPCs less than the adopted tier 1 assessment criteria; ■ One sample collected from TP19/46 exceeded NEPM TRH management limits (TRH C16-C34 Fractions) at a depth of 0.05 m bgl.	■ Based on the isolated presence of LNAPL within the soil profile at TP18/32 within this AEC, there is potential for pooling of ground gases within future excavations undertaken by on-site intrusive maintenance or construction workers. The potential effects of hydrocarbons on future buried infrastructure and aesthetics should also be considered within the detailed

[3] NSW Environment Protection Authority (2019). *Assessment and Management of Hazardous Ground Gases*. Contaminated Land Guidelines

AEC	LNAPL Source(s)	Analytical Results Summary	SPR Linkages
			RAP and/or future Long Term Environmental Management Plans.
AEC-7 Pipe Track Areas	■ Historically, primary sources within AEC-7 include former surface spills from transfer of product within pipework during former refinery operation; ■ Secondary sources include impacted soils containing LNAPL	■ No LNAPL was noted within this AEC during investigation works ■ No exceedances of tier 1 criteria for soil were reported	No potential SPR linkages were identified during the investigation
AEC-8 Tank farm J	■ Historically, primary source areas within AEC-8 included former fuel storage infrastructure which has been decommissioned / removed from the Site. ■ Secondary sources include subsurface soils containing LNAPL	■ PID screening returned a maximum concentration of 2 ppm at a depth of 0.4 m bgl. A hydrocarbon odour was noted at a depth of 0.2 m bgl, ■ No evidence of staining was noted within fill materials. ■ LNAPL was identified within previous investigations at TP18/31 at depths ranging from 0 – 2 m bgl. ■ TRH exceeding NEPM management limits was identified within sol at a depth of 0.4 m bgl	■ No exceedances of tier 1 screening criteria have been noted in soils analysed. ■ Based on the isolated presence of LNAPL within the soil profile at TP18/31 within this AEC, there is potential for pooling of ground gases within future excavations undertaken by on-site intrusive maintenance or construction workers. The potential effects of hydrocarbons on future buried infrastructure and aesthetics should also be considered within the detailed RAP and/or future Long Term Environmental Management Plans for this area.
AEC-9 Process West	■ Historically, primary source areas within AEC-9 included former fuel processing infrastructure which has been decommissioned / removed from the Site. ■ Secondary sources include	<u>Soil</u> ■ PID screening returned a maximum concentration of 1141 ppm at TP19/47 at a depth of 1.2 m bgl Hydrocarbons odours were noted to be present throughput the fill profile with staining / black impacted sands being identified at TP19/42 and TP19/47 at a depth of 0.4 – 2.0 m bgl. ■ Laboratory analysis of collected samples identified TRH C6-C10 (F1) exceeding the adopted screening criteria with a reported	■ Based on the observed presence of LNAPL within soil/ and groundwater within this AEC (MW12/16, TP19/47), the potential effects of hydrocarbons on future buried infrastructure and aesthetics should

AEC	LNAPL Source(s)	Analytical Results Summary	SPR Linkages
	subsurface soils containing LNAPL	concentration of 300 mg/kg within TP19/47 at depth of 0.3 m bgl. ■ Soil samples collected from TP19/42 and TP19/47 exceeded NEPM management limits for TRH C10-C16 fractions at depths ranging from 0.3 m bgl – 0.4 m bgl. <u>Groundwater</u> ■ LNAPL has been identified within groundwater during previous investigations within monitoring well MW12/16. LNAPL has been measured at a maximum thickness of 0.025m in this well during the Quarter 2 2016 GME. ■ Concentrations of TRH C6-C10 (F1) fractions in groundwater have exceeded adopted HSL-D criteria for vapour intrusion at MW12/16; ■ Concentrations of benzene, ethylbenzene and xylenes have been reported exceeding adopted offsite recreational criteria in monitoring wells MW12/16 and MW11/27 (benzene only) during groundwater sampling undertaken during the last 5 years. Concentrations of naphthalene and metals (including trivalent and hexavalent chromium, lead, nickel, copper, and zinc) have also been reported above adopted ecological criteria. ■ Naphthalene and zinc were identified to exceed the adopted ecological water criteria in ASLP samples collected. ■ Given the large distance between this AEC and the Duck River, and down gradient delineation of the above COPCs to below relevant criteria, SPR linkages with offsite receptors are considered incomplete; <u>Soil Vapour</u> ■ Soil vapour results identified exceedances of the adopted screening criteria for TRH >C8-C10 and TRH >C10-C12 Aliphatic fractions, TRH >C8-C10 Aromatic fractions, Benzene, Naphthalene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene within SV19/07, targeted at LNAPL identified in monitoring well MW12/16. ■ Hazardous ground gas categorisation was undertaken for methane and carbon dioxide concentrations in accordance with the NSW EPA ground gas guidance (NSW EPA 2019). Based on soil vapour monitoring undertaken, these gases were categorised as having a “very low” safety risk in accordance with of the Ground Gas Guidance[4]. As such, no additional management of methane or carbon dioxide gases are considered necessary for LNAPL at this location.	also be considered within the detailed RAP and/or future Long Term Environmental Management Plans.

