Clyde Western Area Remediation Project

Stage 1 - Detailed Remediation Action Plan

21 July 2020

Project No.: 0515132

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21 July 2020

Clyde Western Area Remediation Project

Stage 1 - Detailed Remediation Action Plan

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GLOSSARY

Glossary Term	Definition
the Site	Viva Energy owned land on the Camellia Peninsula consisting of the following Lots: Lot 398 DP41324, Lots 100 and 101 of DP 1168951, Lot 101 DP809340, Lot 2 DP 224288, and Lot 1 DP 383675. It includes the Clyde Terminal, the Parramatta Terminal, the Wetland, the Western Area and other land that is currently vacant or leased to third parties
the Western Area	A largely vacant area of land, approximately 40 Ha in size, located in the south western part of the Site. The land previously contained a variety of refinery assets that have now been removed.
the Clyde Terminal	A part of the Site currently operating as an import, storage and distribution terminal for finished petroleum products including diesel, jet and gasoline fuels. The Clyde Terminal makes up the majority of the central part of Site and operates under SSD 5147 and NSW EPL 570
the Parramatta Terminal	A part of the Site Currently used for distribution activities involving bulk road transport. The Parramatta Terminal is located in the north western part of the Site and operates under EPL 660.
the Wetland	A large undeveloped wetland area in the north-eastern part of the Site close to the confluence of the Parramatta and Duck Rivers.
the Project	The proposal to remediate the contaminated soils in the Western Area to a commercial/industrial standard alongside associated infrastructure removal, waste management, soil and groundwater management, land forming and storm water management activities.
the Project Area	The Project Area is the land within the Western Area where the Project will occur. The extent of the Project Area, within the Western Area, is shown on Figure 1.
the Stage 1 Area	Stage 1 Area is situated within the eastern portion of the former Process West area and extends from Devon Street to the North to the Duck River at the southern boundary of the Western Area, the extent of which is shown on Figure 2.
AEC-9	Area of Environmental Concern 9 (Former Process West). AEC-9 forms the extent of remediation required within the Stage 1 Area, situated within the northern portion of the Stage 1 Area. AEC-9 is shown on Figure 7.

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

Acronym	Description
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
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

Acronym	Description
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
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

Acronym	Description
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
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 the contaminated soils within the majority of 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, 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 between various project stakeholders, 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.

This document represents the Detailed RAP for Stage 1 of the Project.

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.

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 the soil and manage groundwater within the Project 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. Particular focus is to be placed on ensuring the drainage system is designed to adequately support both the remediation period and post-remediation period.

The remediation strategy for the Stage 1 Area is consistent with the above objectives and the strategy previously outlined within the Conceptual Remediation Action Plan (AECOM, 2018[1]), 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 shallow LNAPL to the extent practicable; and
- Ensuring short or long-term contamination risks to the environment are removed or mitigated.

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

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 migration in groundwater is not a key driver.

Scope of Works

The scope of this detailed RAP is as follows:

- 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;
- Identify necessary approvals and licences required by regulatory authorities;
- Provide information on the nature and extent of impact based on the available data and data gaps assessment, including the Remediation Site Investigation (ERM, 2020a);
- Presentation of previously derived validation criteria from the Human Health and Ecological Risk Assessment (HHERA) 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 Project 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 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 revised options analysis for the Stage 1 Area (*Section 8*).

On the basis of the HHERA, the key driver for remediation within the Stage 1 Remediation Area was identified as being the potential for indoor inhalation of vapours by future on site commercial workers from hydrocarbon impacted soil and LNAPL within the northern portion of the former Process West plant area (AEC-9).

The proposed remediation methodologies were selected for remediation of an approximately 2900 m^3 of contaminated soil and LNAPL within the AEC-9 remediation are:

1) **Excavation and on-Site Bioremediation (bio-piling); and/or**
2) **Excavation and off-site disposal of soils (as a contingency measure).**

The above remediation methodologies are consistent with the shortlisted remediation methodologies outlined within the Conceptual RAP and EIS (AECOM 2018).

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.

These remedial technologies were selected for use in combination and are considered technically, logistically and economically feasible, to address the source areas in the soil and the LNAPL impacts in the groundwater. A validation approach for assessment of excavations and beneficial re-use of material within later stages of the WARP has been presented.

Conclusions and Recommendations

It is concluded that upon successful completion of the preferred remediation strategy described within this RAP, the Clyde WARP Stage 1 Area can be made suitable for commercial/ industrial land use.

Following completion of remediation and validation works in accordance with this RAP, it is anticipated that the preparation and implementation of a LTEMP will be appropriate to manage residual contaminated soil and/or groundwater impacts remaining after active remediation is undertaken. This will include:

- a program of ongoing groundwater monitoring to confirm that natural attenuation processes are occurring for residual dissolved phase hydrocarbons in groundwater;
- identification of residual LNAPL which may present acute exposure hazards during future excavation activities (i.e. NEPM management limit exceedances). Procedures for the management of excavations, including gas testing would be provided; and
- An unexpected finds procedure for the management of unexpected contamination identified during future redevelopment or excavation works.

The LTEMP would be written in accordance with the *Consultants Reporting on Contaminated Land Guidance* and the *Guidelines for the Site Auditor Scheme* and approved by the Site Auditor. The implementation of the LTEMP is anticipated to be a requirement for the issuance of a Site Audit Statement, along with a site validation report.

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.

Due to the overall reduced footprint of remedial excavation works required following further investigation and risk assessment, in-situ decommissioning of the subsurface drainage network within the Stage 1 Area is planned to be undertaken. Decommissioning works fall outside of the scope of works of the EIS, and will be completed under the existing SSD (5147) for the Clyde Terminal Conversion Project.

Viva Energy's objective is that the drainage network for Stage 1 Area:

- is not considered an ongoing primary source of soil and groundwater impact or a preferential pathway for migration of contaminants;
- does not present an unacceptable future safety risks via accumulation of gases in sub grade void spaces;
- is isolated from the wider Clyde network, such that future site operations will not contribute discharge to the Site's WWTP; and
- cannot be recommissioned for use in future.

A detailed scope for completion of decommissioning works to meet these objectives will be developed by a Contractor. This scope and associated validation approach for decommissioning works will be considered by the Site Auditor as part of the overall validation of the Stage 1 remedial works.

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 1' portion of the Clyde Western Area Remediation Project (WARP), herein referred to as 'The Stage 1 Area'. The Stage 1 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.

The Detailed RAP presents the approach for remediation of soil and groundwater impacts at 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. 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 the contaminated soils 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, 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) and Human Health and Ecological Risk Assessment (HHERA) 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), as summarised in Section 8. The ROA recommended source area soil excavation with on-site bioremediation and on-site beneficial re-use of soils, combined with natural attenuation of groundwater as the most suitable remedial option.

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

1.2 Remediation Stages

Based on correspondence between various project stakeholders, 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 is required to be developed prior to the commencement of remediation works for each of these stages. This document represents the Detailed RAP for Stage 1 of the Project.

Importantly, the staged nature of remediation will require negotiation/agreement of rights of way for vehicular access and a storm water easement following the potential sale of the Stage 1 Area, such that later stages of remediation will be able to utilise the Waste Water Treatment Plant (WWTP) for water treatment.

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, 2018) are as follows:

- *"Remediate the soil and manage groundwater within the appropriate parts of the Western Area (i.e. the Project 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. Particular focus is to be placed on ensuring the drainage system is designed to adequately support both the remediation period and post-remediation period."*

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 produced in general accordance with the *Consultants Reporting on Contaminated Land Guidance* (NSW EPA, 2020).

1.5.1 Conceptual RAP Requirements

The scope of the Detailed RAP, as defined in Table 1.1 of the Conceptual RAP (AECOM, 2018) is provided in Table 1 below.

Table 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
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

RAP Scope Item	Included within this document	Relevant Report Section
*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 Draft 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);
- 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 9.6 and *Figure 8*);

- 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 Environment Protection Authority (2018). PFAS National Environmental Management Plan. This is hereafter referred to as 'the NEMP, 2018'.
- 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.

1.7 Planning Context

The scale of the remediation works 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.

The project is being assessed as a State Significant Development (SSD). In order to be granted development consent, the SSD application for the Project required the development of an Environmental Impact Statement (AECOM, 2018a).

A Conceptual RAP (AECOM, 2018b) 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.

1.8 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, 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.

Other approvals which may be required are understood to include:

- Aquifer Interference Approval – Due to predicted contact with groundwater and subject to further consultation with the NSW Department of Industry, an aquifer interference approval may be required under Section 91 of the Water Management Act; and
- Water Access Licence – the pumping and removal of groundwater from excavations and subsequent treatment and discharge into the Duck River would involve the removal and movement of water from one water source to another and, subject to discharge volumes >3ML per annum, may require a water access licence under Section 56 of the Water Management Act.

A discussion of potential volumes of impacted groundwater requiring dewatering from excavations is provided in Section 9.6.5. Volumes of groundwater to be extracted are likely to be negligible and would likely not require a water access licence for Stage 1 of the Project.

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 Infrastructure and Environment (NSW DPIE);
- NSW Environment Protection Authority (NSW EPA);
- Site Auditor;
- Validation Consultant(s);
- Remediation Contractor(s); and
- Neighbouring businesses and local community.

ERM notes that suitably qualified Remediation Contractors may be engaged separately for Soil Treatment (biopiling) operations to those undertaking bulk earthworks within the Stage 1 Area.

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: ■ Soil and Water Management Plan ■ Groundwater Monitoring and Management Plan ■ Air Quality and Odour Management Plan ■ Waste Management Plan ■ Traffic Management Plan	Validation Consultant	Viva Energy/ NSW DPIE/ NSW EPA	Prior to commencement of Preparation and Remediation Works
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
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.

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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).

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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 1 Area is situated within the eastern portion of the former Process West area and extends from Devon Street to the North to the Duck River at the southern boundary of the Western Area.

The Stage 1 Area contained former refinery processing units within Process West, extensive aboveground pipework for the transfer of product, electrical sub stations, the refinery Central Control Room (CCR) and oil-water separator units. Identified contaminant sources associated with former land-uses are provided in Section 3.

A site layout plan showing the location of the Western area and the Stage 1 Area is provided as Figure 2. The location of former refinery infrastructure within the Stage 1 boundary is provided on as Figure 3.

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

Table 2 – WARP Stage 1 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 Council 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.
Area[1]	7 hectares
Elevation	Between 3 and 4 metres Australian Height Datum (m AHD)

Source:

1. City of Parramatta Council LEP (2011)

3. SITE SETTING

3.1 Site History

A summary of the Site's History is provided below and has been developed based on desktop reviews, including interviews, 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).

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 1 Area was completed between 2012 and 2016. Demolition of the final remaining above ground infrastructure (Western Tank farm, Tank farm C remaining pipe track areas) is being completed during early 2020.

Within the boundaries of the Stage 1 Area, the following features associated with former refining operations existed and operated since approximately 1960 prior to demolition. These features are shown on Figure 3:

- Former Process west – Aboveground fuel processing infrastructure including a Distillate splitter unit, crude oil distillate units, Central Control Room;
- Tank farm H – formerly containing Aboveground Storage Tanks (ASTs) 501 – 505, formerly storing various grades of bitumen and wash oil;
- Minor electricity substation units (Sub 3 and Sub 16); and
- Drainage infrastructure and associated oil-water interceptor units.

3.2 Current Site Condition

The Stage 1 Area, which comprises the Former Process West Area is currently a vacant site. The following was noted during a Site Walkover completed on 22 January 2020:

- Concrete and bitumen hardstanding was present across the vast majority of the Stage 1 area;
- Aboveground pipework remained within the pipe tracks bordering the west and northern extent of the former Process West footprint and is understood to be undergoing demolition.
- Corrugated Plate Interceptor units remain at the ground surface, the location of these interceptors is shown on Figure 4;
- The Central Control Room building has been demolished, leaving an open void with concrete walls and base within the former basement area of approximately 50 m x 18 m which extends approximately 3 m below the surrounding surface level; and
- A large stockpile of building and demolition waste situated in the Western Portion of the Stage 1 Area. This stockpile occupies an approximate footprint of 1100 m^2 with an average height of 2 m (approximately 2200m^3).

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. Surface water and runoff is directed towards the drainage network, which is comprised of the following:

- clean water drainage system that discharges direct to the Parramatta and Duck Rivers; and
- Accidentally Oil Contaminated (AOC) and Continually oil Contaminated (CC) drainage network.

The CC drainage network relevant to the Stage 1 Area is presented on Figure 4. The location of the Wastewater treatment plant is shown on Figure 8.

A process of drain cleaning of the AOC and CC drainage network (including the former Process West portion of the Stage 1 Area) was undertaken is 2018 by Ventia Pty Ltd (Ventia). The location of cleaned drainage is shown on Figure 4. An estimated 2328 m of drainage was recorded as cleaned via a process of high pressure jetting and vacuuming between connected drainage pits over a period of 3 months. Pits are understood to have been progressively filled with a sand/ grout mix following cleaning.

Following this cleaning process and backfilling of pits, drainage from the Stage 1 Area is understood to drain from hardstand surfaces within the former Process West Area to the surrounding pipe-tracks to the east and west via overland flow, where active CC drains collect and divert the water to the WWTP.

The AOC and CC drainage systems deliver contaminated water to the on-site wastewater interceptors, where bulk separation of oils takes place. Water from these interceptors is fed into the bio-treater, located in the south-eastern portion of the Western Area. This system treats the wastewater prior to being discharged to the Duck River via licensed discharge points specified by Environmental Protection Licence 570.

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.

3.3.1 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.

The average thickness of fill material within the Stage 1 Area is 0.6 m. Fill material is underlain by high plasticity clay (alluvial sediments) across the majority of the Stage 1 Area. Localised areas of backfill sand have been identified surrounding subsurface footings and structures to a depth of 2 m BGL.

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 1 Area is classed predominantly as Class 4. No estuarine sediments have been identified within soils during previous investigations.

Given the absence of such sediments across the Site, the probability of encountering ASS or PASS is considered low.

3.3.2 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 1 Area is provided in Table 3 below.

Table 3 – Hydrogeology Summary (Stage 1 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;
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

Stage	Comment
Hydraulic Conductivity	Hydraulic conductivity has been established to be low across the large majority of the Western Area, with estimated hydraulic conductivity values 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 Western Area and are consistent with the more transmissive nature of these geologies. Generally, hydraulic conductivity values increased from a minimum 5 x 10-5 m/day at the up gradient site boundary to up to 4 x 10-2 m/day closer to the southern site boundary due to the presence of sand/silt deposits closer to the Duck River. Based on historical data, laterally continuous higher hydraulic conductivity lithological units are not expected to be encountered within the Stage 1 Area;

- 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 1 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 limits 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 1 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 in 2018 from depths greater than 2 m.

4. SUMMARY OF RELEVANT REPORTS

The Western Area, including the Stage 1 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 Conceptual Site Model (CSM) for the Site are provided in *Table 5* 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 1 Project Area is presented within Section 8 and includes consideration of the below historical data sources.

Table 4 – 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 Australia in February 2008 ■ GME conducted by ERM Australia in November 2008
2009	■ ESA Phase Separated Hydrocarbon Assessment (Sub Area CSM2) - ERM April 2009 ■ GME conducted by ERM Australia in April 2009 ■ ESA of Tankfarm E2 September 2009 ■ GME conducted by ERM Australia in November 2009
2009/2010	■ ESA Chromium Assessment conducted by ERM November 2009 - January 2010
2010	■ GME (Q1.2010) conducted by ERM Australia in March 2010 ■ GME (Q2 2010) conducted by ERM Australia in June 2010 ■ GME (Q3 2010) conducted by ERM in September 2010 ■ Investigation of Tank 92 release conducted by ERM Australia in October 2010 ■ GME (Q4 2010) conducted by ERM Australia in November 2010
2011	■ GME (Q1.2011) conducted by ERM Australia in March 2011 ■ GME (Q2 2011) conducted by ERM Australia 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 Australia in December 2011 ■ Investigation of Tank 30 release conducted by ERM Australia in December 2011

Date	Site Activities
2012	■ GME (Q1 2012) conducted by ERM Australia in March 2012 ■ ESA (Lot 1 SPMT and Mobil Tank Farm) Phase 2 conducted in June 2012 ■ GME (Q2 2012) conducted by ERM Australia 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 Australia in March 2013 ■ GME (Q2 2013) conducted by ERM Australia in June 2013 ■ GME (Q3 2013) conducted by ERM Australia in September 2013 ■ GME (Q4 2013) conducted by ERM Australia 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 ■ Western Area Remediation Project – Environmental Impact Statement (EIS), prepared by AECOM ■ Western Area Remediation Project - Conceptual Remediation Action Plan, prepared by AECOM
2019	■ 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

4.1 Stage 1 Area

A summary of relevant investigation data which has informed the preparation of this Detailed RAP is provided within Table 5 below. A total of 17 groundwater monitoring wells, 17 test pits, 4 soil bores and one soil vapour well have been sampled/installed as part of these investigations and has informed the preparation of this Detailed RAP.

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

Table 5 – Previous Soil and Groundwater Data – Relevant to Stage 1 Area

Author	Year	Scope of Works	Investigation Locations Completed	Comments
Coffey	1991	Boundary groundwater monitoring well installation program	1 Monitoring Well within Stage 1 Area (W91/2)	General information on site geology to inform CSM and this Detailed RAP
Groundwater Technology	1994	Groundwater monitoring well installation	1 Monitoring Well within Stage 1 Area (MW94/6X)	General information on site geology to inform CSM and this Detailed RAP
Woodward Clyde	1998	Groundwater monitoring well installation	1 Monitoring Well within Stage 1 Area (MW98/9)	General information on site geology to inform CSM and this Detailed RAP
ERM	2008 - 2019	Groundwater Monitoring Events. Monitoring of available monitoring wells for compliance purposes	Various	General information on LNAPL, dissolved phase COPC concentrations and trends in groundwater and hydrogeological information has informed the CSM and this Detailed RAP
ERM	2012	Stage 1 and 2 Environmental Site Assessment	■ 3 Soil Bores (Tank farm H) ■ 13 Groundwater Monitoring Wells	General information on LNAPL, site characterisation has informed the CSM and this Detailed RAP
AECOM	2018	Targeted Site Investigation	■ 1 monitoring well ■ 4 test pits	General information on LNAPL, site characterisation has informed the CSM and this Detailed RAP
ERM	2019	Remediation Site Investigation	■ 13 test pits ■ 1 hand auger ■ 1 soil vapour monitoring well	General information on LNAPL, site characterisation has informed the CSM and this Detailed RAP
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 was collected during excavation and soil handling activities

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-9 and a portions of AEC-7, AEC-13, AEC-14 and AEC-15 are situated within the Stage 1 Area.

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

Table 6 – 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
AEC-12	Tank farm C
AEC-13	Substation Areas and Transformer Yards
AEC-14	Subsurface drainage network
AEC-15/ General Site Area	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 areas 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.
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.

Project Objective	Comment
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 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 site. 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 Table 1f and will be discussed in detail within the Detailed RAP.

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

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 enforceable Remediation Environmental Management Plans (REMP), incorporating 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. Management of ground gas generation during future intrusive works is warranted within these areas.

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.

With the exception of AEC-4, 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 follows:

Table 7 - 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 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	✓	×

Area	Soil Direct Contact Risk			Commercial Vapour Intrusion[1]	Asbestos	LNAPL Management[2]
	Commercial Worker	Construction Worker	Intrusive Maintenance Worker			
				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 (2020c) - Quarter 4 (2019) Groundwater Monitoring Event

The Quarter 4 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:

- The direction of groundwater flow was consistent with previous GMEs undertaken and generally flows to the south east towards the Duck River.
- LNAPL observed within the monitoring well network was considered to be consistent in spatial extent with previous GMEs. LNAPL was identified at two locations (MW18/24, MW12/01) within the western area at a maximum thickness of 0.324 m. The occurrence of LNAPL within these wells was consistent with historical data and has been laterally delineated to on-site environments via monitoring of down gradient wells.
- Reported concentrations of dissolved phase COPCs were below the adopted screening criteria, with the exception of MW12/03 (AEC-3) which exceeded recreational water quality criteria for benzene and marine water criteria for ethylbenzene and naphthalene.
- Stable to decreasing trends were reported for benzene and TRH C6-C9 for all monitoring wells sampled across the Western Area.
- The nature and extent of LNAPL and dissolved phase hydrocarbon impacts were considered to be stable, well characterised in the context of the current land use and the monitoring well network was considered suitable to assess potential changes in environmental conditions as well as source/pathway/receptor linkages.

- decreasing concentration trends of dissolved phase petroleum hydrocarbon COPCs coupled with indicators that microbially mediated natural attenuation of petroleum hydrocarbons in groundwater may be occurring (via sulphate and ferric iron reduction).
- 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.

Based on the current dataset for PFAS in groundwater in the Western Area, ecological exceedances for PFAS (specifically PFOS) 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.

4.5 Remediation Trials

ERM has recently 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. The results of these trials are not considered applicable to the Stage 1 Area and are therefore not further discussed in this Detailed RAP.

- **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 (ERM, 2020c). 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.

Biopiling and Land farming

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

Excavated material comprised approximately 600m^3 of oversized material (concrete, subsurface infrastructure), 400m^3 of contaminated fill materials and approximately 200m^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 Process East (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	Process West (TRH C6-<C15 Fractions)	100	Bio-piling with SVE system (no additives)
SP2	Process West (TRH C6-<C15 Fractions)	100	Bio-piling with SVE system (including 25 kg nitrogen fertiliser amendment (urea))
SP3	Process West (TRH C6-<C15 Fractions)	100	Land farming (including 25 kg nitrogen fertiliser amendment (urea))
SP4	Process West (TRH C6-<C15 Fractions)	100	Land farming (including 25 kg nitrogen fertiliser amendment (urea)) and up to 20% mulch)
SP5	Process East (TRH C15-C40 Fractions)	10	Land farming (no additives)
SP6	Process East (TRH C15-C40 Fractions)	10	Land farming (including 5 kg nitrogen fertiliser amendment (urea))
SP7	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).