[4] NSW Environment Protection Authority (2019). *Assessment and Management of Hazardous Ground Gases*. Contaminated Land Guidelines

AEC	LNAPL Source(s)	Analytical Results Summary	SPR Linkages
AEC-11 Tank farms A1, A2, A3	■ Historically, primary source areas within AEC-11 included fuel storage infrastructure Secondary sources include subsurface soils containing LNAPL	Soil ■ During investigation works, hydrocarbon odours and staining were noted within several locations to a depth of between 0.6 to 1.5m bgl ■ LNAPL and hydrocarbon sheen has been identified within soil at several locations throughout the area to a depth of 1.5 m bgl. ■ Results of soil sampling identified exceedances of NEPM management limits for TRH C10-C16 and C16-C34 across Tank farm A2 (0.3 to 1.2m bgl), northern extent of Tank farm A1 (0.3m bgl) and the eastern extent of Tank farm A3 (to 0.8m bgl). Soil Vapour ■ Concentrations of COPCs in soil vapour sample SV19/06 were reported below adopted screening criteria. ■ Hazardous ground gas categorisation was undertaken for methane and carbon dioxide concentrations in accordance with the NSW EPA ground gas guidance (NSW EPA 2019). Based on soil vapour monitoring undertaken, these gases were categorised as having a “very low” safety risk in accordance with of the Ground Gas Guidance[5]. As such, further management of hazardous ground gases are considered unlikely to be required for LNAPL at this location.	■ Based on the observed presence of LNAPL within soil and groundwater within this AEC, there is potential for pooling of ground gases within future excavations undertaken by on-site intrusive maintenance or construction workers. The potential effects of hydrocarbons on future buried infrastructure and aesthetics should also be considered within the detailed RAP and/or future Long Term Environmental Management Plans.
AEC-13 Substation Areas and Transformer Yards		■ No LNAPL was noted within this AEC during investigation works No exceedances of tier 1 criteria for soil were reported	■ No exceedances of tier 1 screening criteria have been noted in soils analysed.
AEC-14 Subsurface drainage network	■ Primary sources areas within AEC-14 include compromised or leaking subsurface drainage infrastructure, which contained hydrocarbon/oily water from product storage and handling areas. ■ Secondary sources include subsurface soils containing LNAPL and surface materials potentially impacted with PFAS	■ LNAPL was visibly identified within backfill sand material surrounding sections of compromised pipework within Stage 2 Area (TP20/21, TP20/22, TP20/23, TP20/24, TP20/29A, TP20/30) to a depth of 1.5m BGL. The following exceedances of Tier 1 Criteria for soils were noted: ■ Indoor inhalation of vapours from volatile TRH fractions (C6-C16) by future on site commercial workers from hydrocarbon impacted soils at: ▪ AEC-14A (TP20/28) ▪ AEC-14B (TP20/29a, TP20/29b, TP20/29c, TP20/30, TP21/07) ■ Direct contact with contaminated soils (carcinogenic PAHs) by future on-site construction workers undertaking intrusive works: ▪ AEC14B (TP20/30, TP21/07)	■ Based on field observations and results of the RSI and previous investigations, no potentially complete pathways have been identified

[5] NSW Environment Protection Authority (2019). *Assessment and Management of Hazardous Ground Gases*. Contaminated Land Guidelines

AEC	LNAPL Source(s)	Analytical Results Summary	SPR Linkages
		■ The presence of LNAPL and soils exceeding TRH management limits associated with the drainage network in Stage 2 as shown on Figures 6A-6C of the Stage 2 RAP requires management under a LTEMP for aesthetic/ odour impacts identified during future works.	
AEC-15 General Site Areas (not covered within other AECs)		■ LNAPL has been identified in soil and groundwater during previous investigations and this RSI within the central portion the site to the south of AEC-9 (TP18/09) and AEC-11 (TP18/15, TP18/30). ■ Heavily stained soil material was identified to a depth of 0.3m bgl at BH12/28, within the footprint of former tanks 72, 74 and 75, formerly containing boiler fuel oil. Soil concentrations exceeded the criteria for direct contact by commercial workers for TRH C16-34 fractions in this isolated location. ■ Soil sampling identified exceedances of NEPM management limits for TRH C10-C16 and C16-C34 at shallow depths less than 0.5 m bgl. <u>Groundwater</u> ■ No LNAPL has been identified within groundwater monitoring wells installed within AEC15. As reported within routine groundwater monitoring reports, including the Stage 2 Area, concentrations of dissolved phase COPCs have been demonstrated to be stable to decreasing within the wider Stage 2 Area and are limited to on-site environments.	■ Potential acute hazards from the pooling of hazardous ground gases from LNAPL and impacted soil/ groundwater on-site intrusive maintenance workers or construction workers undertaking earthworks. ■ Direct contact or ingestion of impacted soils (TRH >C16-C34 Fraction), by on-site intrusive maintenance workers or construction workers undertaking earthworks – Limited to BH12/28.