4.6 ERM (2020d) Air Emissions Verification Report – Stage 1

This AEVR has considered the air emission control requirements for the Stage 1 remediation as required by the conditions of consent for the Project, including the following:

- An outline of the AEVR process.
- A detailed description of the Stage 1 remediation.
- A characterisation of potential air emissions.
- A review of relevant emission controls.
- Review of the consistency of the proposed Stage 1 remediation with the EIS Air Quality Impact Assessment (AQIA)

As a result of this process, the following findings are made:

- During the monitoring, winds were moderate to fresh (WNW), blowing from the excavation trials towards the monitoring locations. Offsite (industrial) receptors in this direction were noted to be approximately 1 km downwind of the excavation trials.
- Based on ambient monitoring conducted during remediation trial excavations, ambient VOC concentrations were observed to decrease significantly with distance from the excavation area, with all compounds below the limit of detection at a distance of 165 m from the excavation. Hydrocarbon odours similar in nature to diesel oil were observed during the excavation process. Again, these odours were not observed beyond 165m from the excavation.
- Detections of benzene were present in in-situ material and in select excavation water samples. However, neither benzene, nor any other principal toxic air pollutants were detected in ambient air measurements in the immediate vicinity of either excavation, stockpiling or biopiling operations.
- Noting that these benzene measurements were conducted in the immediate vicinity of heavily impacted material, and (as non-detects) are at the lower range of concentrations measured in typical ambient air within Sydney, benzene emissions from Stage 1 remediation operations are not considered material, and thus principal toxic air pollutants are not considered of significance.
- A range of emission controls have been nominated based on those identified in best practice references, and the risk associated with each remediation operation, as a function of the proximity, duration and intensity of the proposed activity, as well the practicality with which contingency measures can be implemented.
- Given the short duration, shallow nature of the excavation and manageable risk of non-principal toxic air pollutants, an emission control enclosure was not identified as being a practical or effective emission control measure for Stage 1 of the Project.

It is recommended that the emission control and management measures identified within this AEVR be carried through to the air quality management plan (AQMP) for Stage 1 of the Project.

5. NATURE AND EXTENT OF IMPACTS

The location of soil, groundwater and soil vapour investigation locations completed within the Stage 1 Area are shown on Figure 5. Site plans showing the extent of soil and groundwater impacts exceeding relevant assessment criteria are provided as Figures 6A (Soil), Figure 6B (Groundwater), Figure 6C (Soil Vapour).

The complete dataset within the Stage 1 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 from the consolidated dataset.

5.1 Soil

5.1.1 Field observations

Headspace screening using a PID 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 throughout the fill profile with staining / black impacted sands being identified at TP19/42 and TP19/47 at depths of between 0.4 – 2.0 m bgl.

Similarly elevated PID screening results (>1000 ppm) were identified within black stained sandy fill material identified during remediation trials, conducted within the AEC-9 footprint. This fill material was identified to a maximum depth of approximately 1.5 m BGL around subsurface infrastructure and footings. The soil profile was predominantly natural clay material toward the northern portion of the remediation trial excavation with fill more prevalent around footings and former subsurface structures.

Outside of the AEC-9 portion of the Stage 1 Area, LNAPL was observed within the soil profile at a depth of approximately 1 m BGL at TP18/09. Impacts were described as a free phase liquid collapsing the walls of the test pit. Soil samples were collected of this impacted material, which returned PID screening values of 99.1 ppm.

5.1.2 Laboratory Analytical Results

Soil COPC concentrations within the Stage 1 Area were reported below the relevant remediation criteria (Commercial Worker Vapour Intrusion SSTL), with the exception of the below sampling locations, which were located within AEC-9:

- TP19/73 (0.4 m BGL): exceeding the relevant Commercial worker Vapour Intrusion SSTL for TRH C8-C10 Aliphatic fractions;
- TP19/47 (0.3 m BGL): exceeding the relevant Commercial worker Vapour Intrusion SSTL for TRH C10-C12 Aliphatic and Aromatic fractions and TRH C12-C16 Aromatic Fractions;
- Soil samples collected from TP19/42 and TP19/47 also exceeded NEPM TRH Management Limits for TRH C10-C16 fractions at depths ranging from 0.3 m bgl – 0.4 m bgl.

While LNAPL was identified within the soil profile at TP18/09 at a depth of 1 m bgl, concentrations of COPCs were reported below adopted SSTLs and is consistent with highly weathered, non-volatile LNAPL within this localised portion of the Stage 1 Area.

5.2 Groundwater

- LNAPL has been identified within groundwater during previous investigations within monitoring well MW12/16. LNAPL has been measured at a maximum thickness of 0.025 m in this well during the Quarter 2 2016 GME.
- Concentrations of TRH C6-C10 (less BTEX) were identified exceeding SSTLs in a single sampling event of MW12/16, undertaken in December 2012. The sample collected is considered to be representative of LNAPL, based on its noted presence during sampling.

- 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. 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.

5.3 Soil Vapour

Soil vapour results identified exceedances of the SSTLs for naphthalene within soil vapour monitoring well SV19/07, which was targeted to assess potential soil vapour concentrations associated with LNAPL in the vicinity of 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[2]. 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.

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-9. Management of potential ground gas generation during future intrusive works is warranted within these areas.

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

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 1 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 1 Area. The mechanism of release from these former primary sources was at the ground surface due to storage and transfer of petroleum manufacturing product within aboveground infrastructure.

Secondary sources include subsurface soils containing LNAPL and surface / surface materials potentially impacted with PFAS.

Buried waste materials are not known to exist within the Stage 1 Area and have not been identified during previous investigations.

CoPCs assessed during previous investigations have included:

- Total Recoverable Hydrocarbons (TRH) C_6-C_{40} ;
- Benzene, Toluene, Ethylbenzene and Xylenes;
- Metals;
- Asbestos;
- Polychlorinated biphenyls (PCBs);
- Volatile Organic Compounds and Semi Volatile Organic Compounds;
- Per- and Poly-fluoroalkyl Substances (PFAS); and
- Dioxins.

6.2 Migration Pathways

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

- Leaching of soil impact or historical surface spills on hard standing 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 or outdoor 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 1 screening (ERM 2020a):

- Inhalation of dusts or potential asbestos fibres from impacted soils during excavation
- 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 or outdoor 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/ groundwater.

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:

- Current and future on-site commercial workers in both indoor and outdoor settings;
- 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 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. Management of the design of future landscaped areas may be required.

The nearest off-site ecological receptor is the Duck River, bordering the Stage 1 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 1 Area comprises data points from AEC-7 (Pipe Track Areas), AEC-9 (Process West), AEC-13 (Substations and Transformer Areas), AEC-14 (Subsurface Drainage Network), and AEC-15 (Other Areas).

Based on the tier 2 assessment undertaken in the HHERA (ERM, 2020b), the below SPR linkages are relevant to the Stage 1 Area and may constitute a risk to receptors:

- Indoor inhalation of vapours by future on site commercial workers from hydrocarbon impacted soil and LNAPL; and
- Potential acute hazards from the pooling of hazardous ground gases from LNAPL and impacted soil/ groundwater during future excavation activities.

It is noted that isolated asbestos impacts requiring remediation and/or management within AEC-13 (Former transformer and substation areas) and AEC-15 (Other Areas) are situated outside of the extent of the Stage 1 Area, and as such have been excluded from the below CSM summary table.

Table 8 – Source-Pathway-Receptor Linkage Summary (Stage 1 Area)

Area Of Environmental Concern	Potential Sources/ Assessed COPCs	Remaining COPCs	Potentially Complete SPR Linkages	
			Human Health	Ecological
AEC-9 Process West	■ Primary sources areas within AEC-9 included former fuel processing infrastructure, which has been decommissioned / removed. ■ Secondary sources include subsurface soils and/or groundwater containing LNAPL and surface / surface materials potentially impacted with PFAS CoPCs assessed included: ■ LNAPL, TRH C6-C40, BTEXN, Metals, PCB, PFAS, Dioxins	<u>Soil</u> ■ LNAPL TRH C8-C12 Aliphatic Fractions, ■ TRH C10-C16 Aromatic Fractions <u>Groundwater</u> ■ LNAPL ■ TRH C6-C10 (F1) <u>Soil Vapour</u> ■ naphthalene	■ Indoor inhalation of vapours by future on site commercial workers from hydrocarbon impacted soil or LNAPL observed in groundwater; ■ Based on the observed presence of LNAPL within soil and groundwater within this AEC (MW12/16, TP19/47), acute hazards from the pooling of hazardous ground gases by on-site intrusive maintenance workers or construction workers undertaking earthworks will require consideration for future management.	■ No potentially complete SPR linkages to ecological receptors identified.
AEC-14 Subsurface drainage network	■ Primary sources areas within AEC-14 include subsurface drainage infrastructure, which remains in-situ. ■ 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	■ No COPCs exceeding adopted tier 1 screening criteria	■ No potentially complete pathways have been identified Soil Impacts were not identified within investigation locations targeted at on-site drainage. However, On the basis of the extensive nature of the drainage network, it is recommended that an unexpected finds protocol be implemented during future excavation works around subsurface drainage, which will allow appropriate management and assessment of isolated soil impacts during remediation and/or sub-grade infrastructure removal.	■ 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
AEC-13 Substation Areas and Transformer Yards	■ Primary sources areas within AEC-13 include former substation infrastructure, which has been decommissioned / removed. Substation areas assessed include substation and transformer footprints. CoPCs assessed included BTEXN, Metals, PCB and asbestos	■ No COPCs exceeding adopted tier 1 screening criteria within Stage 1 Area	■ No potentially complete pathways have been identified	■ No potentially complete SPR linkages to ecological receptors identified.
AEC-15 General Site Areas (not covered within other AECs)	■ Primary source 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 CoPCs assessed included: ■ LNAPL, TRH C6-C40, Metals, PAH, Phenols, Asbestos (fill)	<u>Soil</u> ■ LNAPL (management consideration only) at TP18/09 (See figure 6A)	■ Potential acute hazards from the pooling of hazardous ground gases from LNAPL (TP18/09) by on-site intrusive maintenance workers or construction workers undertaking earthworks.	■ No potentially complete SPR linkages to ecological receptors identified.

7. REMEDIATION STRATEGY

7.1 Overall objectives

The remediation objectives for the project, as defined within the Conceptual RAP (AECOM, 2018) are as follows:

- *Remediate the soil and manage groundwater within the appropriate parts of the Western Area (i.e. the Project 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. Particular focus is to be placed on ensuring the drainage system is designed to adequately support both the remediation period and post-remediation period."*

The remediation strategy for the Stage 1 Area is consistent with the above objectives and the strategy outlined within Section 12 of the Conceptual Remediation Action Plan (AECOM, 2018[3]), 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 shallow LNAPL to the extent practicable; 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 of LNAPL and associated dissolved phase impacts to on-site environments, removal of LNAPL to reduce groundwater migration is not a key 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.

Timeframes for achievement of the above remediation objectives are driven by the potential divestment and redevelopment of the Stage 1 Area, in which a Site Audit Statement is required by the end of 2020.

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 intrusive maintenance workers (IMWs) or construction workers undertaking earthworks
- Inhalation of vapours by future commercial workers in indoor or outdoor air;

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

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;
- 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; and
- EILs/ESLs for consideration of management of future landscaping design.

7.3 Requirement for Remediation

The driver for remediation within the Stage 1 Area is the potential for indoor inhalation of vapours by future on site commercial workers from hydrocarbon impacted soil and LNAPL within the northern portion of the former Process West plant area (AEC-9). These exceedances are shown of Figures 6A, 6B and 6C.

Contaminants requiring remediation and validation within the Stage 1 Remediation area are summarised in Table 9.

Table 9 – Contaminants Requiring Remediation

Matrix	COPCs requiring Remediation	Comments
Soil	**Volatile Petroleum Hydrocarbons** including: ■ TRH C8-C12 Aliphatic Fractions, ■ TRH C8-C12 Aromatic Fractions ■ TRH C10-C16 Aromatic Fractions	
Groundwater (LNAPL)	**Volatile Petroleum hydrocarbons** including: ■ TRH C6-C10 (Less BTEX)	Single exceedance during groundwater sampling of MW12/16 in December 2012. Sample collected is representative of LNAPL, based on the noted presence during sampling.
Soil Vapour	**Volatile Petroleum hydrocarbons** including: ■ Naphthalene	Naphthalene concentrations considered to be associated with residual LNAPL at the level of groundwater, rather than overlying soils based on soil data.

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 10 below.

Table 10 – Estimated remediation Extent

Area of Concern	Estimated Area (m^2)	Estimated Remediation Depth (m BGL)	Estimated In-Situ Soil Remediation Volume (m^3)
AEC-9 (Process West)	2781	1.5	**4172**
Remediation Trials Excavation (completed November 2019)	840	1.5	**1260**
Total Remaining	**1941**	**1.5**	**2911.5**

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 'smear zone').

Exceedances of remediation SSTLs for groundwater and soil vapour for COPCs which were not present within soil samples suggests contamination associated with LNAPL at the depth to groundwater.

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 groundwater and soil vapour.

Fir the Stage 1 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 impacts which drive in groundwater. These investigation locations include TP18/09 (LNAPL in soil profile at 1m bgl in an isolated portion at the south of the Stage 1 Area) and TP19/42 (TRH management limit exceedance, located to the south of the AEC-9 excavation).

Management of acute hazards associated with the potential pooling of ground gases during any future excavation activities at these locations will be managed via the preparation and implementation of a Long Term Environmental Management Plan (LTEMP) for ongoing site operations (see Section 10.3).

7.5 Subsurface Drainage Infrastructure

The EIS and Conceptual RAP previously proposed that removal of subsurface infrastructure (including subsurface drainage) may be undertaken to address soil impacts requiring remediation. A revised in-situ decommissioning approach is proposed to be undertaken due to the following:

- Previous communications with regulatory stakeholders, including air quality/odour concerns associated with bulk excavation and handling of soils. In-situ decommissioning would decrease the volume of soil disturbance;
- The overall reduced footprint of remedial excavations required following completion of the Remediation Site Investigation and HHERA works means that, only a small portion of the overall drainage network in the Stage 1 and Western Area would be removed as part of remediation excavations.

Decommissioning works fall outside of the scope of works of the EIS, and will be completed under the existing SSD (5147) for the Clyde Terminal Conversion Project.

Viva Energy's ultimate objective is that the drainage network for Stage 1 Area:

- is not considered an ongoing primary source of soil and groundwater impact or a preferential pathway for migration of contaminants;
- does not present an unacceptable future safety risk via accumulation of gases in sub grade void spaces;
- is isolated from the wider Clyde network, such that future site operations will not contribute discharge to the Site's WWTP; and
- cannot be recommissioned for use in future.

An approach to decommissioning and validation is being developed via the following process:

- Preparation of a 'Drainage Decontamination Summary Report' which documents the scope of drainage decontamination works completed to date, and any gaps to be addressed via a future decommissioning scope to meet Viva's objectives (prepared by ERM);
- Preparation of a scope of works to address identified items within the Drainage Decontamination Summary Report (prepared by a Contractor); and
- Development of a lines of evidence validation and verification methodology based on the proposed contractor scope to validate that the decommissioning objectives have been met (prepared by ERM).

Following execution of the works, a Decommissioning Verification Report would be prepared by ERM to document lines of evidence that the objectives of decommissioning have been achieved.

It is anticipated that the above documents would be considered by the Site Auditor in the context of the Stage 1 Remediation and Validation.

8. REMEDIATION OPTIONS ANALYSIS

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 provides 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

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	Relative Score ● 1 ● 2 ● 3 ✓ 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 8.2 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 common 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 management requirements etc.,	■ 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. Conditions of consent 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 1 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	Relative Score ● 1 ● 2 ● 3 ✓ Selected for further evaluation
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.	Soil	■ Proven common method. ■ Enhances natural attenuation processes already in action.	■ 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 relating 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 – Justification provided in Section 8.2 below**
Enhanced In-Situ Bio-Remediation ■ 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 1 Area**
Immobilisation including Stabilisation (for off-site disposal) ■ Decreasing the mobility of contaminants by changing conditions such as pH, adding bonding agents, oxidising or reducing reactions.	Soil	■ Can be technically challenging to stabilise short chain hydrocarbons. ■ Application of amendments can significantly decrease the mobility, toxicity and bioavailability various contaminants in soil and groundwater. ■ Where contaminants are immobilised through	■ 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 onsite	■ Moderate complexity associated with screening and sorting of material to ensure contamination is suitably bound within the stabilising matrix. ■ Extra handling of contaminated soils may trigger the requirement for	■ 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 stabilisation agents would not provide any reduction in waste classification**

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	Relative Score ● 1 ● 2 ● 3 ✓ Selected for further evaluation
		potentially reversible reactions, a change in geochemical conditions in the subsurface could remobilise contaminants.		safety permitting requirements.	additional emission or odour control,			
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 the opinion of ERM 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.	■ 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 1 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.	■ 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 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 1 Area**
In-situ Chemical Oxidation ■ Destroying organic contaminants in situ via application in trenches or excavations	Soil and Water	■ Proven common method that can work quickly. ■ Primarily used for moderate to high 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.	■ 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. ■ Concerns regarding storage / handling of chemical products. ■	■ Design of approach requires consideration of back diffusion and other factors that may impact the effectiveness of the approach. ■ Requires low to moderate land disturbances.	■ In-situ chemical oxidation requires a moderate amount of equipment / chemicals for implementation of remedial approach however has low power requirements.	■ Moderate costs	**X** **Application within excavation in combination with other methods expensive for little net environmental benefit (enhancement of natural attenuation)**

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	Relative Score ● 1 ● 2 ● 3 ✓ Selected for further evaluation
		■ 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.						
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	√ **Project aims to re-use soils on site wherever possible. Option retained as a contingency measure**
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.	■ 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 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	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	■ 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	■ 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**

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	Relative Score ● 1 ● 2 ● 3 ✓ Selected for further evaluation
collect subsurface emissions.		depending on the composition of materials.		of asbestos fines / fibres during handling and treatment.				
Ex-Situ Thermal Treatment ■ 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**

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 the source areas in the soil and the LNAPL impacts in groundwater. Given the selected approach (source removal) it is anticipated that a high degree of success will be achieved.

The following selected remediation methods were selected (in order of preference):

1) **Excavation and On-Site Bioremediation (bio-piling); and/or**
2) **Excavation and off-site disposal of soils (as a contingency measure).**

The above remediation methodologies are consistent with the shortlisted remediation methodologies outlined within the Conceptual RAP and EIS (AECOM 2018).

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.

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 stages of remediation 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 undertaken on representative soil material from AEC-9, it is considered that soil treatment via bio-piling will be effective in reduction of volatile COPCs to below the site re-use criteria.

Further rationale for the selection of this methodology is provided below:

Effectiveness –

- Source removal via excavation is effective at removing contaminated soil and residual LNAPL at or above the water table. Given shallow soil impacts (<1m bgl) and shallow groundwater (approximately 1.5m bgl), excavation may be completed within short timeframes and effectively remove impacted soils for relatively small effort;
- The technical feasibility and effectiveness of biopiling for soil treatment has been demonstrated through the reduction of volatile and semi-volatile TRH fractions during remediation trials; and
- Vapours (including potential air toxics) from stockpiles and odour are contained and captured via a granular activated carbon vessel, emitting clean air and do not require soil handling or turning during the treatment process;

Timeframes –

- Based on the specific data collected during remediation trials from the Stage 1 Area, timeframes for soil treatment to below remediation SSTLs for vapour intrusion risk are expected to be relatively short (2-3 weeks). For unrestricted beneficial re-use, remediation trials data suggests that a reduction of concentrations of TRH C6-C40 fractions to below NEPM TRH Management Levels may be achieved in approximately 10 weeks.
- Treated soils may be utilised for backfill within the Stage 1 Area, should timeframes permit. Large areas of stockpiling space within the western Area would also permit temporary stockpiling for re-use at later stages of the project.

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.
- Health and safety risks are associated with the movement and operation of heavy machinery to excavate and transport soils. Excavation and earthworks will be required for land forming works. As such, additional hazards introduced via remediation are limited to management of short term contaminant exposure by workers and management of ground gases within excavations.
- Once biopiles are established, turning and agitation of contaminated soils is not required therefore risks through equipment movement onsite are minimised.

Complexity –

- Contaminant source removal via excavation is a commonly employed remediation technique. Some complexity is expected in relation to excavation around redundant concrete footings. However time and material handling constraints are well understood through the completion of previous excavation within this area of the Site.
- Validation of excavation in accordance with remediation criteria may be guided via collection of field screening with a PID and confirmatory soil sampling of the base and walls of the final excavated surface and is a commonly accepted validation practice.
- Design, construction and operation of biopiles is a well-established and understood soil remediation technology

Sustainability-

- Treatment of soils for beneficial on-site re-use reduces waste and is preferable to offsite disposal due to a requirement for a net import of material across the Western Area to meet final landform requirements.
- Ongoing operation of a SVE system is required throughout the soil treatment process but greatly reduces the potential for air emissions from soil turning associated with landfarming.

Relative costs –

- Moderate costs are associated with establishment of bio-piles, equipment required (generators) and power consumption. There is potential for cost efficiency if treatment is undertaken concurrently with later stages of remediation.
- The use of a closed system reduces the potential for emission control enclosures for the soil treatment process.

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 in the vicinity of AEC-9 and the Western Area. Following source removal (residual LNAPL and residual soil contamination), dissolved phase TRH concentrations are expected to show a continual reduction.

Given no risks to human health and ecological receptors have been identified based on groundwater data, the potential 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 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.

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

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.

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.

9. REMEDIATION WORKS OVERVIEW

The Stage 1 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

Decommissioning of the subsurface drainage network will be completed separately to the scope of remediation works under existing SSD (5147) for the Clyde Terminal Conversion Project.

The proposed site layout for implementation of remediation works is provided on Figure 8.

9.1 Task 1 – Preparation Works

Preparation works will include the following scope of works to be undertaken by 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;
- Breakout of hardstand and surface reinforcements (with separation of recoverable materials such as concrete, asphalt and metal)

9.2 Task 2 – Removal of Redundant Infrastructure and Waste

- removal of stockpiled waste materials from the Stage 1 Area (as required);
- excavation of subsurface structures such as drains, pits, interceptors, footings or pipework (if drainage network is unable to be decommissioned in-situ prior to remediation).

9.3 Task 3 - Remediation

Includes the following activities:

- Targeted excavation of contaminated soil material from AEC-9 remediation area;
- Dewatering of excavations and water treatment (as required);
- Odour, emission controls and monitoring (as required);
- Segregation of excavated soils suitable for re-use from visibly contaminated soils requiring treatment;
- Soil sampling of stockpiled materials;
- 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 (to be completed outside of Stage 1 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 (undertaken by a suitable qualified Remediation Contractor), including the following tasks:
  - Construction of soil treatment pad;
  - Formation of bio-piles;
  - Setup of Soil Vapour Extraction (SVE) System, including pipework; and
  - covering stockpiles.

Ongoing treatment and monitoring of soils to maintain soils within acceptable parameters for aerobic degradation of petroleum hydrocarbon COPCs. Ongoing soil treatment will be conducted concurrently with remediation tasks 4 and 5.

9.4 Task 4 - Land forming

Due to the completion of Stage 1 Works prior to other portions of the Western Area, land forming activities will be completed independently of surrounding areas to meet the final required landform of the Broader Western Area. Land forming involved the following tasks:

- Importation of Virgin Excavated Natural Material to backfill remedial excavations (as required) and raise the site to required relative levels (RLs);
- Placement and re-use of on-site validated materials; and
- Grading and compaction of imported material.

9.5 Task 5 – Completion Works and Demobilisation

- Demobilisation of plant, equipment and personnel.

9.6 Stage 1 Remediation Processes

This section provides a brief overview of remediation and related processes that will be undertaken as part of the Stage 1 remediation. It is noted that these processes include operations within the Site that are located both within and outside of the Stage 1 area.

9.6.1 Excavation and Screening

The excavation process will involve breaking up and removing concrete hardstand, prior to excavation with a bucket excavator. Excavation will take place to a depth of approximately 1.5 m and will nominally be undertaken by a single bucket excavator. Excavated material will be stockpiled in small piles adjacent to the excavation, prior to screening and loading into trucks, at which point the material will be transported to the biopile treatment area for classification and treatment (as required). Oversize material will be crushed and mixed with validated soils for re-use on the project as backfill.

Upon validation, excavations will be progressively backfilled with Virgin Excavated Natural Material (VENM) or other suitable material, with restoration of the surface to the local grade. It is anticipated that the active phase of excavation will occur over a two to three week period, with peak excavation rates in the vicinity of 500 m³ per day.

9.6.2 Biopiling Construction

Biopiling will take place in the biopile treatment area, formerly known as Tank Farm A2, as shown on Figure 8. This decommissioned tank farm covers an area of approximately 180 m x 70 m (~ 1.25 ha). Whilst internal tank infrastructure and pipework has been removed, the perimeter bunding has been retained, with the exception of a small segment on the southern side that has been removed to allow vehicular access.

With the exception of the soil vapour extraction system, which would run continuously, biopiling operations would occur during approved operating hours for the Project. A suitably qualified Remediation Contractor will be responsible for the design and operation of 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);
- Validation consultant conducts baseline sampling of surface soils within the proposed footprint of biopiles (as required, by procedure outlined in Section 12.3.4).
- Preparation of a treatment pad and leachate collection system, which involves the placement of 200mm of impermeable material (such as compacted clay or shale) beneath the proposed footprint of the biopiles. A shallow trench would 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 below;
- 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;
- Required amendment to moisture or pH would be applied (as required),
- 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 3m.
  - 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 (as required) to the WWTP, for treatment.
  - 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.
- Biopiles will be covered with an impermeable cover (polypropylene or similar) 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.

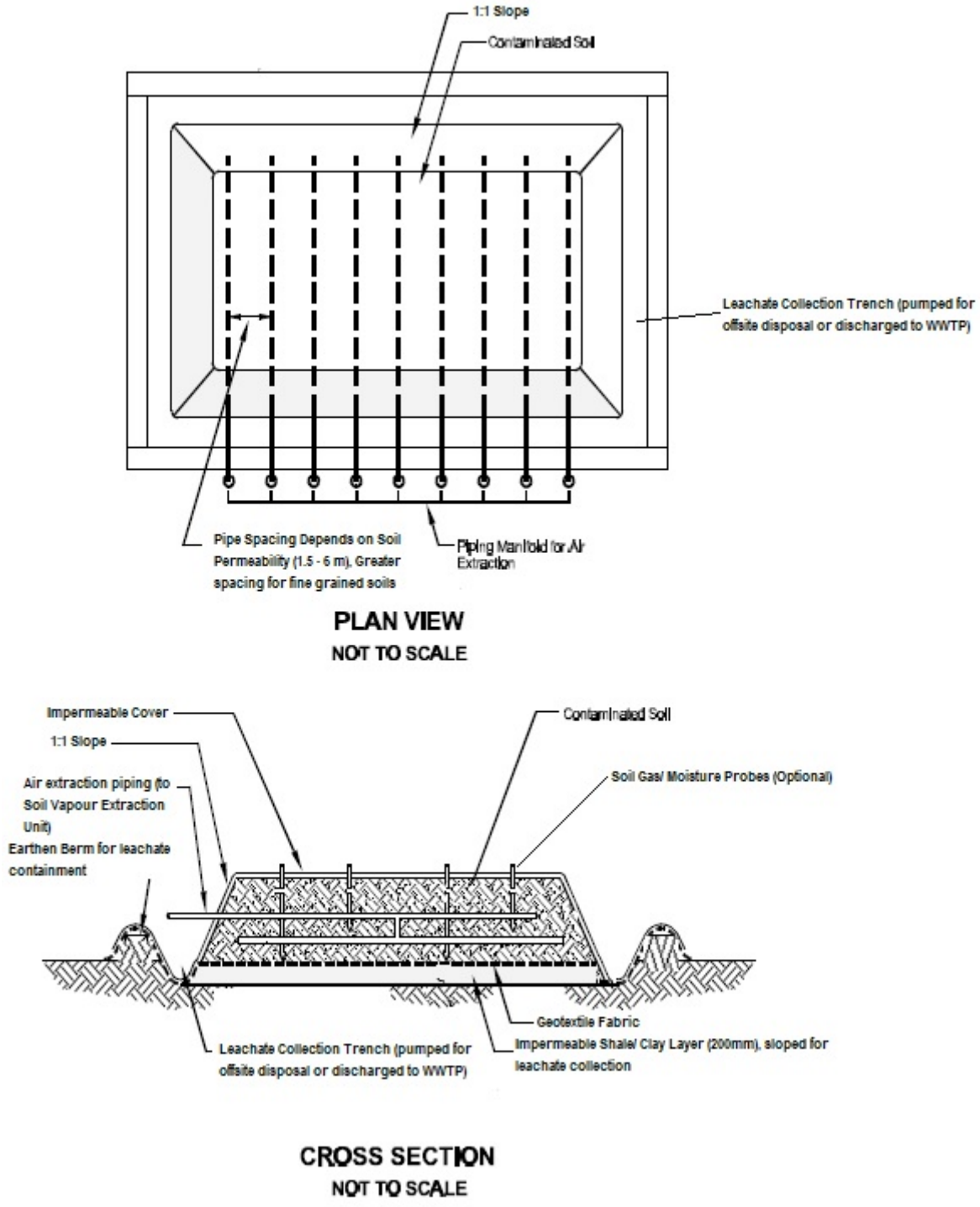

Figure 1 - Biopile Construction Schematic (adapted from USEPA (2017))

9.6.3 Biopile Operation and Monitoring

- Monitoring of contaminant concentrations in soils will be performed on a fortnightly basis within the first four weeks to assess the progress of biological treatment. Subsequent progress monitoring will be undertaken on a monthly basis (as required) until remediation criteria are met. Progress monitoring will assess TRH C6-C40 and BTEXN concentrations and, if necessary, nutrient ratios (Carbon: Nitrogen: Phosphorus), bacterial populations, pH and moisture content.

- Continuous operation of the aeration system would be maintained to promote biological degradation of hydrocarbon contamination. The aeration 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;
- As a minimum, weekly PID monitoring of inlet, outlet, lead and lag vessels for VOC concentrations will be required to be undertaken by the Remediation Contractor within the first 3 months of each new biopile operation and- a minimum of once per month thereafter. The upper limit of Total VOC emissions at the outlet has been established as 10 ppm (AECOM, 2019). Exceedance of this threshold indicates breakthrough out the carbon filter media is occurring and requires replacement. 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 the surplus material storage area, prior to appropriate reuse within the Stage 1 Area or during later stages of the Project.

9.6.4 Stockpiling of Surplus Materials

The surplus material stockpile area is situated within the former Tank Farm A1 area, as shown on Figure 8. This decommissioned tank farm covers an area of approximately 150 m x 75 m (~ 1 ha).

This area would be used to store treated/validated soils that have been characterised as suitable for reuse on site. 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 minimise potential erosion impacts, soil stockpiles are to be covered and silt fences will 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.

9.6.5 Water Treatment

As per the EIS, (AECOM 2018) Waste water from the remediation activities would primarily result from:

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

The Response to Submissions Report (AECOM, 2019) concluded the following with respect to the treatment capacity of the WWTP.

- “The capacity of the physical, chemical and biotreater system is 3.5-5ML/d. In the past few years the average daily flows to the WWTP from the Western Area and the Terminal are generally 0.8-1.3 ML/d. The WWTP has both the flow capacity and the contaminant capacity to deal with the flows from the remediation project as well as the Terminal"; and
- COPCs identified within soil and groundwater at the site are treatable by the on-site WWTP, with the exception of PFAS. Where PFAS is identified exceeding discharge trigger values, the following treatment process is proposed "Isolate area, collect and either pre-treat on-site prior to sending to the WWTP or send off-site for treatment/disposal".

Based on the proposed depth of excavation, low transmissivity within clay lithology and observations of little water ingress observed during remediation trials, groundwater ingress into the excavation is expected to be minor and is unlikely to require dewatering of significant volumes to safely complete excavations.

While the EIS contemplated the construction and use of holding and settlement ponds throughout the project, the relatively small volume of excavation water likely to be generated during Stage 1 excavation works could more appropriately be pumped and stored within a temporary holding tank (if required) pending characterisation. Given the small scale and short duration of excavation works and small volumes of wastewater, it is anticipated that off-site disposal of wastewater with PFAS greater than accepted limits would be a more feasible option than establishment of an on-site treatment facility.

A leachate collection system is proposed to be incorporated in the event that moisture addition is required to biopile material undergoing treatment. It is noted that significant volumes of leachate are unlikely to be generated from biopiling operations associated with Stage 1 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 would not provide a source of leachate once placed in the biopiling area.

9.6.5.1 Discharge Water Characterisation

Specific trigger levels for and a sampling protocol for excavation water is outlined within the Soil and Water Management Plan (SWMP) and provided below. Should concentrations of PFAS exceed the trigger level for off-site discharge, alternative PFAS specific treatment or off-site disposal would be required.

Table 11 - Excavation - Water Discharge Trigger Levels

Contaminant of Concern	Trigger Level (ug/L)	Reference
PFOS	0.13	PFAS NEMP Interim Marine Ecological Value for 95% species protection—slightly to moderately disturbed systems (HEPA, 2019)
PFOA	10	NHMRC (2019) Guidance of Per and Polyfluoroalkyl substances (PFAS) in Recreational Water
Sum of PFOS + PFHxS	2	NHMRC (2019) Guidance of Per and Polyfluoroalkyl substances (PFAS) in Recreational Water
Note: Most conservative action levels have been adopted based on applicable recreational and ecological values for the receiving environment (Duck River)		

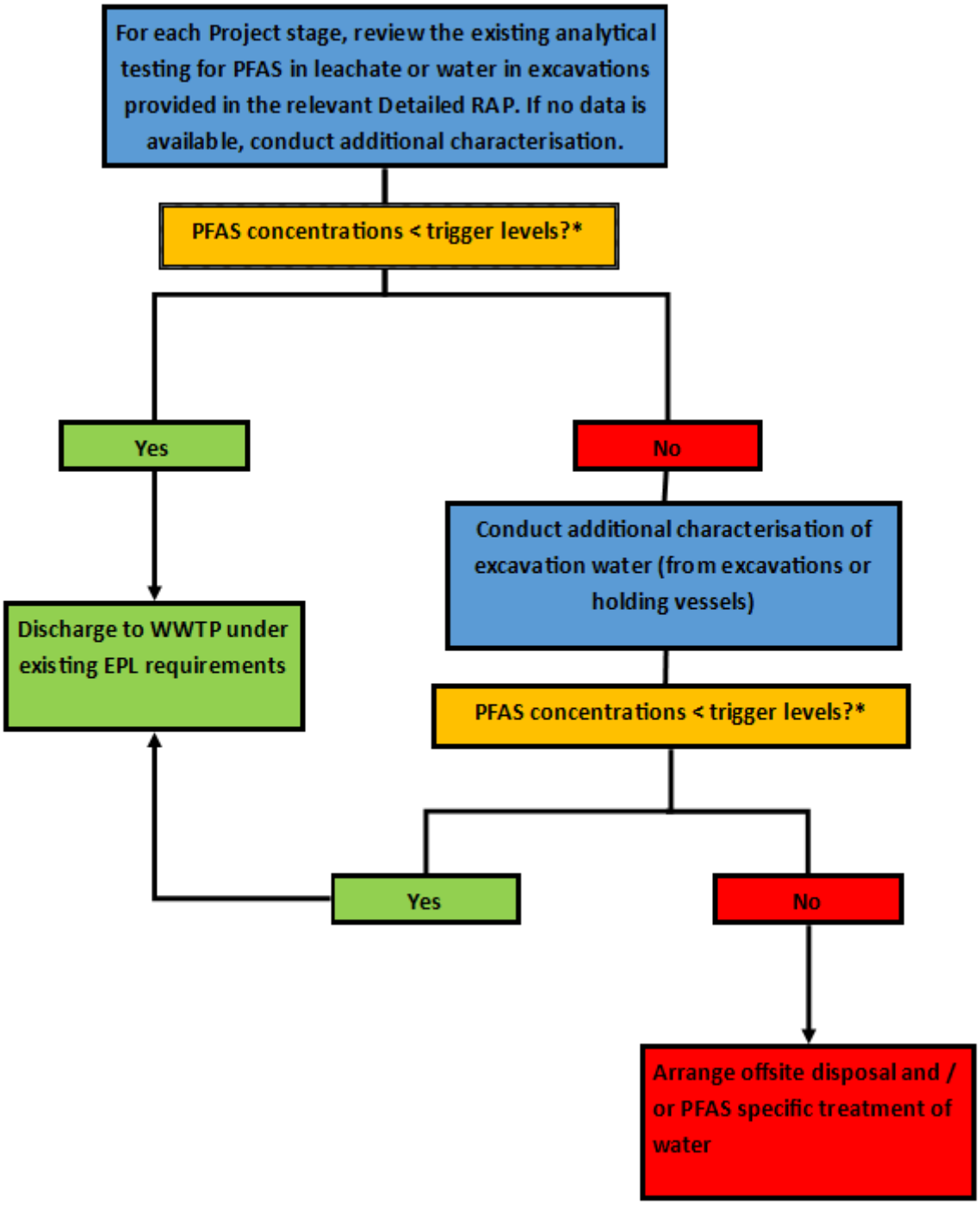

Figure 2 - Excavation Water Testing Protocol

If excavation water is suitable for discharge, existing storm water infrastructure would be used to divert waste water to the WWTP. The sampling protocol outlines a process of data review to determine the potential for PFAS concentrations which exceed discharge trigger levels to be generated within excavations.

Relevant historical results for water samples analysed for PFAS in groundwater and surface water during remediation trials excavation are provided within Table 4 of Appendix A. Concentrations of PFOS + PFHxS and PFOS exceeded discharge trigger levels in samples WPA3 and WPA4, collected from excavation water pooled within the remediation trials excavation.

On the basis of these exceedances and the variability between concentrations, it is recommended that further characterisation of PFAS concentrations within excavation water be undertaken to determine suitability for WWTP discharge, should dewatering be required.

9.7 Indicative Remediation Schedule

Detailed programming of the Stage 1 remediation is still in progress and will be subject to Remediation Contractor input, however an indicative program has been prepared for the purpose of contextualising the approximate duration of respective tasks as shown in Table 12.

Table 12 – Indicative Program for works within Stage 1 area

Task		Week of Program															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Task 1	Preparation Works																
Task 2	Removal of Waste																
Task 3	Remediation (Excavation Phase)																
Task 3	Remediation (Soil Treatment)																
Task 4	Land forming																
Task 5	Completion/ Demobilisation																

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) for the Project, which includes the following sub-plans, which address the SSD 9302 Conditions of Consent:

- 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 1 as Per Table 13. Mitigation measures and items to be addressed by these plans are specified within the REMP sub plans as below:

Table 13 - 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 9.6)
Wastewater management method statement	Two weeks prior to commencement of remediation works for each stage	SWMP (SWMP12)

Document Name	Timing	Relevant REMP Sub Plan and Reference
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)

10.1 Hours of Operation

In accordance with the consent conditions for SSD 9302, hours of operation for Stage 1 Remediation are as per Table 14.

Table 14 – 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 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 1 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 nearby wells to the AEC-9 excavation 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 and discharge monitoring:** sampling of excavation water quality will be undertaken by the Validation Consultant prior to pumping to the on-site WWTP to determine suitability for treatment (primarily driven by PFAS), and discharge point sampling (as required). 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 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 management measures. The frequency, location and type of air, dust and odour monitoring to be undertaken during the project will be detailed within the *Air Quality Management Plan, and the requirements of the Stage 1 AEVR*;
- **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*;
- **Bioremediation area inspection:** A visual assessment of the biopiling area will be performed by the Validation Consultant on a fortnightly basis to observe that the work area is secure, fencing is in place, bund is intact, covers over piles/windrows are secure and that the SVE system is functioning correctly. Monitoring of SVE system emissions to inform the change-out of filter media is specified in Section 9.6.2;
- **Soil treatment progress monitoring:** Monitoring will be performed by the Validation Consultant to assess the progress of biological treatment. Progress monitoring requirements have been outlined as per Section 9.6.1. 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.

In addition to the above, baseline monitoring (using existing data, where available) and post-decommissioning monitoring of native soils beneath the bioremediation area will be performed to assess whether bioremediation works have impacted the treatment site.

10.2.2 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.

10.3 Long Term Environmental Management Plan (LTEMP)

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

The LTEMP for the Stage 1 Area will be required to address the following anticipated residual impacts or conditions:

- Passive management of residual LNAPL or soil impacts in the sub-surface which will not be subject to active remediation (within the vicinity of TP18/09 and TP19/42 and/or residual LNAPL not able to be practically remediated within AEC-9). The LTEMP would provide mitigation measures for acute exposure to ground gases during future excavation, and design specifications for future buried services, such that they are not damaged or compromised by petroleum hydrocarbons in contact with pipework;
- 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 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.

10.4 Groundwater Monitoring

10.4.1 Monitoring Well Replacement

The planned soil remediation works may result in removal of existing groundwater monitoring wells in the excavation 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 monitoring wells in down gradient areas to assess groundwater flux and boundary conditions. The boundary monitoring well network is expected to be unaffected by earthworks undertaken throughout the Project.

10.4.2 Post Remediation Groundwater Monitoring

Previous groundwater monitoring undertaken has indicated stable to decreasing concentrations of TRH and BTEX has occurred within groundwater over time within monitoring wells in the Western Area. No risks to human health and ecological receptors from dissolved phase groundwater concentrations have been identified in the Stage 1 Area.

Assessment of groundwater conditions post-remediation would involve a risk-based evaluation, including 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 the Groundwater Monitoring and Management Plan (GMMP) and associated groundwater monitoring program. 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.*"

A Community Engagement Plan will be produced, as part of the Project Management Plan, which guides ongoing community engagement. It includes measures to keep the local community informed of the Project including projected timelines and potential impacts from planned works. Project communications would provide details of contact point(s) to which community complaints and enquiries may be directed, including a telephone number, a postal address and an email address.

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, 2018a), including preparation of a Response to Submissions Report (AECOM, 2019); 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, who will provide independent review of key site activities including implementation of this remediation action plan.

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 1 Area to the extent practicable;
- demonstrate that the land is suitable for ongoing commercial/industrial land use; and
- demonstrate that residual impacts may be adequately managed 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.

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 Sections 7.3, previous investigations in the Stage 1 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:

- *Remediate the soil and manage groundwater within the appropriate parts of the Western Area (i.e. the Project 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. Particular focus is to be placed on ensuring the drainage system is designed to adequately support both the remediation period and post-remediation period."*

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.

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

- 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 13.3.4;
- imported fill materials (excluding construction and landscaping materials; and
- soil materials requiring off-site disposal.

12.2.2 Step 2 – Identify the Decisions

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

- Has the sub-grade drainage network been satisfactorily decommissioned and isolated from the wider drainage network?
- Have remediation excavations removed contaminated soil and LNAPL to the extent practicable?
- 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 its intended purpose?

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 and analytical data collected during of Remediation Trials.
- Field observations made during remediation works for odours, NAPL, sheens, discolouration, asbestos and other indicators of potential contamination.
- Field screening of soil material during excavation works for volatile organic compounds within the AEC-9 Excavation.
- Characterisation of contaminant conditions via visual screening and sampling of soil from excavations and stockpiled material and subsequent laboratory analysis of selected samples.
- Assessment criteria presented in the HHERA and 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 on ERM field documentation forms and include, excavation and stockpile sampling sheets, and Quality Assurance and Quality Control (QA/QC) sampling sheets.

12.2.4 Step 4 – Define the Study Boundaries

Study area:

The Stage 1 Area is approximately 7 ha in size (the Stage 1 area), and is situated within the former Process West area of the Western Area.

The extent of the Stage 1 Area is defined in Section 2 of this report and is shown on Figure 2. The lateral extent of remediation excavation required is shown on Figure 7. The vertical extent of remediation will be to an anticipated maximum depth of 1.5m below ground level

Temporal limits: The study comprises validation activities to be completed as part of the Stage 1 Detailed RAP scope of works.

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.

12.2.5 Step 5 – Develop the Decision Rules

The decision rules are outlined as follows.

Decision	Decision Rules
Have remediation excavations been completed successfully and to the extent practicable?	Soil and soil vapour analytical data compared against adopted assessment criteria: ■ 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 AEC-9 excavation, 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 AEC-9 excavation, the answer is 'No'. Further excavation to remove impacted soils and validation sampling would be required ■ 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. ■ 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'.
Has the sub-grade drainage network been decommissioned successfully and isolated from the wider drainage network?	An appropriate lines of evidence approach to validation of drainage line decommissioning works will be prepared following a review and documentation of the previously completed drainage cleaning program undertaken by Ventia in 2018. A detailed decommissioning scope would be developed by the contractor, after which a validation methodology could be prepared by the Validation Consultant for consideration by the Site Auditor in the context of the Stage 1 Remediation.
Is excavated soil material 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) in, the material is suitable for on-site re-use. ■ If concentrations of contaminants of concern are reported above the adopted re-use criteria, 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.