1.11 Data Gaps Assessment

In accordance with the CRC Care (2015) Guidance, an LNAPL CSM should include information relating to the following parameters:

- LNAPL physical properties data – including density, dynamic viscosity, interfacial tensions, vapour pressure, Henry's law constant
- LNAPL chemical properties – including constituent solubilities and mole fractions, weathering profile and breakdown products; and
- LNAPL mobility and body stability information – LNAPL transmissivity and losses (including Source Zone Natural Attenuation).

The above data sources have not been able to be obtained due to minimal thickness and/or highly viscous LNAPL identified within groundwater monitoring wells within the Stage 2 Area, which have inhibited the ability to obtain sufficient sample volumes for laboratory assessment of chemical and physical properties during investigations undertaken within the Western Area. Similarly, for bail down testing, at least 0.33 m of LNAPL is desirable to obtain useful results (API, 2004).

Anecdotal evidence, including the slow movement of LNAPL from the soil profile into well screens following well installation (often months to years) is suggestive of low transmissivity and provides a limitation to the assessment of physical and chemical properties.

Given the extensive groundwater dataset for the Stage 2 Area, established stability of LNAPL and associated dissolved phase impacts and lack of ongoing primary sources for the release of LNAPL at the site, the focus of the LCSM for the site is on potential risks to future on-site receptors under the proposed future commercial/industrial land use.

The currently preferred remediation strategy for the site, which focuses on ex-situ soil remediation methods, with no active groundwater or LNAPL remediation does not require detailed assessment physical properties. Should groundwater remediation methodologies targeting LNAPL recovery be required as a contingency measure, further information may be required in relation to the identified data gaps relating to LNAPL recoverability within specific areas.

1.12 Remediation of LNAPL

The remediation strategy for the site, as outlined within Section 12 of the Conceptual Remediation Action Plan (AECOM, 2019[6]) prepared for the project states that where remediation is required, the focus of the works would be on:

- Addressing petroleum hydrocarbon impacts on shallow soil horizons;
- Addressing soil/sludge impacts in the drainage network and surrounds;
- Removing LNAPL trapped within shallow soils to the extent practicable; and
- Ensuring short or long-term contamination risks to the environment are removed or mitigated.

The requirement to remove LNAPL would be based on the level of potential human health risk for the proposed commercial/ industrial end use and the commercial viability of remediation. Given the established stability of LNAPL and associated dissolved phase impacts, removal of LNAPL to reduce groundwater contaminant migration is not a key driver. It is anticipated that the proposed strategy within the Conceptual RAP, which focuses on excavation of soils for on-site treatment will appropriately remove LNAPL in areas where it has been identified to pose a risk to human health, to the extent practicable.

Based on Tier 2 assessment undertaken as part of the HHERA, soil and groundwater impacts associated with LNAPL have been identified exceeding human health screening criteria at the below locations.

- AEC-3 (Former Laboratory and Contractor Warehouse Areas);
- AEC-4 (Southern Buried Waste Area);
- AEC-14B (Compromised Drainage Pipe 15D100-4, 15D100-5);

Where no risk to receptors is identified associated with LNAPL occurrence through the HHERA, management considerations (for in-situ management under a LTEMP) are to incorporate the identification of the location of identified LNAPL for awareness of aesthetic impacts (soil staining, LNAPL) and management of odours during future earthworks or excavations conducted in these areas.

[6] AECOM (2018) Viva Energy Clyde Western Area Remediation Project. Appendix C: Conceptual Remedial Action Plan