Decision	Decision Rules
	- 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'.
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 13.5.

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 soil, groundwater or vapour 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 noted and justified.

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. This is also discussed further in *Section 9*.

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 the northern portion of the former Process West plant area (AEC-9).

The selected remedial approach will involve the excavation of impacted soils (fill and clay) and residual LNAPL to the level of groundwater. Soil material will be treated via biopiling for beneficial re-use within future stages of the Western Area Remediation Project.

Based on the remediation approach presented, the following conditions are expected at completion of excavation works at AEC-9:

- excavated fill and natural clay material 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 for further risk assessment; and
- backfill of remedial excavation with imported fill material (certified as VENM or ENM).
- Characterisation of excavated materials for re-use, on-site treatment (via biopiling) or offsite disposal.

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

Table 15 – Stage 1 Validation Strategy

Area / Material	Remediation Approach	Validation Approach	Required Analysis	Sampling density
Drainage Line Decommissioning	Decommissioning of drainage network in-situ to be completed as part of infrastructure decommissioning works under SSD 5147. Detailed scope of works for decommissioning to be developed by a Contractor	See Section 12.3.5	N/A	N/A

Area / Material	Remediation Approach	Validation Approach	Required Analysis	Sampling density
AEC-9 Excavation	Complete excavation of impacted soil materials and potential LNAPL (overlying groundwater)	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 >100ppm should be used to guide further excavation to the extent practicable. Validation sampling from final excavation walls and floor surfaces.	BTEXN, TRH C6-C40, TRH Speciation (CWG fractions)	**Walls** ■ 1 sample per 10 lineal metres. ■ Additional sampling at the same frequency to be conducted for each material type present **Base** ■ 10 x 10m off-set grid (herringbone) pattern
Stockpiled Excavated Soil Materials	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.	BTEXN, TRH C6-C40, TRH Speciation (CWG fractions)	■ 1/ 50m^3 ■ (Minimum 3 samples per stockpile)
Temporary stockpile footprint (if not conducted on hardstand)	Over-excavation of stockpiled materials.	Baseline monitoring (using existing data, where available) and post-decommissioning monitoring of native soils beneath the bioremediation area will be performed to assess whether bioremediation works have impacted the treatment site. 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.	BTEXN, TRH C6-C40	■ 10 x 10m off-set grid (herringbone) pattern
Imported Materials	-	VENM shall be as defined under the Protection of the Environment Operations (POEO) Act 1997.	As required.	As required
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	As required

Area / Material	Remediation Approach	Validation Approach	Required Analysis	Sampling density
All excavated and placed impacted materials, imported materials, and waste	-	Material Tracking Register	-	

12.3.2 Soil Sampling Methodology

Validation sampling of soil materials is expected to be undertaken in accordance with Table 11 Above. The general methodology for collection of soil samples is outlined below:

- samples will be collected from stockpiles at a minimum rate of one sample per 50 m^3 of material. A minimum of two samples per stockpile will be collected. 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 are not expected to 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 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 0.3 m below the surface of the stockpile;
- 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.

- 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 Excavation Validation

Once excavation has been completed to the required extent of remediation or to the extent practicable to remove LNAPL, 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.

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 will be surveyed by a registered surveyor to demonstrate final excavation levels (m AHD).

12.3.4 Stockpile Footprint Validation

Where stockpiles of contaminated soil material are temporarily stored on unsealed ground within the Stage 1 Area, baseline monitoring (using existing data, where available) and post-decommissioning monitoring of native soils beneath the bioremediation area will be performed to assess whether bioremediation works have impacted the treatment site.

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 prior to removal of underlying soils is not considered warranted. It should be noted that biopile and surplus stockpile treatment areas shown on Figure 8 have been selected in consideration of this.

Where stockpile footprint validation is undertaken outside of the Stage 1 Area, it will be reported within a validation report for the relevant area upon which sampling was undertaken.

12.3.5 Drainage Line Decommissioning

In line with the drainage line decommissioning approach and objectives outlined in Section 7.5,

An approach to decommissioning and validation is being developed via the following process:

- Preparation of a ‘Drainage Decontamination Summary Report’ which documents the scope of drainage decontamination works completed to date, and any gaps to be addressed via a future decommissioning scope to meet Viva’s objectives (prepared by ERM);
- Preparation of a scope of works to address identified items within the Drainage Decontamination Summary Report (prepared by a Contractor); and

- Development of a lines of evidence validation and verification methodology based on the proposed contractor scope to validate that the decommissioning objectives have been met (prepared by ERM).

Following execution of the works, a Decommissioning Verification Report would be prepared by ERM to document lines of evidence that the objectives of decommissioning have been achieved.

It is anticipated that the above documents would be considered by the Site Auditor in the context of the Stage 1 Remediation and Validation.

12.3.6 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 1 Area for backfilling purposes.

The contractor's nominated site representative will collate all the 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.

12.3.7 Soil Stockpile Re-use

Biopiling will be undertaken to treat 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). 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 be undertaken in accordance with the soil sampling methodology outlined in Section 12.3.2.

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 16 – Field Data Quality Indicators (DQIs)

Data Type	Comments and Acceptable Control Limits
Field personnel	■ Use appropriately trained field personnel.
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 (TRH, BTEX). ■ 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 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.
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 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.

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 17 – Laboratory Data Quality Indicators (DQIs)

Item	Comments and Acceptable Control Limits
Sample Analysis	■ All sample analyses to be conducted using NATA certified 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. ■ Maximum acceptable sample holding times: - Soil: 14 days for organic analyses and 6 months for inorganic analyses (28 days for mercury).
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 and Management Limits for LNAPL management. 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 - Excavations

Relevant Assessment Criteria are provided as Table D.1 of Appendix D. Applicable risk-based remediation criteria for excavation bases and walls 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;
- NEPM Management Limits for TRH, which trigger indicate the potential formation of LNAPL or potential for future acute hazards during excavation.

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 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.

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

- If Soil SSTLs are exceeded, soils are unsuitable for re-use and will require further treatment or offsite disposal.
- If concentrations are <SSTLs, the presence of LNAPL or exceedance of TRH management limits for COPCs 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.

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').

The dataset for the wider Stage 1 Area has been indicatively screened against the Waste Classification Criteria in Table 4. Ex-situ sampling of stockpiled material must be undertaken and subjected to laboratory analysis and 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.

It should be noted that the excavation should not be backfilled until validation samples confirm the successful removal of contaminated soil materials.

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

Upon the completion of works, a Validation Report will be prepared documenting the scope, methods, results and conclusions of the remedial works that meets requirements of guidance by NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Sites.

The report will include conclusions regarding the suitability, from a contamination perspective, of the Stage 1 Area for the proposed land use.

13. CONTINGENCY PLANNING

13.1 Remediation Contingency

The chosen remediation strategy includes excavation, on-site soil treatment via biopiling and potential limited off-site disposal of soils. 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 is a potential scenario whereby the removal of soils and/or LNAPL which has been identified as posing a potential risk to receptors is not successful 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 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.

13.2 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
- buried waste.

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.

13.3 Soil Treatment Contingencies

Remediation Trials have been undertaken and proven effective for treatment of contaminants and soil types within the Stage 1 Area. Despite this, it is proposed that VENM will be imported from off-site to backfill the AEC-9 excavation 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 the Project 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 will include contingency actions that can be taken to mitigate unacceptable dust/odours. PID screening to assess volatile air quality impacts may be supplemented by alternative field measurements (e.g. compound specific Draeger tubes) or collection of ambient air samples for laboratory analysis if necessary 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 fortnightly inspections, repairs will be implemented as soon as reasonably practicable. In addition, a root cause analysis will be performed to determine 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 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.

14. CONCLUSIONS

Viva Energy commissioned ERM to prepare a Detailed Remediation Action Plan (RAP) for the 'Stage 1' portion of the Clyde Western Area Remediation Project (WARP), herein referred to as 'The Stage 1 Area'.

The objective of the 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 the soil and manage groundwater within the Project 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 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 1 Area.

On the basis of the HHERA, the key driver for remediation within the Stage 1 Remediation Area was identified as being the potential for indoor inhalation of vapours by future on site commercial workers from hydrocarbon impacted soil and LNAPL within the northern portion of the former Process West plant area (AEC-9).

The proposed remediation methodologies were selected for remediation of an approximately 2900 m^3 of contaminated soil and LNAPL within the AEC-9 remediation are:

1) **Excavation and on-Site Bioremediation (bio-piling); and/or**
2) **Excavation and off-site disposal of soils (as a contingency measure).**

The above remediation methodologies are consistent with the shortlisted remediation methodologies outlined within the Conceptual RAP and EIS (AECOM 2018). These remedial technologies were selected for use in combination and are considered technically, logistically and economically feasible, to address the source areas in the soil and the LNAPL impacts in the groundwater. A validation approach for assessment of excavations and beneficial re-use of material within later stages of the WARP has been presented.

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.

These remedial technologies were selected for use in combination and are considered technically, logistically and economically feasible, to address the source areas in the soil and the LNAPL impacts in the groundwater. A validation approach for assessment of excavations and beneficial re-use of material within later stages of the WARP has been presented.

Following completion of remediation and validation works in accordance with this RAP, it is anticipated that the preparation and implementation of a LTEMP would be appropriate to manage residual contaminated soil and/or groundwater impacts remaining after active remediation is undertaken. This would include:

- Passive management of residual LNAPL in the sub-surface which will not be subject to active remediation. The LTEMP would provide mitigation measures for acute exposure to ground gases during future excavation, and design specifications for future buried services, such that they are not damaged or compromised by petroleum hydrocarbons in contact with pipework;

- An outline of 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 would be written in accordance with the *Guidelines for Consultants Reporting on Contaminated Sites* and the *Guidelines for the Site Auditor Scheme* and would 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 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.

Due to the overall reduced footprint of remedial excavation works required following further investigation and risk assessment, In-situ decommissioning of the subsurface drainage network within the Stage 1 Area is planned to be undertaken. Decommissioning works fall outside of the scope of works of the EIS, and will be completed under the existing SSD (5147) for the Clyde Terminal Conversion Project.

Viva Energy's objective is that the drainage network for Stage 1 Area:

- is not considered an ongoing primary source of soil and groundwater impact or a preferential pathway for migration of contaminants;
- does not present an unacceptable future safety risks via accumulation of gases in sub grade void spaces;
- is isolated from the wider Clyde network, such that future site operations will not contribute discharge to the Site's WWTP; and
- cannot be recommissioned for use in future.

A detailed scope for completion of decommissioning works to meet these objectives will be developed by a Contractor. This scope and associated validation approach for decommissioning works will be considered by the Site Auditor as part of the overall validation of the Stage 1 remedial works.

It is concluded that upon successful completion of the preferred remediation strategy described within this RAP, the Clyde WARP Stage 1 Area can be made suitable for the proposed commercial/ industrial land use.

Following completion of remediation and validation works in accordance with this RAP, it is anticipated that the preparation and implementation of a LTEMP will be appropriate to manage residual contaminated soil and/or groundwater impacts remaining after active remediation is undertaken. This will include:

- a program of ongoing groundwater monitoring to confirm that natural attenuation processes are occurring for residual dissolved phase hydrocarbons in groundwater;

- identification of residual LNAPL which may present acute exposure hazards during future excavation activities (i.e. NEPM management limit exceedances). Procedures for the management of excavations, including gas testing would be provided; and
- An unexpected finds procedure for the management of unexpected contamination identified during future redevelopment or excavation works.

The LTEMP would be written in accordance with the *Consultants Reporting on Contaminated Land Guidance* and the *Guidelines for the Site Auditor Scheme* and approved by the Site Auditor. The implementation of the LTEMP is anticipated to be a requirement for the issuance of a Site Audit Statement, along with a site validation report.

15. REFERENCES

AECOM 2018a. Clyde Western Area Remediation Project, Environmental Impact Statement.

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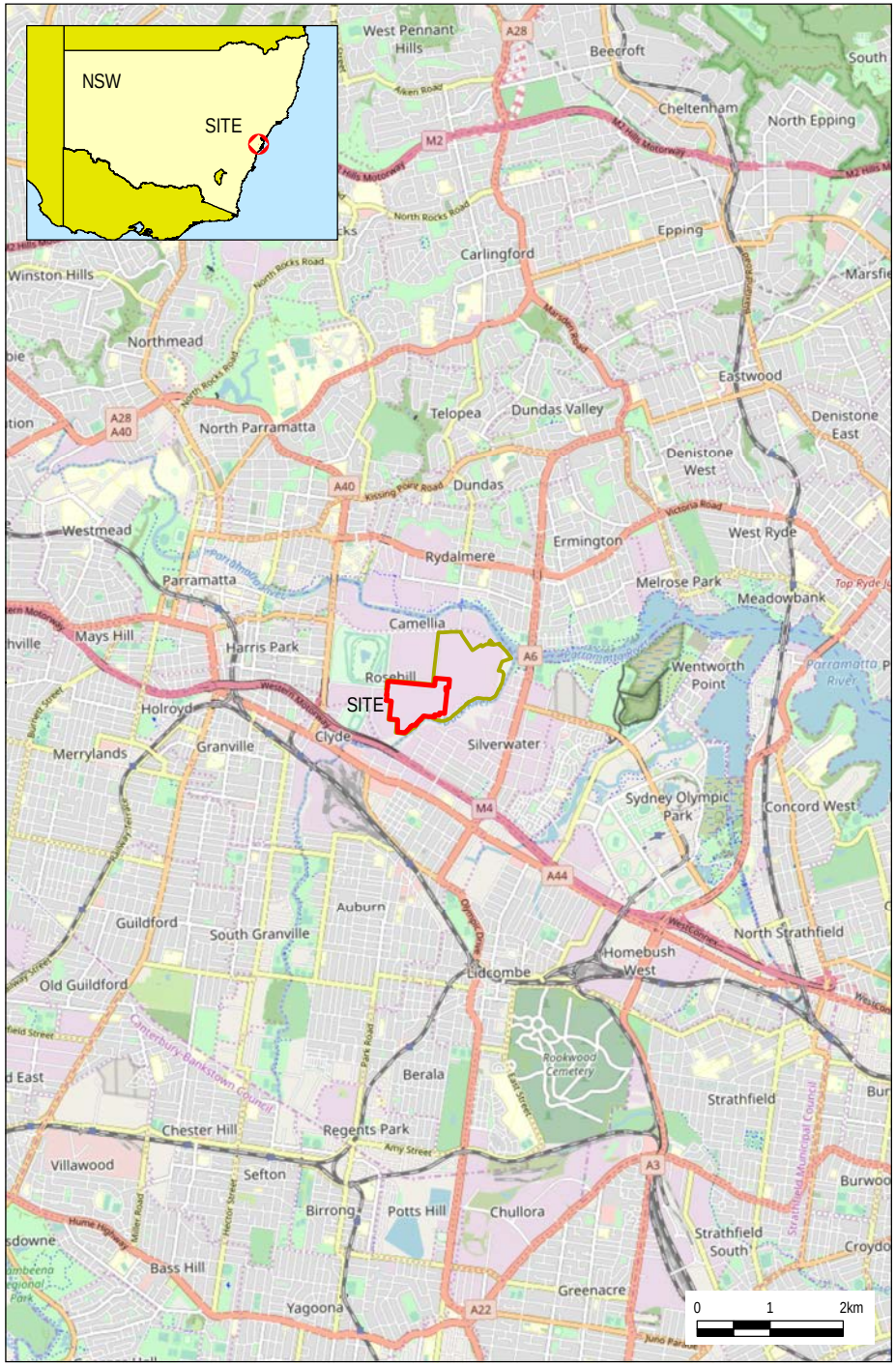
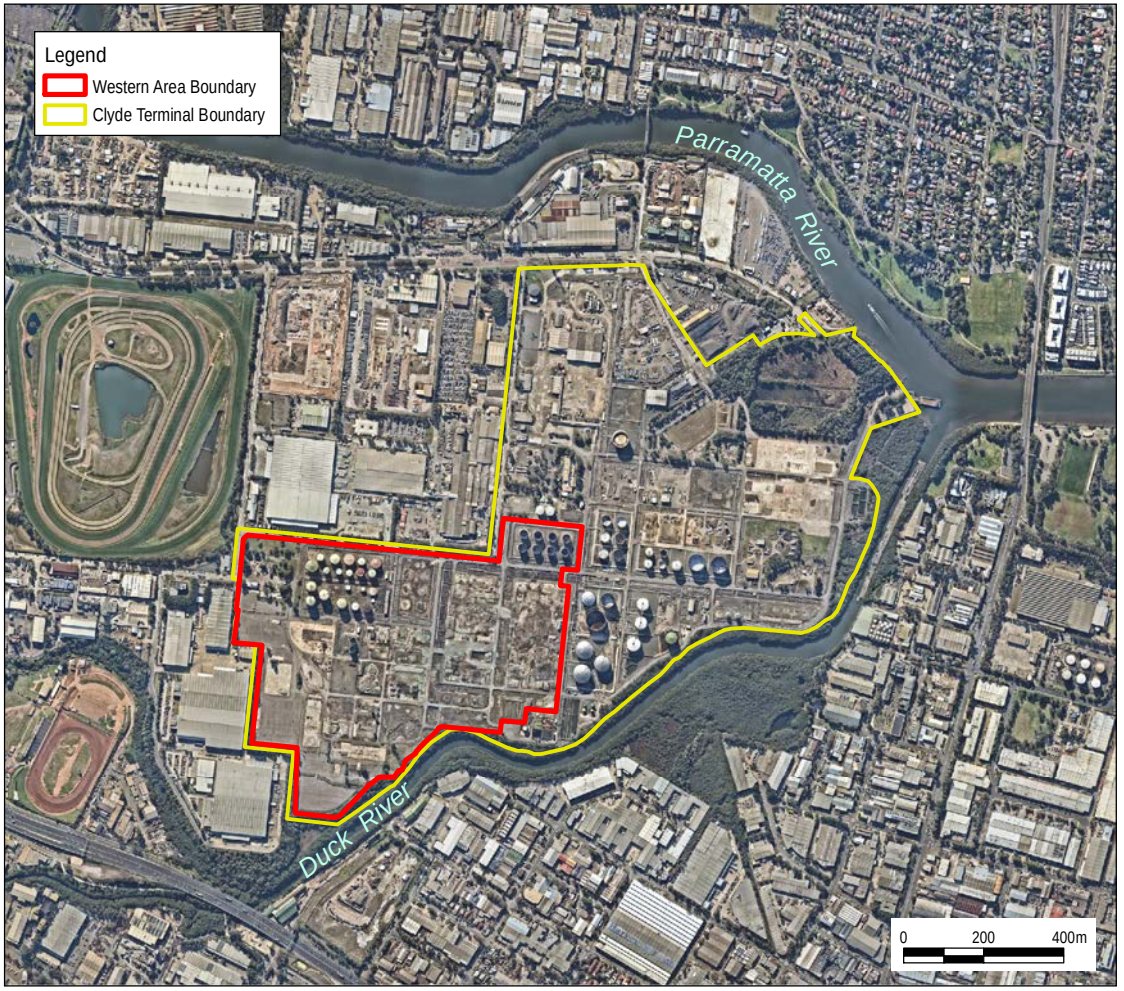
FIGURES





General Area Land Use:
Industrial
General Hydrogeology of Locality:
1. Soil Type:
Residual clay with minor silt and sand
2. Depth to aquifer:
0.5-2.5m bgs

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

Source:
Nearmap Imagery July 2019
Locality: Esri, OpenStreetMap 2019

Site Location

F1

Drawing No:	0515132b_RAP_G001_R0.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 1), Clyde Terminal - Durham Street, Rosehill
Date:	20/03/2020	Drawing Size: A4	
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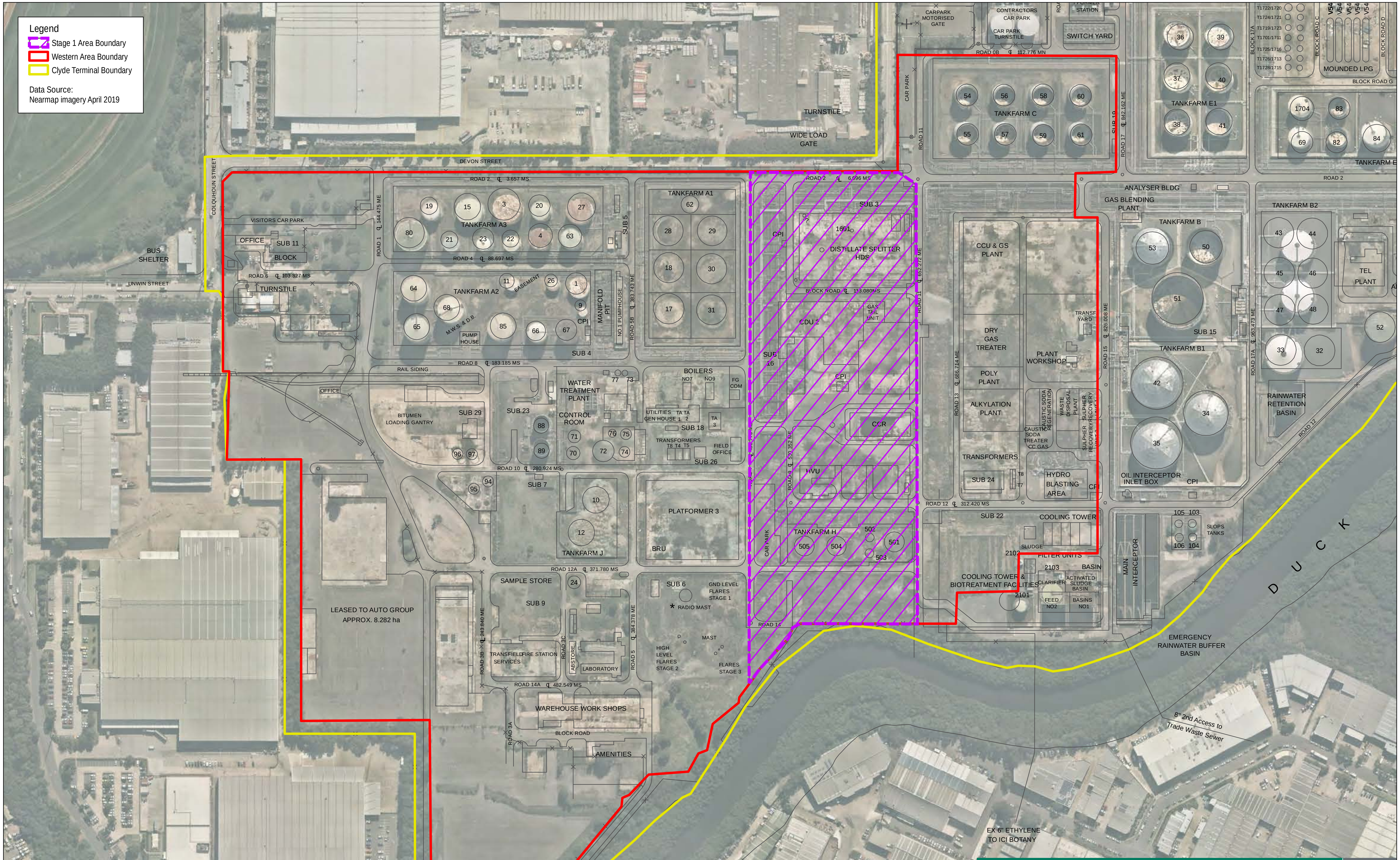

Site Layout - Western Area

F2

Drawing No: 0515132b_RAP_G002_R0.mxd	Clyde WARP - Detailed Remediation Action Plan (Stage 1), Clyde Terminal - Durham Street, Rosehill
Date: 04/06/2020 Drawing Size: A3	
Drawn By: GR / 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.

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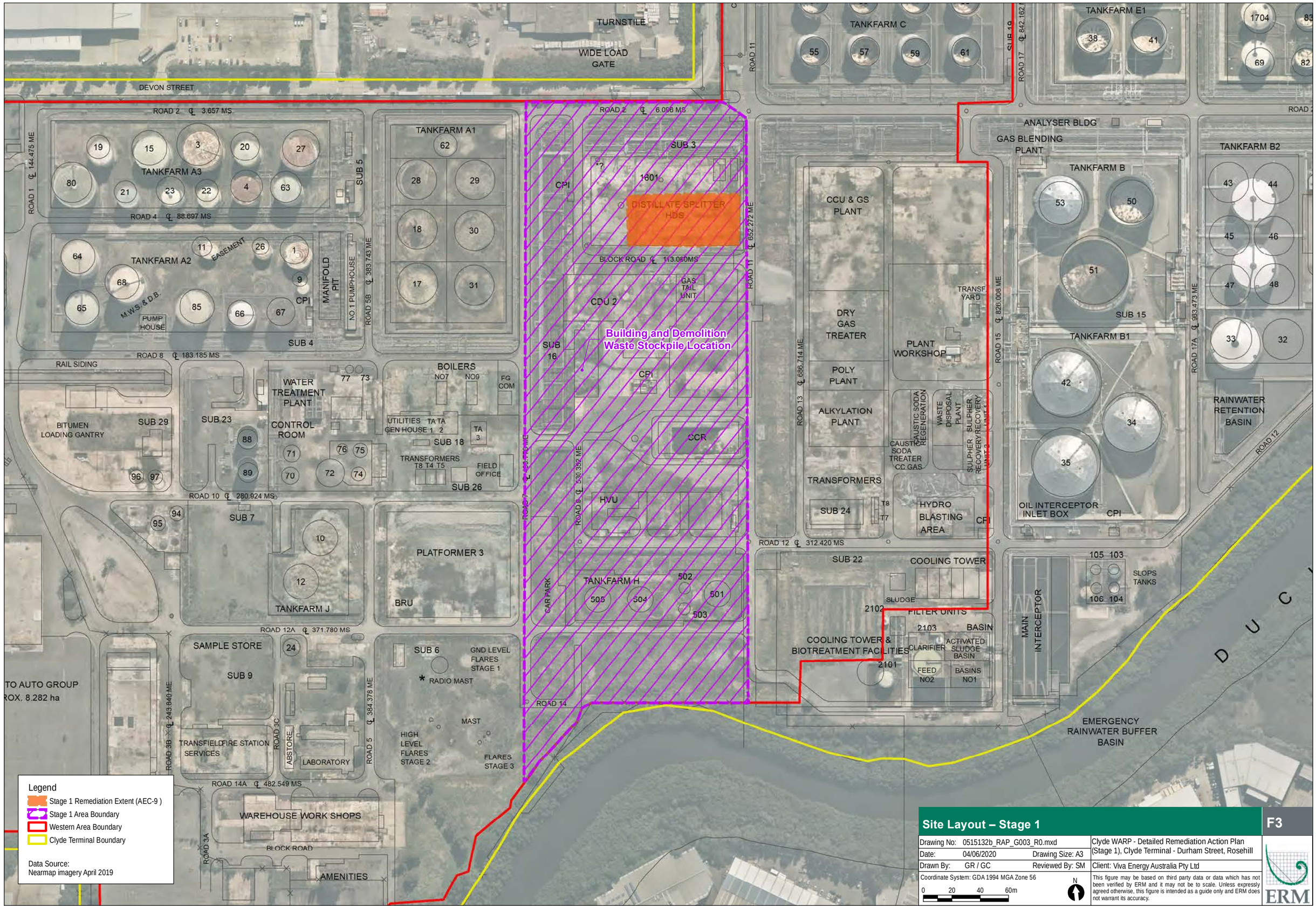

Site Layout – Stage 1

F3

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Coordinate System: GDA 1994 MGA Zone 56		N	This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

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ERM

ON STREET
ROAD 2 ℄ 3.657 MS
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SUB 5
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EASEMENT
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FARM A2
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85
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67
CPI
MANIFOLD PIT
NO.1 PUMPHOUSE
ROAD 5B ℄ 383.743 ME
TANKFARM A1
62
28
29
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SUB 4
8 ℄ 183.185 MS
WATER TREATMENT PLANT
77
73
BOILERS
NO7
NO9
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SUB 23
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CONTROL ROOM
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SUB 18
TRANSFORMERS T8 T4 T5
FIELD OFFICE
SUB 26
ROAD 10 ℄ 280.924 MS
94
SUB 7
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TANKFARM J
PLATFORMER 3
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ROAD 12A ℄ 371.780 MS
SAMPLE STORE
24
SUB 6
GND LEVEL FLARES STAGE 1
* RADIO MAST
MAST
HIGH LEVEL FLARES STAGE 2
FLARES STAGE 3
LABORATORY
ROAD 7 ℄ 193.776 ME
ROAD 14
ROAD 2 ℄ 6.096 MS
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DISTILLATE SPLITTER HDS
BLOCK ROAD ℄ 113.080MS
GAS TAIL UNIT
CDU 2
CPI
SUB 16
ROAD 11 ℄ 652.272 ME
ROAD 9 ℄ 530.352 ME
CCR
HVU
CAR PARK
TANKFARM H
505
504
502
501
503
ANALYSER BLDG
GAS BLENDING PLANT
CCU & CS PLANT
TRANSF. YARD
DRY GAS TREATER
PLANT WORKSHOP
POLY PLANT
ROAD 13 ℄ 686.714 ME
ALKYLATION PLANT
CAUSTIC SODA REGENERATION
WASTE DISPOSAL PLANT
SULPHER RECOVERY UNIT 1
SULPHER RECOVERY UNIT 2
CAUSTIC SODA TREATER CC GAS
TRANSFORMERS
SUB 24
T8
T7
HYDRO BLASTING AREA
CPI
ROAD 15 ℄ 826.008 ME
TANKFARM B
53
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SUB 15
TANKFARM B1
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34
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OIL INTERCEPTOR INLET BOX
CPI
ROAD 12 ℄ 312.420 MS
SUB 22
COOLING TOWER
105 103
106 104
SLUDGE
2102
FILTER UNITS
2103
BASIN
CLARIFIER
ACTIVATED SLUDGE BASIN
FEED NO2
BASINS NO1
MAIN INTERCEPTOR
COOLING TOWER & BIOTREATMENT FACILITIES
2101

Legend
- Stage 1 Remediation Extent (AEC-9)
- Western Area Boundary
- Clyde Terminal Boundary
- Stage 1 Area Boundary
- Drainage Pit
- Clean Drain Line (Underground)
- Contaminated Drain Line (Above ground)
- Contaminated Drain Line (Underground)
- Drainage Lines (Cleaned 2018)
- Sewer
- Interceptor

Data Source:
Nearmap imagery April 2019

Site Drainage Layout

F4

Drawing No:	0515132b_RAP_G004_R0.mxd	Clyde WARP - Detailed Remediation Action Plan (Stage 1), Clyde Terminal - Durham Street, Rosehill
Date:	04/06/2020	Drawing Size: A3
Drawn By:	GR / GC	Reviewed By: SM
Client:	Viva Energy Australia Pty Ltd	

Coordinate System: GDA 1994 MGA Zone 56

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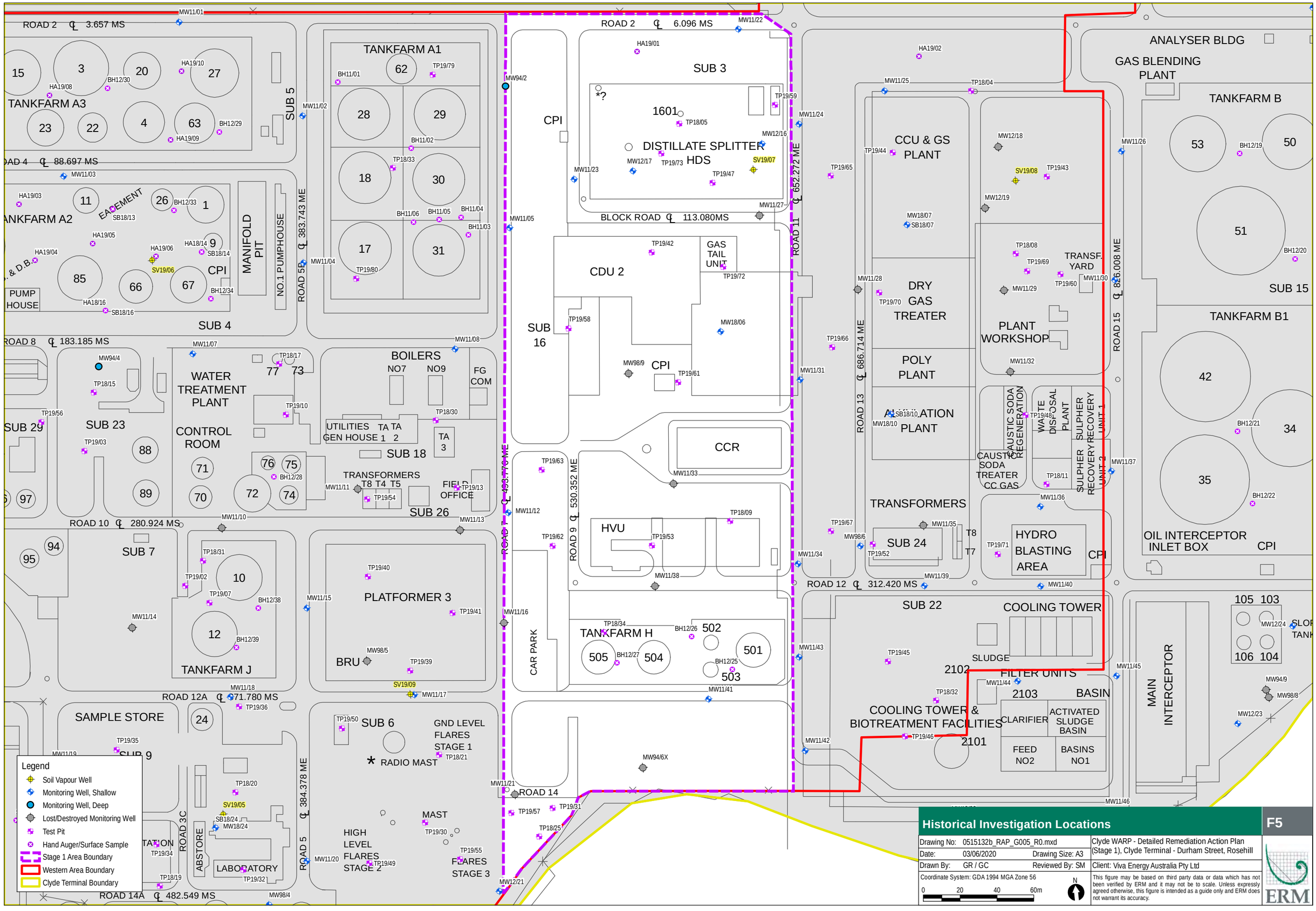
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ROAD 4 ℄ 88.697 MS
TANKFARM A2
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PUMP HOUSE
EASEMENT
MANIFOLD PIT
NO.1 PUMPHOUSE
ROAD 5B ℄ 383.743 ME
SUB 4
ROAD 8 ℄ 183.185 MS
WATER TREATMENT PLANT
CONTROL ROOM
SUB 29
SUB 23
SUB 18
BOILERS
NO7
NO9
FG COM
UTILITIES GEN HOUSE
TA 1
TA 2
TA 3
TRANSFORMERS T8 T4 T5
FIELD OFFICE
SUB 26
ROAD 10 ℄ 280.924 MS
SUB 7
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TANKFARM J
PLATFORMER 3
BRU
ROAD 12A ℄ 71.780 MS
SAMPLE STORE
24
SUB 9
SUB 6
GND LEVEL FLARES STAGE 1
RADIO MAST
HIGH LEVEL FLARES STAGE 2
MAST
FLARES STAGE 3
ABSTORE
LABORATORY
ROAD 14A ℄ 482.549 MS
ROAD 3C
ROAD 5
ROAD 7 ℄ 433.470 ME
ROAD 9 ℄ 530.352 ME
ROAD 2 ℄ 6.096 MS
SUB 3
1601
DISTILLATE SPLITTER HDS
CPI
BLOCK ROAD ℄ 113.080MS
CDU 2
GAS TAIL UNIT
SUB 16
CCR
HVU
TANKFARM H
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503
CAR PARK
ROAD 11 ℄ 652.272 ME
ROAD 14
ROAD 12 ℄ 312.420 MS
CCU & GS PLANT
DRY GAS TREATER
POLY PLANT
AMINE TREATATION PLANT
ROAD 13 ℄ 686.714 ME
TRANSFORMERS
SUB 24
T8
T7
SUB 22
COOLING TOWER
SLUDGE
FILTER UNITS
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2103
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BASINS NO1
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WASTE DISPOSAL PLANT
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SULPHER RECOVERY UNIT 2
HYDRO BLASTING AREA
ROAD 15 ℄ 826.008 ME
ANALYSER BLDG
GAS BLENDING PLANT
TANKFARM B
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SUB 15
TANKFARM B1
42
34
35
OIL INTERCEPTOR INLET BOX
105
103
106
104
Legend
Soil Vapour Well
Monitoring Well, Shallow
Monitoring Well, Deep
Lost/Destroyed Monitoring Well
Test Pit
Hand Auger/Surface Sample
Stage 1 Area Boundary
Western Area Boundary
Clyde Terminal Boundary
Historical Investigation Locations
F5
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Date: 03/06/2020
Drawing Size: A3
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Reviewed By: SM
Coordinate System: GDA 1994 MGA Zone 56
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Clyde WARP - Detailed Remediation Action Plan (Stage 1), Clyde Terminal - Durham Street, Rosehill
Client: Viva Energy Australia Pty Ltd
This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.
ERM

Analytes	TRH >C6-C8 Aliphatic	TRH >C8-C10 Aliphatic	TRH >C12-C16 Aliphatic	TRH >C8-C10 Aromatic	TRH >C12-C16 Aromatic	TRH >C16-C21 Aromatic	TRH >C21-C35 Aromatic	Benzene	TRH C6-C10 less BTEX	TRH >C16-C34 Fraction	Chromium	Benzo(a)pyrene TEQ (medium bound)*
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Clyde WARP SSTL (Direct Contact - Commercial)	1200000	24000	24000	9500	9500	7100	7100	400	28,000	27,000	21,000	40
Clyde WARP SSTL (Direct Contact - Construction Worker)	310000	6200	6200	2500	2500	1800	1800	420	69,000	64,000	100,000	50
Clyde WARP SSTL (Direct Contact - IMW)	3700000	74000	74000	30000	30000	22000	22000	5000	830,000	770,000	8200	540
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m												
0-0.99m	480	760	NL	110	NL			3.2	390			
Clyde WARP SSTL (Vapour Intrusion - Commercial) 1m												
1-1.99m	610	980	NL	150	NL			3.2	770			
Clyde WARP SSTL (Vapour Intrusion - Commercial) 2m												
2-6m	880	1400	NL	230	NL			3.2	790			

TP19/73	Depth (m)	TRH >C8-C10 Aliphatic
	0.4	780

TP19/47	Depth (m)	TRH >C10-C12 Aliphatic	TRH >C10-C12 Aromatic	TRH >C12-C16 Aromatic
	0.3	2300	1900	1700

Legend

- Stage 1 Remediation Extent (AEC-9)
- Western Area Boundary
- Clyde Refinery
- Stage 1 Area Boundary
- Historical Test Pit
- Historical Soil Bore/Hand Auger
- Monitoring Well, Shallow
- Monitoring Well, Deep
- Lost/Destroyed Monitoring Well

Latest Sampling (July/August 2019)

- New Test Pit
- New Hand Auger/Surface Sample
- LNAPL present in Soil (0-1m Depths)

Notes:
LNAPL was identified in soil profile at 1m bgl.

Soil Exceedances

F6a

Drawing No:	0515132s_RAP_G006_R1.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 1), Clyde Terminal - Durham Street, Rosehill
Date:	04/06/2020	Drawing Size: A3	
Drawn By:	GC / GR	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

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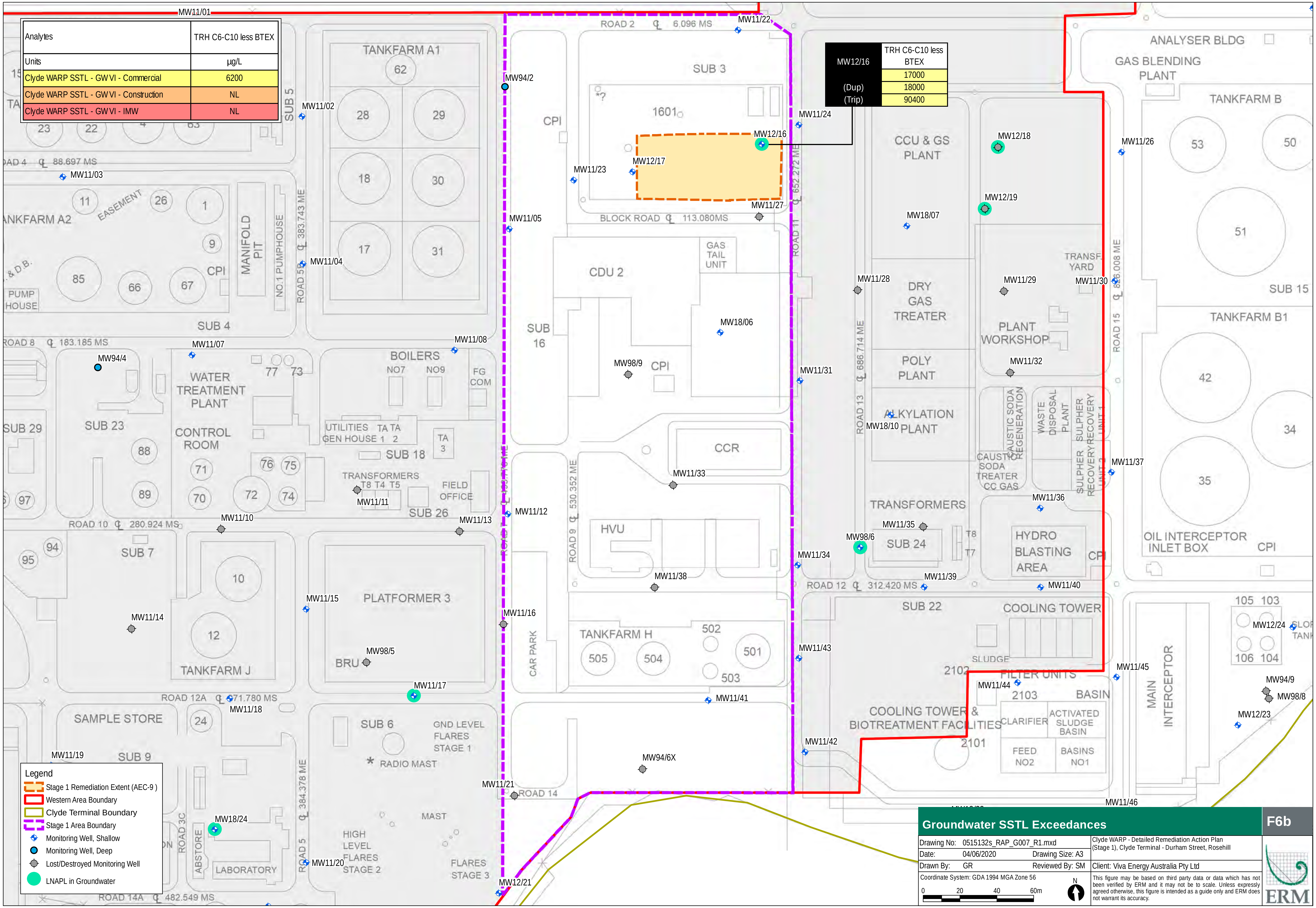
ERM