APPENDIX G STOCKPILE REGISTER

Stockpile ID	Alternate ID	Location on Site	Location on Site	Source	Backfill Location	Dimensions (m)		Est Volume (m3)	Material Description	Soil Sampling	Existing Sample	Asbestos Present?	Asbestos comment	WARP - Suitable for re	Re-Use Comment		Required	Required Sample	Additional Characterisation - Lab Analysis						Geotech
SP1		Stage 2	Tankfarm A3	AEC-9 Trial Excavation - biopiled material		-	-	50	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes		-	0		0	0	0	0	0	0	
SP2		Stage 2	Tankfarm A3	AEC-9 Trial Excavation - biopiled material		-	-	50	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes		-	0		0	0	0	0	0	0	
SP3		Stage 2	Tankfarm A3	AEC-9 Trial Excavation - landfarmed material		-	-	50	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes		-	0		0	0	0	0	0	0	
SP4		Stage 2	Near former AFFF storage tank	AEC-9 Trial Excavation - landfarmed material		-	-	50	Soil - biopile material	No	2	No	Validated as suitable for re-use in accordance with NEPM	Yes		-	0		0	0	0	0	0	0	
SP29		Stage 2	Tankfarm A3	Liberty Demo - Asbestos Waste	To be disposed from site	55	1	55	Liberty Demo - Asbestos Waste	Yes	3	Yes	Abundant bonded asbestos present	No	To be disposed from Site	No additional characterisation required at this stage	0	-	0	0	0	0	0	0	
SP30		Stage 2	South of Tarkfarm A2	Western Area Demo - 2020		85	0.5	42.5	Brick and Concrete with ACM	No	1 ACM	Yes	ACM unable to be quantified for validation in oversized material. 1 x fragment identified	No	To be disposed from Site	Potential re-use as backfill in WARP - at depth	0	Inspect Only	0	0	0	0	0	0	
SP31		Stage 2	South of Tarkfarm A2	Western Area Demo - substation		215	1.5	322.5	Brick, concrete and Metal	No		No	No visible ACM	Yes		Potential re-use as backfill in WARP	0	Inspect Only	0	0	0	0	0	0	
SP32		Stage 2	South of Tarkfarm A1	Western Area Demo - 2020		520	1.5	780	Brick, concrete and soil	Yes	10	No	No visible ACM	Yes		Potential re-use as backfill in WARP	10	Min Samples for 95% UCL Average (VIC EPA, 2010)	10	5	0	10	5	0	1
SP33		Stage 2	South of Tarkfarm A1	Western Area Demo - 2020		30	0.5	15	Concrete, Soil, Asphalt, Metal	Yes	3	No	No visible ACM	Yes		Potential re-use as backfill in WARP	3	1:25	3	2	0	3	2	0	
SP34		Stage 2	South of Tarkfarm A1	Western Area Demo - 2020		100	0.8	80	Brick	No		No	No visible ACM	Yes		Potential re-use as backfill in WARP	0	Inspect Only	0	0	0	0	0	0	
SP35		Stage 2	South of Tarkfarm A1	Western Area Demo - 2020		90	1	90	Concrete	No		No	No visible ACM	Yes		Potential re-use as backfill in WARP	0	Inspect Only	0	0	0	0	0	0	
SP36		Stage 2	South of former water tanks (88 and 89)	Western Area Demo - 2015		60	0.5	30	Bricks and Concrete	No		No	No visible ACM	Yes		Potential re-use as backfill in WARP	0	Inspect Only	0	0	0	0	0	0	
SP37		Stage 2	Tankfarm J	Western Area Demo - 2015		2250	3	6750	Soil, concrete and Bricks	Yes	22	Yes	Compliant bonded asbestos present	Yes		Potential re-use as backfill in WARP - at depth	22	1 per 250m3	22	11	0	22	11	0	11
SP38		Stage 2	Tankfarm J	Western Area Demo - 2015		520	0.5	260	Concrete	No		No	No visible ACM	Yes		Potential re-use as backfill in WARP	0	Inspect Only	0	0	0	0	0	0	1
SP39		Stage 2	Platformer 3, est of Tankfram J	Western Area Demo - 2015		1000	1.8	1800	Concrete	No		No	No visible ACM	Yes		Potential re-use as backfill in WARP	0	Inspect Only	0	0	0	0	0	0	1
SP40		Stage 2	Former laboratory area	Western Area Demo - 2020		75	0.4	30	Brick, glass and concrete	No		No	No visible ACM	Yes		Potential re-use as backfill in WARP	0	Inspect Only	0	0	0	0	0	0	
SP41		Stage 2	Former fire station area	Western Area Demo - 2015		500	2.5	1250	Concrete, Brick	No		No	No visible ACM	Yes		Potential re-use as backfill in WARP	0	Inspect Only	0	0	0	0	0	0	1
SP42		Stage 2	Former fire station area	Western Area Demo - 2015		175	1	175	Concrete, Brick	No		No	No visible ACM	Yes		Potential re-use as backfill in WARP	0	Inspect Only	0	0	0	0	0	0	1
SP43		Stage 2	Former laboratory area	Western Area Demo - 2015		210	1.2	252	Concrete, Brick	No		No	No visible ACM	Yes		Potential re-use as backfill in WARP	0	Inspect Only	0	0	0	0	0	0	1

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