MW11/01
ROAD 2 ℄ 6.096 MS
MW11/22
TANKFARM A1
SUB 3
ANALYSER BLDG
GAS BLENDING PLANT
TANKFARM B
SUB 5
MW11/02
MW94/2
CPI
1601
MW11/24
MW12/16
MW12/17
MW11/23
CCU & GS PLANT
MW12/18
MW11/26
MW11/03
ROAD 4 ℄ 88.697 MS
EASEMENT
TANKFARM A2
MANIFOLD PIT
NO.1 PUMPHOUSE
ROAD 5 ℄ 383.743 ME
MW11/04
MW11/05
BLOCK ROAD ℄ 113.080MS
MW11/27
MW12/19
MW18/07
ROAD 11 ℄ 652.272 ME
CDU 2
GAS TAIL UNIT
PUMP HOUSE
SUB 4
SUB 16
MW18/06
MW11/28
DRY GAS TREATER
MW11/29
TRANSF YARD
MW11/30
SUB 15
TANKFARM B1
ROAD 8 ℄ 183.185 MS
MW11/07
MW11/08
MW94/4
WATER TREATMENT PLANT
BOILERS NO7 NO9
FG COM
MW98/9
CPI
MW11/31
POLY PLANT
PLANT WORKSHOP
MW11/32
ROAD 15 ℄ 866.008 ME
ROAD 13 ℄ 686.714 ME
SUB 29
SUB 23
CONTROL ROOM
UTILITIES GEN HOUSE
TA 1 TA 2 TA 3
SUB 18
ALKYLATION PLANT
MW18/10
CAUSTIC SODA REGENERATION
WASTE DISPOSAL PLANT
SULPHER RECOVERY UNIT 4
SULPHER RECOVERY UNIT 3
CAUSTIC SODA TREATER CC GAS
CCR
MW11/33
MW11/37
TRANSFORMERS T8 T4 T5
MW11/11
FIELD OFFICE
SUB 26
ROAD 10 ℄ 280.924 MS
MW11/10
MW11/13
MW11/12
ROAD 9 ℄ 530.352 ME
ROAD 7 ℄ 453.715 ME
HVU
TRANSFORMERS
MW11/35
MW11/36
MW98/6
SUB 24
T8 T7
HYDRO BLASTING AREA
CPI
OIL INTERCEPTOR INLET BOX
SUB 7
MW11/34
MW11/38
MW11/39
ROAD 12 ℄ 312.420 MS
MW11/40
MW11/15
PLATFORMER 3
MW11/14
MW11/16
TANKFARM H
SUB 22
COOLING TOWER
SLUDGE
FILTER UNITS
MW12/24
MW11/43
MW98/5
BRU
TANKFARM J
CAR PARK
MW11/17
MW11/44
MW11/45
MAIN INTERCEPTOR
MW94/9
MW98/8
ROAD 12A ℄ 471.780 MS
MW11/18
MW11/41
BASIN
COOLING TOWER & BIOTREATMENT FACILITIES
CLARIFIER
ACTIVATED SLUDGE BASIN
MW12/23
SAMPLE STORE
SUB 6
GND LEVEL FLARES STAGE 1
MW11/19
SUB 9
RADIO MAST
MW11/42
MW94/6X
FEED NO2
BASINS NO1
MW11/21
ROAD 14
MW11/46
ROAD 3C
ROAD 5 ℄ 384.378 ME
MW18/24
MAST
HIGH LEVEL FLARES STAGE 2
FLARES STAGE 3
ABSTORE
LABORATORY
MW11/20
MW12/21
ROAD 14A ℄ 482.549 MS

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

MW12/16	TRH C6-C10 less BTEX
	17000
(Dup)	18000
(Trip)	90400

Legend
- Stage 1 Remediation Extent (AEC-9)
- Western Area Boundary
- Clyde Terminal Boundary
- Stage 1 Area Boundary
- Monitoring Well, Shallow
- Monitoring Well, Deep
- Lost/Destroyed Monitoring Well
- LNAPL in Groundwater

Groundwater SSTL Exceedances

F6b

Drawing No: 0515132s_RAP_G007_R1.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 1), Clyde Terminal - Durham Street, Rosehill	
Date: 04/06/2020	Drawing Size: A3		
Drawn By: GR	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd	
Coordinate System: GDA 1994 MGA Zone 56			

0 20 40 60m

N

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

ERM

Analytes	TRH >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

Legend
- Stage 1 Remediation Extent (AEC-9)
- Stage 1 Area Boundary
- Western Area Boundary
- Clyde Terminal Boundary
- Soil Vapour Well
- Monitoring Well, Shallow
- Monitoring Well, Deep
- Lost/Destroyed Monitoring Well

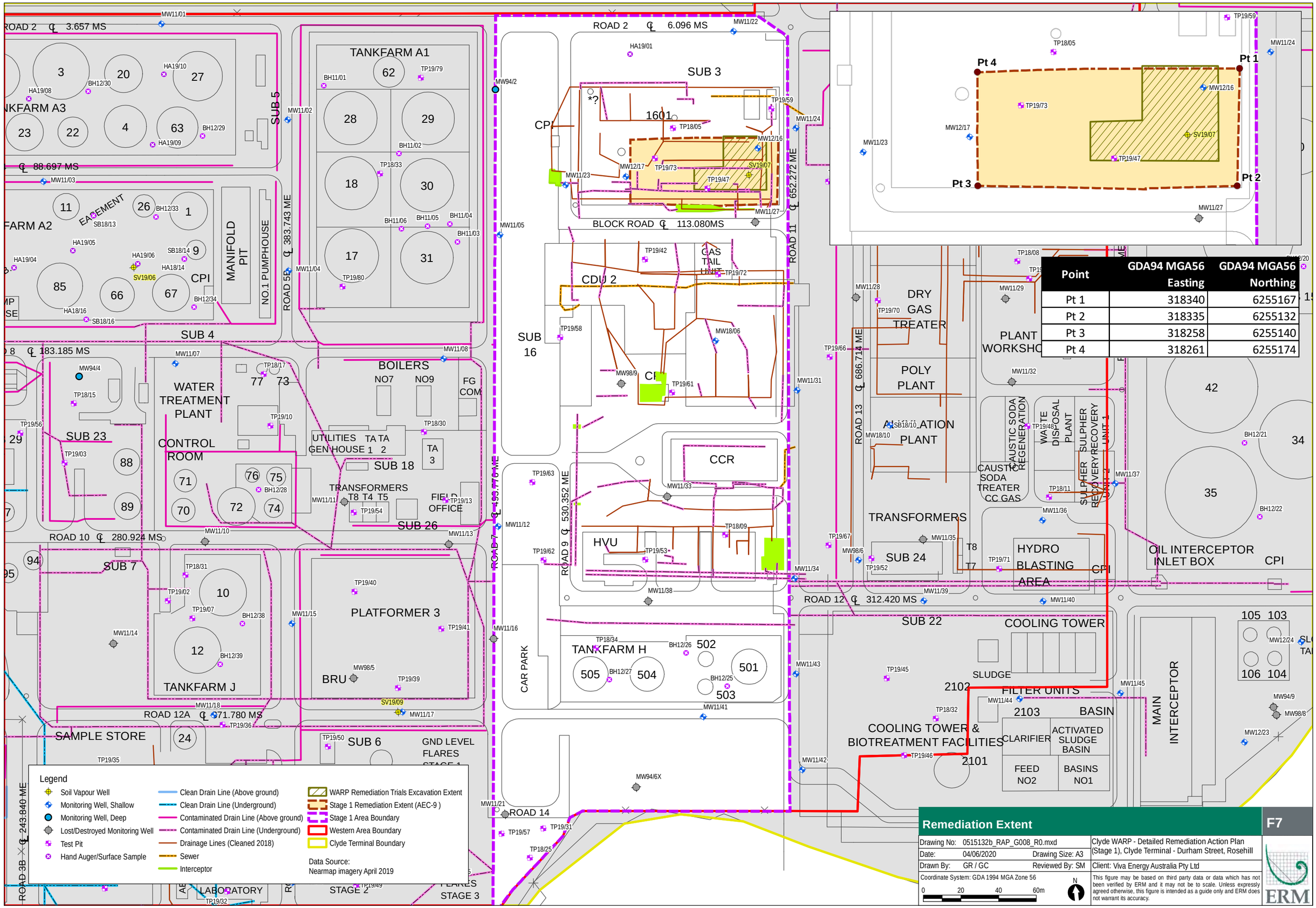
Soil Vapour SSTL Exceedances — F6c

Drawing No:	0515132s_RAP_G010_R1.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 1), Clyde Terminal - Durham Street, Rosehill
Date:	04/06/2020	Drawing Size: A3	
Drawn By:	GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56 — 0 20 40 60m — 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



Point	GDA94 MGA56 Easting	GDA94 MGA56 Northing
Pt 1	318340	6255167
Pt 2	318335	6255132
Pt 3	318258	6255140
Pt 4	318261	6255174

Remediation Extent

F7

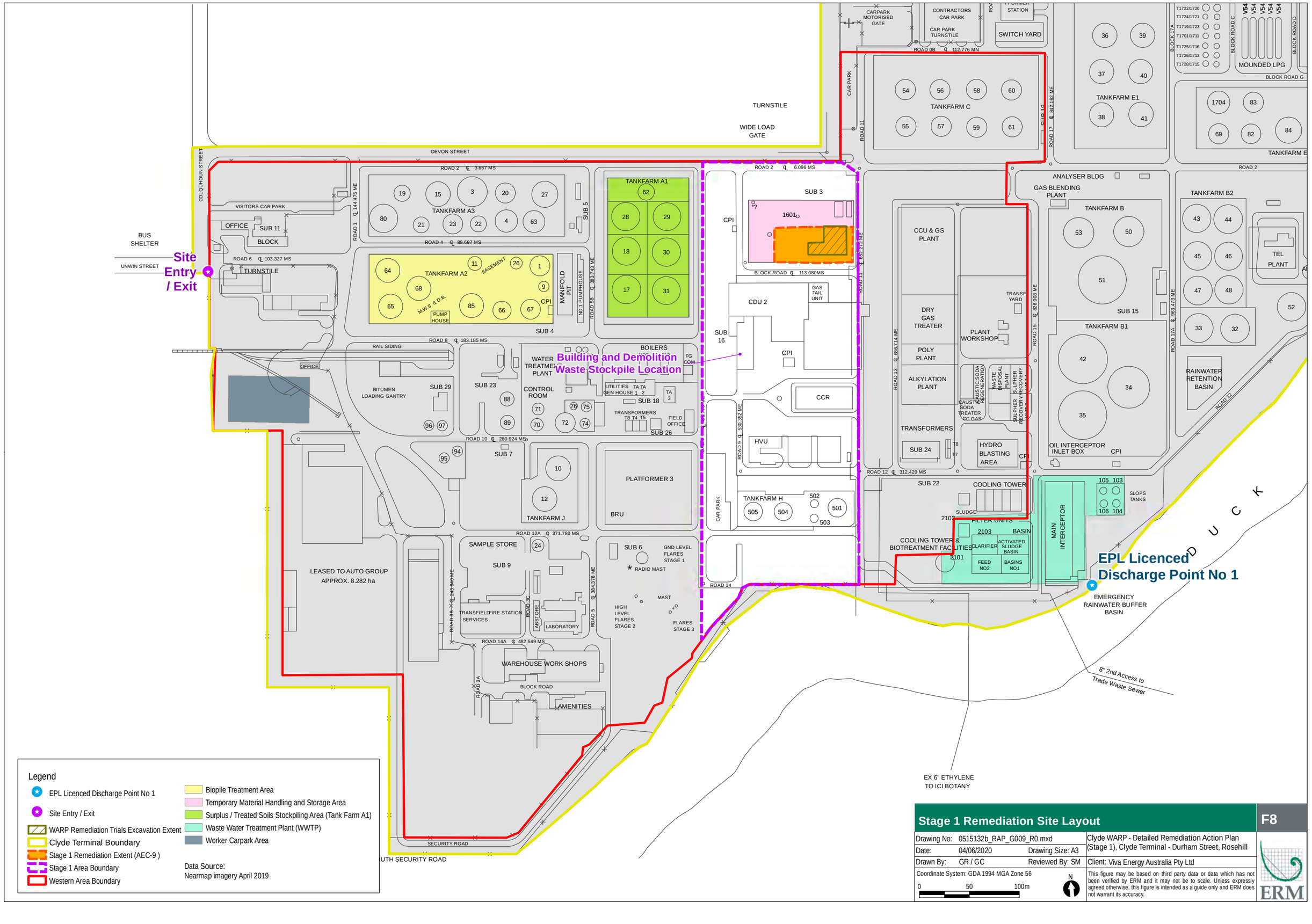
Drawing No:	0515132b_RAP_G008_R0.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 1), Clyde Terminal - Durham Street, Rosehill
Date:	04/06/2020	Drawing Size: A3	
Drawn By:	GR / GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

0 20 40 60m

N

ERM



Legend

- EPL Licenced Discharge Point No 1
- Site Entry / Exit
- WARP Remediation Trials Excavation Extent
- Clyde Terminal Boundary
- Stage 1 Remediation Extent (AEC-9)
- Stage 1 Area Boundary
- Western Area Boundary
- Biopile Treatment Area
- Temporary Material Handling and Storage Area
- Surplus / Treated Soils Stockpiling Area (Tank Farm A1)
- Waste Water Treatment Plant (WWTP)
- Worker Carpark Area

Data Source:
Nearmap imagery April 2019

Stage 1 Remediation Site Layout

F8

Drawing No:	0515132b_RAP_G009_R0.mxd		Clyde WARP - Detailed Remediation Action Plan (Stage 1), Clyde Terminal - Durham Street, Rosehill
Date:	04/06/2020	Drawing Size: A3	
Drawn By:	GR / GC	Reviewed By: SM	Client: Viva Energy Australia Pty Ltd

Coordinate System: GDA 1994 MGA Zone 56

0 50 100m

N

ERM

APPENDIX A HISTORICAL DATA TABLES

Monitoring_Zone	Location_Code	Field_ID	Sampled_Date_Time	Sample_Type	Sample_Depth_Range	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
						BTEX							Naphthalene	TRH NEPM (1999)						
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.5	10	20	20	50		50	50
Clyde WARP SSTL (Direct Contact - Commercial)						400							9800							
Clyde WARP SSTL (Direct Contact - Construction Worker)						1200							67000							
Clyde WARP SSTL (Direct Contact - IMW)						15000							810000							
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																				
4-6m						3.2							NL							
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																				
1-1.99m						3.2							NL							
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																				
2-3.99m						3.2							NL							
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																				
0-0.99m						3.2							NL							
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)						NL							NL							
Clyde WARP SSTL (Vapour Intrusion - IMW)						NL							NL							
NEPM (1999) EIL - Commercial/Industrial													370							
NEPM (1999) ESL - Commercial/Industrial (coarse)						75	135	165			180									
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																				
15	BH12/25	BH12/25_0.2	16/03/2012	Normal	0.2-0.2	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#8]	<1.5[#8]	<0.5	<10	-	<50	<100	<200[#8]	<100	<100[#8]
15	BH12/25	BH12/25_1.3	16/03/2012	Normal	1.3-1.3	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#8]	<1.5[#8]	<0.5	<10	-	<50	<100	<200[#8]	<100	<100[#8]
15	BH12/26	BH12/26_0.05	16/03/2012	Normal	0.05-0.05	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#8]	<1.5[#8]	<0.5	<10	-	<50	<100	<200[#8]	<100	<100[#8]
15	BH12/26	BH12/26_1.3	16/03/2012	Normal	1.3-1.3	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#8]	<1.5[#8]	<0.5	<10	-	<50	<100	<200[#8]	<100	<100[#8]
15	BH12/27	BH12/27_1.0	16/03/2012	Normal	1-1	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#8]	<1.5[#8]	<0.5	<10	-	<50	<100	<200[#8]	<100	<100[#8]
15	BH12/27	BH12/27_0.05	16/03/2012	Normal	0.05-0.05	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#8]	<1.5[#8]	<0.5	<10	-	<50	<100	<200[#8]	<100	<100[#8]
7	HA19/01	HA19/01_0.5	2/08/2019	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	<50	<50
7	HA19/01	HA19/01_0.1	2/08/2019	Normal	0-0.2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	110	-	240	350
15	MW11/22	MW11/22_0.5	28/09/2011	Normal	0.5-0.5	<0.5	<0.5	-	<0.5	<1	<1.5[#6]	<1.5[#2]	<5	<10	-	<50	-	-	-	<50[#4]
15	MW11/22	MW11/22_3.3	29/09/2011	Normal	3.3-3.3	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
9	MW11/23	MW11/23_0.3	30/09/2011	Normal	0.3-0.3	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	-	<10	-	<50	-	-	-	<50[#4]
9	MW11/23	MW11/23_3.5	30/09/2011	Normal	3.5-3.5	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	-	<10	-	<50	-	-	-	<50[#4]
9	MW11/24	MW11/24_0.4	30/09/2011	Normal	0.4-0.4	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50 - 180[#4]
9	MW11/24	MW11/24_1.6	30/09/2011	Normal	1.6-1.6	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
9	MW11/27	MW11/27_0.6	30/09/2011	Normal	0.6-0.6	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
9	MW11/27	MW11/27_1.9	30/09/2011	Normal	1.9-1.9	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
9	MW11/31	MW11/31_0.5	26/09/2011	Normal	0.5-0.5	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
9	MW11/31	MW11/31_2.2	26/09/2011	Normal	2.2-2.2	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
9	MW11/33	MW11/33_2.0	29/09/2011	Normal	2-2	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
9	MW11/33	MW11/33_0.5	28/09/2011	Normal	0.5-0.5	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50 - 110[#4]
9	MW11/33	MW11/33_0.8	29/09/2011	Normal	0.8-0.8	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	140	-	-	-	140 - 1600[#3]
9	MW11/34	MW11/34_0.4	27/09/2011	Normal	0.4-0.4	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
9	MW11/34	MW11/34_3.5	28/09/2011	Normal	3.5-3.5	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
9	MW11/38	MW11/38_0.45	26/09/2011	Normal	0.45-0.45	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
9	MW11/38	D_260911_01	26/09/2011	Field_D	0.45-0.45	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
9	MW11/38	T_260911_01	26/09/2011	Field_D	0.45-0.45	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
9	MW11/38	MW11/38_2.5	26/09/2011	Normal	2.5-2.5	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
15	MW11/41	MW11/41_0.35	28/09/2011	Normal	0.35-0.35	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<5	<10	-	<50	-	-	-	<50 - 990[#4]
15	MW11/41	MW11/41_2.3	29/09/2011	Normal	2.3-2.3	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<5	<10	-	<50	-	-	-	<50[#4]
15	MW11/42	MW11/42_0.6	28/09/2011	Normal	0.6-0.6	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
15	MW11/42	D_290911_01	29/09/2011	Field_D	0.6-0.6	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50 - 370[#4]
15	MW11/42	T_290911-01	29/09/2011	Interlab_D	0.6-0.6	<0.2	1.1	<0.5	<0.5	2.6	2.6 - 2.85[#5]	3.7 - 4.05[#5]	<0.5	<10	-	<50	450	810[#5]	360	810 - 835[#5]
15	MW11/42	MW11/42_2.2	29/09/2011	Normal	2.2-2.2	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	230	-	-	-	230 - 820[#3]
15	MW11/42	MW11/42_2.6	29/09/2011	Normal	2.6-2.6	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
15	MW11/43	MW11/43_0.2	28/09/2011	Normal	0.2-0.2	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<5	<10	-	<50	-	-	-	<50[#4]
15	MW11/43	MW11/43_2.3	29/09/2011	Normal	2.3-2.3	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#6]	<1.5[#6]	<0.5	<10	-	<50	-	-	-	<50[#4]
9	MW12/16	D_050312_01	5/03/2012	Field_D	-0.5	<0.5	<0.5	3.2	<0.5	<1	<1.5[#8]	3.2 - 4.45[#7]	9.3	58	-	560	210	260[#7]	<100	770 - 820[#7]
9	MW12/16	T_050312_01	5/03/2012	Interlab_D	-0.5	<0.2	<0.5	4	<0.5	<0.5	<0.5[#8]	4 - 4.6[#7]	8	89	-	380	160	210[#7]	<100	540 - 590[#7]
9	MW12/16	MW12/16_2.0	5/03/2012	Normal	2-2	1.2	12	5.2	9.1	25	34 - 34.1[#7]	52.4 - 53[#7]	5.3 - 6.5	120	-	400	<100	<200[#8]	<100	400 - 500[#7]
9	MW12/16	MW12/16_6.0	5/03/2012	Normal	6-6	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#8]	<1.5[#8]	<0.5	<10	-	<50	<100	<200[#8]	<100	<100[#8]
9	MW12/16	MW12/16_0.5	5/03/2012	Normal	0.5-0.5	<0.5	<0.5	1.5	<0.5	<1	<1.5[#8]	1.5 - 2.75[#7]	5.6 - 11	15	-	530	180	230[#7]	<100	710 - 760[#7]
9	MW12/17	MW12/17_2.0	5/03/2012	Normal	2-2	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#8]	<1.5[#8]	<0.5	<10	-	<50	<100	<200[#8]	<100	<100[#8]
9	MW12/17	MW12/17_0.4	5/03/2012	Normal	0.4-0.4	<0.5	<0.5	<0.5	<0.5	<1	<1.5[#8]	<1.5[#8]	<0.5	<10	-	<50	<100	<200[#8]	<100	<100[#8]

Field_ID	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 >C5-C7 (Benzene) Aromatic	TRH >C6-C8 Aliphatic	TRH >C8-C10 Aliphatic	TRH >C10-C12 Aliphatic	TRH >C12-C16 Aliphatic	TRH >C16-C21 Aliphatic	TRH >C21-C35 Aliphatic	TRH >C7-C8 Aromatic	TRH >C8-C10 Aromatic	TRH >C10-C12 Aromatic	TRH >C12-C16 Aromatic
	TRH NEPM (2013)							TRH Aliphatic/Aromatic Split										
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	10	10	50	50	100	50	100	0.1	10	10	10	10	10	10	0.1	1	10	10
Clyde WARP SSTL (Direct Contact - Commercial)		28000		17000	27000		27000		1200000	24000	24000	24000	470000	470000		9500	9500	9500
Clyde WARP SSTL (Direct Contact - Construction Worker)		69000		45000	64000		64000		310000	62000	62000	62000	370000	370000		25000	25000	25000
Clyde WARP SSTL (Direct Contact - IMW)		830000		540000	770000		770000		3700000	740000	740000	740000	4400000	4400000		300000	300000	300000
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																		
4-6m		NL		NL					1400	2200	1800	33000				420	1400	9800
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																		
1-1.99m		770		NL					610	980	600	8300				150	430	2800
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																		
2-3.99m		NL		NL					880	1400	980	17000				230	750	5100
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																		
0-0.99m		600		NL					480	760	430	4300				110	280	430
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)		NL		NL					NL	NL	NL	NL				NL	NL	NL
Clyde WARP SSTL (Vapour Intrusion - IMW)		NL		NL					NL	NL	NL	NL				NL	NL	NL
NEPM (1999) EIL - Commercial/Industrial																		
NEPM (1999) ESL - Commercial/Industrial (coarse)		215	170		1700		3300											
NEPM (1999) Management Limits - Commercial/Industrial (coarse)	700		1000		3500		10000											
BH12/25_0.2	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
BH12/25_1.3	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
BH12/26_0.05	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
BH12/26_1.3	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
BH12/27_1.0	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
BH12/27_0.05	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
HA19/01_0.5	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
HA19/01_0.1	<20	<20	<50	<50	260	400	140	-	-	-	-	-	-	-	-	-	-	-
MW11/22_0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/22_3.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/23_0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/23_3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/24_0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/24_1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/27_0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/27_1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/31_0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/31_2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/33_2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/33_0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/33_0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/34_0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/34_3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/38_0.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D_260911_01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
T_260911_01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/38_2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/41_0.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/41_2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/42_0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D_290911_01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
T_290911-01	<10	<10	<50	-	680	970	290	-	-	-	-	-	-	-	-	-	-	-
MW11/42_2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/42_2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/43_0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/43_2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D_050312_01	79	76	690	680	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
T_050312_01	122	118	480	-	<100	480	<100	-	-	-	-	-	-	-	-	-	-	-
MW12/16_2.0	160	110	400	390	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
MW12/16_6.0	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
MW12/16_0.5	25	24	630	620	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
MW12/17_2.0	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-
MW12/17_0.4	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-

ERM

Monitoring_Zone	Location_Code	Field_ID	Sampled_Date_Time	Sample_Type	Sample_Depth_Range	BTEX							Naphthalene	TRH NEPM (1999)							TRH NEPM (2013)							TRH Aliphatic/Aromatic Split										
						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 >C5-C7 (Benzene) Aromatic	TRH >C6-C8 Aliphatic	TRH >C8-C10 Aliphatic	TRH >C10-C12 Aliphatic	TRH >C12-C16 Aliphatic	TRH >C16-C21 Aliphatic	TRH >C21-C35 Aliphatic	TRH >C7-C8 Aromatic	TRH >C8-C10 Aromatic	TRH >C10-C12 Aromatic	TRH >C12-C16 Aromatic
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.5	10	20	20	50		50	50	10	10	50	50	100	50	100	0.1	10	10	10	10	10	10	0.1	1	10	10
Clyde WARP SSTL (Direct Contact - Commercial)						400							9800									28000		17000	27000		27000		1200000	24000	24000	24000	470000	470000		9500	9500	9500
Clyde WARP SSTL (Direct Contact - Construction Worker)						1200							67000									69000		45000	64000		64000		310000	62000	62000	62000	370000	370000		25000	25000	25000
Clyde WARP SSTL (Direct Contact - IMW)						15000							810000									830000		540000	770000		770000		3700000	740000	740000	740000	4400000	4400000		300000	300000	300000
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 4m																																						
4-6m						3.2							NL									NL		NL					1400	2200	1800	33000				420	1400	9800
Clyde WARP SSTL (Vapour Intrusion - Commercial) >1-2m																																						
1-1.99m						3.2							NL									770		NL					610	980	600	8300				150	430	2800
Clyde WARP SSTL (Vapour Intrusion - Commercial) >2 - 4m																																						
2-3.99m						3.2							NL									NL		NL					880	1400	980	17000				230	750	5100
Clyde WARP SSTL (Vapour Intrusion - Commercial) 0.15m																																						
0-0.99m						3.2							NL									600		NL					480	760	430	4300				110	280	430
Clyde WARP SSTL (Vapour Intrusion - Construction Worker)						NL							NL									NL		NL					NL	NL	NL	NL				NL	NL	NL
Clyde WARP SSTL (Vapour Intrusion - IMW)						NL							NL									NL		NL					NL	NL	NL	NL				NL	NL	NL
NEPM (1999) EIL - Commercial/Industrial													370																									
NEPM (1999) ESL - Commercial/Industrial (coarse)						75	135	165			180											215	170		1700		3300											
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																					700		1000		3500		10000											
9	SB18/06	MW(SB)18/06_3.0	7/02/2018	Normal	3-3	<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	-	-	-	-	-	-	-	-	-	-	-
9	SB18/06	MW(SB)18/06_5.0	7/02/2018	Normal	5-5	<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	-	-	-	-	-	-	-	-	-	-	-
9	SB18/06	MW(SB)18/06_0.3	7/02/2018	Normal	0.3-0.3	<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	-	-	-	-	-	-	-	-	-	-	-
9	SB18/06	MW(SB)18/06_1.2	7/02/2018	Normal	1.2-1.2	<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	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_1.2	7/02/2018	Normal	-1.2	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_0.5	7/02/2018	Normal	-0.5	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_0.5	7/02/2018	Normal	0.5-0.5	<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	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_1.2	7/02/2018	Normal	1.2-1.2	<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	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_2.7	7/02/2018	Normal	2.7-2.7	<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	-	-	-	-	-	-	-	-	-	-	-
9	TP18/06	TP06_1.2	6/02/2018	Normal	-1.2	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/06	TP06_0.3	6/02/2018	Normal	-0.3	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_1.0_20180207	7/02/2018	Normal	-1	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.6_20180207	7/02/2018	Normal	-0.6	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_1.0_20180207	8/02/2018	Normal	1-1	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	90	180	-	<100	270	13	13	140	140	150	290	<100	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.4_20180207	8/02/2018	Normal	0.4-0.4	<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	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.6_20180207	8/02/2018	Normal	0.6-0.6	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	<100	-	<100	<50	<10	<10	<50	<50	130	130	<100	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.7_20180207	8/02/2018	Normal	0.7-0.7	<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	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.85_20180207	8/02/2018	Normal	0.85-0.85	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	-	<50	100	-	<100	100	<10	<10	50	50	<100	50	<100	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_1.2_20180208	8/02/2018	Normal	-1.2	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_0.3_20180208	8/02/2018	Normal	-0.3	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_0.3_20180208	8/02/2018	Normal	0.3-0.3	<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	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_1.2_20180208	8/02/2018	Normal	1.2-1.2	<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	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_2.2_20180208	8/02/2018	Normal	2.2-2.2	<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	-	-	-	-	-	-	-	-	-	-	-
9	TP19/42	TP19/42_0.4	24/07/2019	Normal	0.3-0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	2.3 - 2.4	-	77	2400	2300	-	220	4920	180	180	2600	2597.7	1800	4400	<100	-	-	-	-	-	-	-	-	-	-	-
9	TP19/42	TP19/42_2.2	24/07/2019	Normal	2.1-2.3	<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	-	-	-	-	-	-	-	-	-	-	-
9	TP19/47	TP19/47_0.2	29/07/2019	Normal	0.1-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP19/47	TP19/47_0.3	29/07/2019	Normal	0.2-0.4	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	18 - 21	-	120	4100	490	-	110	4700	300	300	4200	4182	220	4420	<100	<0.1	<10	700	2300	1300	23	230	<0.1	2.3	1900	1700
9	TP19/47	TP19/47_2.0	29/07/2019	Normal	1.9-2.1	<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	-	-	-	-	-	-	-	-	-	-	-
9	TP19/53	TP19/53_0.3	29/07/2019	Normal	0.2-0.4	<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	-	-	-	-	-	-	-	-	-	-	-
9	TP19/53	TP19/53_1.0	29/07/2019	Normal	0.9-1.1	<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	-	-	-	-	-	-	-	-	-	-	-
13	TP19/58	TP19/58_0.2	1/08/2019	Normal	0.1-0.3	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	TP19/59	TP19/59_0.1	1/08/2019	Normal	0-0.2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	TP19/61	TP19/61_0.4	29/07/2019	Normal	0.3-0.5	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
14	TP19/61	TP19/61_0.8	29/07/2019	Normal	0.7-0.9	<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	-	-	-	-	-	-	-	-	-	-	-
7	TP19/62	TP19/62_0.1	24/07/2019	Normal	0-0.2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
7	TP19/63	TP19/63_0.6	24/07/2019	Normal	0.5-0.7	<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	-	-	-	-	-	-	-	-	-	-	-
7	TP19/63	TP19/63_0.1	24/07/2019	Normal	0-0.2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	1200	-	640	1840	<20	<20	<50	<50	1600	1820	220	-	-	-	-	-	-	-	-	-	-	-
7	TP19/65	TP19/65_0.1	25/07/2019	Normal	0-0.2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
7	TP19/66	TP19/66_0.5	25/07/2019	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	160	160	<20	<20	<50	<50	160	160	<100	-	-	-	-	-	-	-	-	-	-	-
7	TP19/66	TP19/66_1.0	25/07/2019	Normal	0.9-1.1	<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	-	-	-	-	-	-	-	-	-	-	-
7	TP19/67	TP19/67_1.0	25/07/2019	Normal	0.9-1.1	<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	-	-	-	-	-	-	-	-	-	-	-
7	TP19/67	TP19/67_0.1	25/07/2019	Normal	0-0.2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	610	-	510	1120	<20	<20	<50	<50	990	1210	220	-	-	-	-	-	-	-	-	-	-	-
14	TP19/72	TP19/72_0.2	29/07/2019	Normal	0.1-0.3	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	62	-	120	182	<20	<20	<50	<50	150	150	<100	-	-	-	-	-	-	-	-	-	-	-
14	TP19/72	TP19/72_0.5	29/07/2019	Normal	0.4-0.6	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	-	<0.5	-	<20	<20	<50	-	<50	<50	<20	<20	<50	<50	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-
14	TP19/73	TP19/73_0.4	29/07/2019	Normal	0.3-0.5	<0.2	<0.2	<0.2	<0.2	<0.4	<0.6	-	1.5	-	140	380	120	-	<50	500	230	230	390	388.5	<100	390	<100	<0.1	<10	780	200	170	20	<10	<0.1	23	33	42
14	TP19/73	TP19/73_0.9	29/07/2019	Normal	0.8-1	<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	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary

Statistical Summary	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 >C5-C7 (Benzene) Aromatic	TRH >C6-C8 Aliphatic	TRH >C8-C10 Aliphatic	TRH >C10-C12 Aliphatic	TRH >C12-C16 Aliphatic	TRH >C16-C21 Aliphatic	TRH >C21-C35 Aliphatic	TRH >C7-C8 Aromatic	TRH >C8-C10 Aromatic	TRH >C10-C12 Aromatic	TRH >C12-C16 Aromatic
Number of Results	87	87	86	87	87	80	56	86	56	24	78	51	14	51	78	51	51	51	49	51	39	51	2	2	2	2	2	2	2	2	2	2	2
Number of Detects	1	2	4	1	2	2	5	7	4	3	10	13	4	8	21	8	8	9	8	10	13	4	0	0	2	2	2	2	1	0	2	2	2
Minimum Concentration	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.2	<0.5	<10	<20	<20	<50	<200	<50	<50	<10	<10	<50	<50	<100	<50	<100	<0.1	<10	700	200	170	20	<10	<0.1	2.3	33	42
Minimum Detect	1.2	1.1	1.5	9.1	2.6	2.6	1.5	1.5	15	77	90	62	210	110	100	13	13	50	50	130	50	140	ND	ND	700	200	170	20	230	ND	2.3	33	42
Maximum Concentration	1.2	12	5.2	9.1	25	34.1	53	21	120	140	4100	2300	810	640	4920	300	300	4200	4182	1800	4420	290	<0.1	<10	780	2300	1300	23	230	<0.1	23	1900	1700
Maximum Detect	1.2	12	5.2	9.1	25	34.1	53	21	120	140	4100	2300	810	640	4920	300	300	4200	4182	1800	4420	290	ND	ND	780	2300	1300	23	230	ND	23	1900	1700
Average Concentration	0.16	0.34	0.34	0.3	0.63	0.91	1.7	1	9.7	23	136	151	179	81	275	29	28	208	206	161	407	63											
Median Concentration	0.1	0.25	0.25	0.25	0.25	0.525	0.75	0.25	5	10	25	50	100	50	25	10	10	25	25	50	50	50	0.05	5	740	1250	735	21.5	117.5	0.05	12.65	966.5	871
Standard Deviation	0.14	1.3	0.76	0.96	2.7	3.8	7	2.6	20	36	538	364	190	118	800	61	59	688	698	353	1012	48											
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7	0	1	0	0	0	0	1	1	0	0	0	0	0	1	1
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7	0	1	0	0	0	0	1	1	0	0	0	0	0	1	1

Env Stds Comments

#1:Assumes Total chromium is 17% Hexavalent chromium

Monitoring_Zone	Location_Code	Field_ID	Sampled_Date_Time	Sample_Type	Sample_Depth_Range	TRH >C16-C21 Aromatic	TRH >C21-C35 Aromatic	TRH Silica Gel Cleanup: 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	TRH >C10-C16 Fraction SG less Naphthalene
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						10	10	20	50	50	50	50	100	50	100	50
Clyde WARP SSTL (Direct Contact - Commercial)						7100	7100									
Clyde WARP SSTL (Direct Contact - Construction Worker)						18000	18000									
Clyde WARP SSTL (Direct Contact - IMW)						220000	220000									
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)						NL	NL									
NEPM (1999) EIL - Commercial/Industrial																
NEPM (1999) ESL - Commercial/Industrial (coarse)																
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																
15	BH12/25	BH12/25_0.2	16/03/2012	Normal	0.2-0.2	-	-	-	-	-	-	-	-	-	-	-
15	BH12/25	BH12/25_1.3	16/03/2012	Normal	1.3-1.3	-	-	-	-	-	-	-	-	-	-	-
15	BH12/26	BH12/26_0.05	16/03/2012	Normal	0.05-0.05	-	-	-	-	-	-	-	-	-	-	-
15	BH12/26	BH12/26_1.3	16/03/2012	Normal	1.3-1.3	-	-	-	-	-	-	-	-	-	-	-
15	BH12/27	BH12/27_1.0	16/03/2012	Normal	1-1	-	-	-	-	-	-	-	-	-	-	-
15	BH12/27	BH12/27_0.05	16/03/2012	Normal	0.05-0.05	-	-	-	-	-	-	-	-	-	-	-
7	HA19/01	HA19/01_0.5	2/08/2019	Normal	0.4-0.6	-	-	-	-	-	-	-	-	-	-	-
7	HA19/01	HA19/01_0.1	2/08/2019	Normal	0-0.2	-	-	<20	<50	145	-	52	120	93	<100	-
15	MW11/22	MW11/22_0.5	28/09/2011	Normal	0.5-0.5	-	-	-	-	-	-	<100	-	<100	-	-
15	MW11/22	MW11/22_3.3	29/09/2011	Normal	3.3-3.3	-	-	-	-	-	-	<100	-	<100	-	-
9	MW11/23	MW11/23_0.3	30/09/2011	Normal	0.3-0.3	-	-	-	-	-	-	<100	-	<100	-	-
9	MW11/23	MW11/23_3.5	30/09/2011	Normal	3.5-3.5	-	-	-	-	-	-	<100	-	<100	-	-
9	MW11/24	MW11/24_0.4	30/09/2011	Normal	0.4-0.4	-	-	-	-	-	-	<100	-	180	-	-
9	MW11/24	MW11/24_1.6	30/09/2011	Normal	1.6-1.6	-	-	-	-	-	-	<100	-	<100	-	-
9	MW11/27	MW11/27_0.6	30/09/2011	Normal	0.6-0.6	-	-	-	-	-	-	<100	-	<100	-	-
9	MW11/27	MW11/27_1.9	30/09/2011	Normal	1.9-1.9	-	-	-	-	-	-	<100	-	<100	-	-
9	MW11/31	MW11/31_0.5	26/09/2011	Normal	0.5-0.5	-	-	-	-	-	-	<100	-	<100	-	-
9	MW11/31	MW11/31_2.2	26/09/2011	Normal	2.2-2.2	-	-	-	-	-	-	<100	-	<100	-	-
9	MW11/33	MW11/33_2.0	29/09/2011	Normal	2-2	-	-	-	-	-	-	<100	-	<100	-	-
9	MW11/33	MW11/33_0.5	28/09/2011	Normal	0.5-0.5	-	-	-	-	-	-	<100	-	110	-	-
9	MW11/33	MW11/33_0.8	29/09/2011	Normal	0.8-0.8	-	-	-	-	-	-	1200	-	210	-	-
9	MW11/34	MW11/34_0.4	27/09/2011	Normal	0.4-0.4	-	-	-	-	-	-	<100	-	<100	-	-
9	MW11/34	MW11/34_3.5	28/09/2011	Normal	3.5-3.5	-	-	-	-	-	-	<100	-	<100	-	-
9	MW11/38	MW11/38_0.45	26/09/2011	Normal	0.45-0.45	-	-	-	-	-	-	<100	-	<100	-	-
9	MW11/38	D_260911_01	26/09/2011	Field_D	0.45-0.45	-	-	-	-	-	-	<100	-	<100	-	-
9	MW11/38	T_260911_01	26/09/2011	Field_D	0.45-0.45	-	-	-	-	-	-	<100	-	<100	-	-
9	MW11/38	MW11/38_2.5	26/09/2011	Normal	2.5-2.5	-	-	-	-	-	-	<100	-	<100	-	-
15	MW11/41	MW11/41_0.35	28/09/2011	Normal	0.35-0.35	-	-	-	-	-	-	310	-	680	-	-
15	MW11/41	MW11/41_2.3	29/09/2011	Normal	2.3-2.3	-	-	-	-	-	-	<100	-	<100	-	-
15	MW11/42	MW11/42_0.6	28/09/2011	Normal	0.6-0.6	-	-	-	-	-	-	<100	-	<100	-	-
15	MW11/42	D_290911_01	29/09/2011	Field_D	0.6-0.6	-	-	-	-	-	-	180	-	190	-	-
15	MW11/42	T_290911-01	29/09/2011	Interlab_D	0.6-0.6	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	MW11/42_2.2	29/09/2011	Normal	2.2-2.2	-	-	-	-	-	-	590	-	<100	-	-
15	MW11/42	MW11/42_2.6	29/09/2011	Normal	2.6-2.6	-	-	-	-	-	-	<100	-	<100	-	-
15	MW11/43	MW11/43_0.2	28/09/2011	Normal	0.2-0.2	-	-	-	-	-	-	<100	-	<100	-	-
15	MW11/43	MW11/43_2.3	29/09/2011	Normal	2.3-2.3	-	-	-	-	-	-	<100	-	<100	-	-
9	MW12/16	D_050312_01	5/03/2012	Field_D	-0.5	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	T_050312_01	5/03/2012	Interlab_D	-0.5	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	MW12/16_2.0	5/03/2012	Normal	2-2	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	MW12/16_6.0	5/03/2012	Normal	6-6	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	MW12/16_0.5	5/03/2012	Normal	0.5-0.5	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	MW12/17_2.0	5/03/2012	Normal	2-2	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	MW12/17_0.4	5/03/2012	Normal	0.4-0.4	-	-	-	-	-	-	-	-	-	-	-

Field_ID	Metals: Arsenic	Cadmium	Chromium	Chromium (hexavalent)	Chromium (Trivalent)	Copper	Lead	Mercury	Nickel	Zinc
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	1	0.1	2	0.5	2	2	2	0.05	1	5
Clyde WARP SSTL (Direct Contact - Commercial)			21000[#1]	3600						
Clyde WARP SSTL (Direct Contact - Construction Worker)			8200[#1]	1400						
Clyde WARP SSTL (Direct Contact - IMW)			100000[#1]	17000						
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) EIL - Commercial/Industrial	160						1800			
NEPM (1999) ESL - Commercial/Industrial (coarse)										
NEPM (1999) Management Limits - Commercial/Industrial (coarse)										
BH12/25_0.2	7.2	0.2	35	-	-	80	6.8	<0.05	110	97
BH12/25_1.3	<1	<0.1	4.5	-	-	6.9	5.9	<0.05	1.4	7.1
BH12/26_0.05	1.6	0.3	93	-	-	59	24	0.08	140	110
BH12/26_1.3	5.1	<0.1	9.9	-	-	13	13	<0.05	1.4	9
BH12/27_1.0	2.8	<0.1	7.3	-	-	18	14	<0.05	1.3	11
BH12/27_0.05	5	0.2	19	-	-	26	17	<0.05	32	120
HA19/01_0.5	<2	<0.4	11	-	-	12	12	<0.1	6.6	15
HA19/01_0.1	3.6	<0.4	35	-	-	62	37	<0.1	88	100
MW11/22_0.5	<1	0.1	54	<1	54	90	41	<0.05	46	56
MW11/22_3.3	1.7	<0.1	2.3	-	-	5	3.4	<0.05	<1	<5
MW11/23_0.3	1.3	<0.1	5.2	-	-	53	3	<0.05	42	26
MW11/23_3.5	<1	<0.1	2.6	-	-	3.7	4.6	<0.05	<1	<5
MW11/24_0.4	1.1	<0.1	7.7	<1	7.7	57	3	<0.05	71	34
MW11/24_1.6	3	<0.1	2.2	<1	<5	4.4	4.4	<0.05	<1	<5
MW11/27_0.6	3.9	<0.1	8.5	<1	8.5	7.3	8.2	<0.05	2.2	<5
MW11/27_1.9	2.7	<0.1	2.8	<1	<5	5.9	6.7	<0.05	<1	<5
MW11/31_0.5	<1	<0.1	6.4	<1	6.4	54	2.5	<0.05	43	30
MW11/31_2.2	<1	<0.1	<2	<1	<5	10	5.4	<0.05	<1	<5
MW11/33_2.0	<1	<0.1	3.4	<1	<5	16	9	<0.05	1.5	10
MW11/33_0.5	<1	<0.1	5.9	<1	5.9	69	2.9	<0.05	47	36
MW11/33_0.8	3	<0.1	10	<1	10	27	13	<0.05	7	73
MW11/34_0.4	<1	<0.1	5.4	<1	5.4	87	2.7	0.17	50	30
MW11/34_3.5	2.6	<0.1	3.6	<1	<5	5	4.8	<0.05	<1	13
MW11/38_0.45	1.6	<0.1	6.2	<1	6.2	38	4.6	<0.05	30	19
D_260911_01	1.6	<0.1	8.9	<1	8.9	54	7.1	<0.05	39	27
T_260911_01	<1	<0.1	6.7	<1	6.7	56	4.1	<0.05	33	28
MW11/38_2.5	<1	<0.1	2.6	<1	<5	3.5	3.9	<0.05	<1	5.4
MW11/41_0.35	2.1	<0.1	7.5	<1	7.5	64	6.4	<0.05	86	59
MW11/41_2.3	2.8	<0.1	6.1	<1	6.1	11	8.2	<0.05	1.8	7.9
MW11/42_0.6	3.8	<0.1	21	<1	21	55	25	0.1	22	92
D_290911_01	3.2	0.3	28	<1	28	42	41	0.22	34	120
T_290911-01	7	<1	98	<0.5	98	38	61	<0.1	34	130
MW11/42_2.2	1.6	<0.1	74	<1	74	8	43	0.05	4.2	32
MW11/42_2.6	9.8	<0.1	8.4	6.7	<5	20	17	0.1	5.1	41
MW11/43_0.2	<1	<0.1	5.9	<1	5.9	77	<2	<0.05	100	55
MW11/43_2.3	1.9	<0.1	3.6	<1	<5	11	3.8	<0.05	2	8.7
D_050312_01	5.6	<0.1	25	-	-	14	14	<0.05	4.5	9.4
T_050312_01	10	<1	39	-	-	11	16	<0.1	3	7
MW12/16_2.0	1.2	<0.1	6.5	-	-	13	7.2	<0.05	<1	<5
MW12/16_6.0	1.7	<0.1	8.4	-	-	12	4	<0.05	2.3	10
MW12/16_0.5	4.2	<0.1	17	<1	17	8.7	7.9	<0.05	2.3	6.1
MW12/17_2.0	4.5	<0.1	8.3	-	-	16	8.8	<0.05	<1	<5
MW12/17_0.4	3.4	<0.1	2.9	-	-	<2	<2	<0.05	1.3	<5

Field_ID	2,3,4,6-tetrachlorophenol	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,6-dichlorophenol	2-chlorophenol	2-methylnaphthalene	2-methylphenol	2-nitrophenol	3-&4-methylphenol	3-methylcholanthrene	4,6-Dinitro-2-methylphenol	4-chloro-3-methylphenol	4-nitrophenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	5	0.5	0.5	0.5	0.5	5	0.5	0.5	0.5	0.2	0.5	0.4	0.5	5	0.5	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) EIL - Commercial/Industrial																				
NEPM (1999) ESL - Commercial/Industrial (coarse)																				
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																				
BH12/25_0.2	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
BH12/25_1.3	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
BH12/26_0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12/26_1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12/27_1.0	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
BH12/27_0.05	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
HA19/01_0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA19/01_0.1	<5	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.2	<1	<0.4	<0.5	<5	<1	<5	<0.5	<0.5	<0.5	<0.5
MW11/22_0.5	-	<5	<5	<5	<5	-	-	<5	-	<5	<5	<10	-	-	<5	-	<5	<5	<5	<5
MW11/22_3.3	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW11/23_0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/23_3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/24_0.4	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	-
MW11/24_1.6	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW11/27_0.6	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW11/27_1.9	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW11/31_0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW11/31_2.2	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW11/33_2.0	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW11/33_0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW11/33_0.8	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	0.9	<0.5	<0.5	<0.5
MW11/34_0.4	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW11/34_3.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW11/38_0.45	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
D_260911_01	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
T_260911_01	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW11/38_2.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW11/41_0.35	-	<5	<5	<5	<5	-	-	<5	-	<5	<5	<10	-	-	<5	-	<5	<5	<5	<5
MW11/41_2.3	-	<5	<5	<5	<5	-	-	<5	-	<5	<5	<10	-	-	<5	-	<5	<5	<5	<5
MW11/42_0.6	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
D_290911_01	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
T_290911-01	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	0.8
MW11/42_2.2	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW11/42_2.6	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW11/43_0.2	-	<5	<5	<5	<5	-	-	<5	-	<5	<5	<10	-	-	<5	-	<5	<5	<5	<5
MW11/43_2.3	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
D_050312_01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
T_050312_01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12/16_2.0	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW12/16_6.0	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW12/16_0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
MW12/17_2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12/17_0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Monitoring_Zone	Location_Code	Field_ID	Sampled_Date_Time	Sample_Type	Sample_Depth_Range			TRH Silica Gel Cleanup								
						TRH >C16-C21 Aromatic	TRH >C21-C35 Aromatic	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	TRH >C10-C16 Fraction SG less Naphthalene
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						10	10	20	50	50	50	50	100	50	100	50
Clyde WARP SSTL (Direct Contact - Commercial)						7100	7100									
Clyde WARP SSTL (Direct Contact - Construction Worker)						18000	18000									
Clyde WARP SSTL (Direct Contact - IMW)						220000	220000									
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)						NL	NL									
NEPM (1999) EIL - Commercial/Industrial																
NEPM (1999) ESL - Commercial/Industrial (coarse)																
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																
9	SB18/06	MW(SB)18/06_3.0	7/02/2018	Normal	3-3	-	-	-	-	-	-	-	-	-	-	-
9	SB18/06	MW(SB)18/06_5.0	7/02/2018	Normal	5-5	-	-	-	-	-	-	-	-	-	-	-
9	SB18/06	MW(SB)18/06_0.3	7/02/2018	Normal	0.3-0.3	-	-	-	-	-	-	-	-	-	-	-
9	SB18/06	MW(SB)18/06_1.2	7/02/2018	Normal	1.2-1.2	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_1.2	7/02/2018	Normal	-1.2	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_0.5	7/02/2018	Normal	-0.5	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_0.5	7/02/2018	Normal	0.5-0.5	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_1.2	7/02/2018	Normal	1.2-1.2	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_2.7	7/02/2018	Normal	2.7-2.7	-	-	-	-	-	-	-	-	-	-	-
9	TP18/06	TP06_1.2	6/02/2018	Normal	-1.2	-	-	-	-	-	-	-	-	-	-	-
9	TP18/06	TP06_0.3	6/02/2018	Normal	-0.3	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_1.0_20180207	7/02/2018	Normal	-1	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.6_20180207	7/02/2018	Normal	-0.6	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_1.0_20180207	8/02/2018	Normal	1-1	-	-	<50	<50	<50	<50	<100	<100	<100	<100	<50
9	TP18/09	TP18/09_0.4_20180207	8/02/2018	Normal	0.4-0.4	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.6_20180207	8/02/2018	Normal	0.6-0.6	-	-	<50	<50	<50	<50	<100	<100	<100	<100	<50
9	TP18/09	TP18/09_0.7_20180207	8/02/2018	Normal	0.7-0.7	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.85_20180207	8/02/2018	Normal	0.85-0.85	-	-	<50	<50	<50	<50	<100	<100	<100	<100	<50
15	TP18/34	TP18/34_1.2_20180208	8/02/2018	Normal	-1.2	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_0.3_20180208	8/02/2018	Normal	-0.3	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_0.3_20180208	8/02/2018	Normal	0.3-0.3	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_1.2_20180208	8/02/2018	Normal	1.2-1.2	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_2.2_20180208	8/02/2018	Normal	2.2-2.2	-	-	-	-	-	-	-	-	-	-	-
9	TP19/42	TP19/42_0.4	24/07/2019	Normal	0.3-0.5	-	-	-	-	-	-	-	-	-	-	-
9	TP19/42	TP19/42_2.2	24/07/2019	Normal	2.1-2.3	-	-	-	-	-	-	-	-	-	-	-
9	TP19/47	TP19/47_0.2	29/07/2019	Normal	0.1-0.3	-	-	-	-	-	-	-	-	-	-	-
9	TP19/47	TP19/47_0.3	29/07/2019	Normal	0.2-0.4	200	1100	9200	8200	9960	-	610	250	150	<100	-
9	TP19/47	TP19/47_2.0	29/07/2019	Normal	1.9-2.1	-	-	-	-	-	-	-	-	-	-	-
9	TP19/53	TP19/53_0.3	29/07/2019	Normal	0.2-0.4	-	-	-	-	-	-	-	-	-	-	-
9	TP19/53	TP19/53_1.0	29/07/2019	Normal	0.9-1.1	-	-	-	-	-	-	-	-	-	-	-
13	TP19/58	TP19/58_0.2	1/08/2019	Normal	0.1-0.3	-	-	-	-	-	-	-	-	-	-	-
13	TP19/59	TP19/59_0.1	1/08/2019	Normal	0-0.2	-	-	-	-	-	-	-	-	-	-	-
14	TP19/61	TP19/61_0.4	29/07/2019	Normal	0.3-0.5	-	-	-	-	-	-	-	-	-	-	-
14	TP19/61	TP19/61_0.8	29/07/2019	Normal	0.7-0.9	-	-	-	-	-	-	-	-	-	-	-
7	TP19/62	TP19/62_0.1	24/07/2019	Normal	0-0.2	-	-	-	-	-	-	-	-	-	-	-
7	TP19/63	TP19/63_0.6	24/07/2019	Normal	0.5-0.7	-	-	-	-	-	-	-	-	-	-	-
7	TP19/63	TP19/63_0.1	24/07/2019	Normal	0-0.2	-	-	-	-	-	-	-	-	-	-	-
7	TP19/65	TP19/65_0.1	25/07/2019	Normal	0-0.2	-	-	-	-	-	-	-	-	-	-	-
7	TP19/66	TP19/66_0.5	25/07/2019	Normal	0.4-0.6	-	-	-	-	-	-	-	-	-	-	-
7	TP19/66	TP19/66_1.0	25/07/2019	Normal	0.9-1.1	-	-	-	-	-	-	-	-	-	-	-
7	TP19/67	TP19/67_1.0	25/07/2019	Normal	0.9-1.1	-	-	-	-	-	-	-	-	-	-	-
7	TP19/67	TP19/67_0.1	25/07/2019	Normal	0-0.2	-	-	-	-	-	-	-	-	-	-	-
14	TP19/72	TP19/72_0.2	29/07/2019	Normal	0.1-0.3	-	-	<20	<50	238	-	98	190	140	<100	-
14	TP19/72	TP19/72_0.5	29/07/2019	Normal	0.4-0.6	-	-	-	-	-	-	-	-	-	-	-
14	TP19/73	TP19/73_0.4	29/07/2019	Normal	0.3-0.5	13	<10	270	330	400	-	130	<100	<50	<100	-
14	TP19/73	TP19/73_0.9	29/07/2019	Normal	0.8-1	-	-	-	-	-	-	-	-	-	-	-

Field_ID	Metals									
	Arsenic	Cadmium	Chromium	Chromium (hexavalent)	Chromium (Trivalent)	Copper	Lead	Mercury	Nickel	Zinc
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	1	0.1	2	0.5	2	2	2	0.05	1	5
Clyde WARP SSTL (Direct Contact - Commercial)			21000[#1]	3600						
Clyde WARP SSTL (Direct Contact - Construction Worker)			8200[#1]	1400						
Clyde WARP SSTL (Direct Contact - IMW)			100000[#1]	17000						
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) EIL - Commercial/Industrial	160						1800			
NEPM (1999) ESL - Commercial/Industrial (coarse)										
NEPM (1999) Management Limits - Commercial/Industrial (coarse)										
MW(SB)18/06_3.0	-	-	-	-	-	-	-	-	-	-
MW(SB)18/06_5.0	-	-	-	-	-	-	-	-	-	-
MW(SB)18/06_0.3	-	-	-	-	-	-	-	-	-	-
MW(SB)18/06_1.2	-	-	-	-	-	-	-	-	-	-
TP18/05_1.2	13	<1	22	-	-	16	27	<0.1	<2	7
TP18/05_0.5	9	<1	35	<0.5	35	11	16	<0.1	8	13
TP18/05_0.5	-	-	-	-	-	-	-	-	-	-
TP18/05_1.2	-	-	-	-	-	-	-	-	-	-
TP18/05_2.7	-	-	-	-	-	-	-	-	-	-
TP06_1.2	8	<1	16	-	-	13	16	<0.1	3	12
TP06_0.3	6	<1	20	-	-	13	17	<0.1	7	27
TP18/09_1.0_20180207	<5	<1	6	-	-	7	7	<0.1	2	14
TP18/09_0.6_20180207	<5	<1	7	-	-	11	19	0.2	9	150
TP18/09_1.0_20180207	-	-	-	-	-	-	-	-	-	-
TP18/09_0.4_20180207	-	-	-	-	-	-	-	-	-	-
TP18/09_0.6_20180207	-	-	-	-	-	-	-	-	-	-
TP18/09_0.7_20180207	-	-	-	-	-	-	-	-	-	-
TP18/09_0.85_20180207	-	-	-	-	-	-	-	-	-	-
TP18/34_1.2_20180208	<5	<1	8	-	-	11	11	<0.1	3	15
TP18/34_0.3_20180208	10	<1	14	-	-	18	20	<0.1	<2	15
TP18/34_0.3_20180208	-	-	-	-	-	-	-	-	-	-
TP18/34_1.2_20180208	-	-	-	-	-	-	-	-	-	-
TP18/34_2.2_20180208	-	-	-	-	-	-	-	-	-	-
TP19/42_0.4	<2	<0.4	16	-	-	61	7	0.2	63	67
TP19/42_2.2	<2	<0.4	13	-	-	13	15	0.1	<5	21
TP19/47_0.2	-	-	-	-	-	-	-	-	-	-
TP19/47_0.3	4.6	<0.4	<5	-	-	5.6	6	0.1	6.7	37
TP19/47_2.0	6.8	<0.4	16	-	-	24	17	<0.1	<5	12
TP19/53_0.3	<2	<0.4	26	-	-	110	<5	<0.1	120	85
TP19/53_1.0	15	<0.4	19	-	-	31	19	<0.1	<5	22
TP19/58_0.2	-	-	-	-	-	-	-	-	-	-
TP19/59_0.1	-	-	-	-	-	-	-	-	-	-
TP19/61_0.4	3	<0.4	54	-	-	49	29	<0.1	53	340
TP19/61_0.8	4.1	<0.4	15	-	-	22	23	<0.1	<5	16
TP19/62_0.1	3.8	<0.4	13	-	-	17	14	1.9	<5	63
TP19/63_0.6	2.3	<0.4	9.1	-	-	7.5	12	<0.1	<5	7.5
TP19/63_0.1	6.5	0.5	62	-	-	73	94	2.6	51	860
TP19/65_0.1	<2	<0.4	16	-	-	25	19	0.2	<5	28
TP19/66_0.5	8	<0.4	59	-	-	50	48	2.6	52	780
TP19/66_1.0	<2	<0.4	9	-	-	8.3	11	<0.1	<5	9.4
TP19/67_1.0	3	<0.4	11	-	-	12	9.8	<0.1	<5	22
TP19/67_0.1	<2	<0.4	29	-	-	67	7	0.1	78	240
TP19/72_0.2	3.8	<0.4	66	-	-	46	26	1.3	100	330
TP19/72_0.5	18	<0.4	52	-	-	37	46	<0.1	10	35
TP19/73_0.4	8	<0.4	26	-	-	21	21	<0.1	7.5	19
TP19/73_0.9	3.2	<0.4	13	-	-	19	18	<0.1	<5	10

Field_ID	2,3,4,6-tetrachlorophenol	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,6-dichlorophenol	2-chlorophenol	2-methylnaphthalene	2-methylphenol	2-nitrophenol	3-&4-methylphenol	3-methylcholanthrene	4,6-Dinitro-2-methylphenol	4-chloro-3-methylphenol	4-nitrophenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	5	0.5	0.5	0.5	0.5	5	0.5	0.5	0.5	0.2	0.5	0.4	0.5	5	0.5	5	0.5	0.5	0.5	0.5
MW(SB)18/06_3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW(SB)18/06_5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW(SB)18/06_0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW(SB)18/06_1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18/05_1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5
TP18/05_0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
TP18/05_0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18/05_1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18/05_2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP06_1.2	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
TP06_0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5
TP18/09_1.0_20180207	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
TP18/09_0.6_20180207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5
TP18/09_1.0_20180207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18/09_0.4_20180207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18/09_0.6_20180207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18/09_0.7_20180207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18/09_0.85_20180207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18/34_1.2_20180208	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<1	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5
TP18/34_0.3_20180208	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5
TP18/34_0.3_20180208	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18/34_1.2_20180208	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18/34_2.2_20180208	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19/42_0.4	-	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	-	<0.2	<1	<0.4	-	<5	<1	<5	1.3	<0.5	<0.5	<0.5
TP19/42_2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19/47_0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19/47_0.3	-	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	-	<0.2	<1	<0.4	-	<5	<1	<5	0.7	0.8	<0.5	<0.5
TP19/47_2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19/53_0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19/53_1.0	-	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	-	<0.2	<1	<0.4	-	<5	<1	<5	<0.5	<0.5	<0.5	<0.5
TP19/58_0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19/59_0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19/61_0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19/61_0.8	<5	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.2	<1	<0.4	<0.5	<5	<1	<5	<0.5	<0.5	<0.5	<0.5
TP19/62_0.1	<5	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.2	<1	<0.4	<0.5	<5	<1	<5	<0.5	<0.5	<0.5	<0.5
TP19/63_0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19/63_0.1	<5	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.2	<1	<0.4	<0.5	<5	<1	<5	<0.5	<0.5	<0.5	<0.5
TP19/65_0.1	<5	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.2	<1	<0.4	<0.5	<5	<1	<5	<0.5	<0.5	<0.5	<0.5
TP19/66_0.5	<5	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.2	<1	<0.4	<0.5	<5	<1	<5	<0.5	<0.5	<0.5	<0.5
TP19/66_1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19/67_1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19/67_0.1	<5	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.2	<1	<0.4	<0.5	<5	<1	<5	<0.5	<0.5	<0.5	<0.5
TP19/72_0.2	<5	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.2	<1	<0.4	<0.5	<5	<1	<5	<0.5	<0.5	<0.5	<0.5
TP19/72_0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19/73_0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19/73_0.9	<5	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.2	<1	<0.4	<0.5	<5	<1	<5	<0.5	<0.5	<0.5	<0.5

Statistical Summary

Statistic	TRH >C16-C21 Aromatic	TRH >C21-C35 Aromatic	TRH >C10-C14 SGC	TRH >C10-C16 SGC	TRH >C10-C36 SGC	TRH >C10-C40 SGC	TRH >C15-C28 SGC	TRH >C16-C34 SGC	TRH >C29-C36	TRH >C34-C40 SGC	TRH >C10-C16 Fraction SG less Naphthalene
Number of Results	2	2	7	7	7	3	34	7	34	7	3
Number of Detects	2	1	2	2	4	0	8	3	8	0	0
Minimum Concentration	13	<10	<20	<50	<50	<50	52	<100	<50	<100	<50
Minimum Detect	13	1100	270	330	145	ND	52	120	93	ND	ND
Maximum Concentration	200	1100	9200	8200	9960	<50	1200	250	680	<100	<50
Maximum Detect	200	1100	9200	8200	9960	ND	1200	250	680	ND	ND
Average Concentration			1366	1236	1545	25	131	109	89	50	25
Median Concentration	106.5	552.5	25	25	145	25	50	50	50	50	25
Standard Deviation			3456	3073	3713	0	233	82	114	0	0
Number of Guideline Exceedances	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

Statistic	Arsenic	Cadmium	Chromium	Chromium (hexavalent)	Chromium (Trivalent)	Copper	Lead	Mercury	Nickel	Zinc
Number of Results	71	71	71	27	27	71	71	71	71	71
Number of Detects	50	6	69	1	19	70	68	16	50	62
Minimum Concentration	<1	<0.1	<2	<0.5	<5	<2	<2	<0.05	<1	<5
Minimum Detect	1.1	0.1	2.2	6.7	5.4	3.5	2.5	0.05	1.3	5.4
Maximum Concentration	18	<1	98	6.7	98	110	94	2.6	140	860
Maximum Detect	18	0.5	98	6.7	98	110	94	2.6	140	860
Average Concentration	3.8	0.18	19	0.71	16	30	16	0.17	24	66
Median Concentration	2.8	0.2	10	0.5	6.4	18	11	0.05	4.2	21
Standard Deviation	3.6	0.16	21	1.2	24	26	16	0.49	34	145
Number of Guideline Exceedances	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

Statistic	2,3,4,6-tetrachlorophenol	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,6-dichlorophenol	2-chlorophenol	2-methylnaphthalene	2-methylphenol	2-nitrophenol	3-&4-methylphenol	3-methylcholanthrene	4,6-Dinitro-2-methylphenol	4-chloro-3-methylphenol	4-nitrophenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene
Number of Results	9	49	49	49	49	12	17	49	9	49	49	49	9	12	49	12	53	53	53	52
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	1
Minimum Concentration	<5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.4	<0.5	<5	<0.5	<5	<0.5	<0.5	<0.5	<0.5
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.7	0.8	ND	0.8
Maximum Concentration	<5	<5	<5	<5	<5	<5	<0.5	<5	<0.5	<5	<5	<10	<0.5	<5	<5	<5	<5	<5	<5	<5
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	0.8	ND	0.8
Average Concentration	2.5	0.49	0.49	0.43	0.43	2.5	0.25	0.43	0.25	0.4	0.49	0.79	0.25	2.5	0.49	2.5	0.46	0.43	0.42	0.43
Median Concentration	2.5	0.25	0.25	0.25	0.25	2.5	0.25	0.25	0.25	0.25	0.25	0.5	0.25	2.5	0.25	2.5	0.25	0.25	0.25	0.25
Standard Deviation	0	0.61	0.61	0.62	0.62	0	0	0.62	0	0.64	0.61	1.3	0	0	0.61	0	0.61	0.6	0.6	0.61
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Comments

#1:Assumes Total chromium is 17% Hexavalent chromium

						PAH/Phenols																											Per- and Polyfluoroalkyl Subst														
						Benzo(a) pyrene	Benzo(a)pyrene TEQ (half LOR)	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(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	Polycyclic aromatic hydrocarbons EPA448	Pyrene	tetrachlorophenols	Phenols (Total Halogenated)	Total Non-Halogenated Phenol	PAHs (Sum of 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)
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/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
EQL						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	20	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	10	1	20	0.5	5	5	5	5	5	5	50	10	5	5	5	5	10	5	5
Clyde WARP SSTL (Direct Contact - Commercial)														40																																	
Clyde WARP SSTL (Direct Contact - Construction Worker)														200																																	
Clyde WARP SSTL (Direct Contact - IMW)														3000																																	
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 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) EIL - Commercial/Industrial																																															
NEPM (1999) ESL - Commercial/Industrial (coarse)						1.4																																									
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																																															
Monitoring_Zone	Location_Code	Field_ID	Sampled_Date_Time	Sample_Type	Sample_Depth_Range																																										
15	BH12/25	BH12/25_0.2	16/03/2012	Normal	0.2-0.2	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	BH12/25	BH12/25_1.3	16/03/2012	Normal	1.3-1.3	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	BH12/26	BH12/26_0.05	16/03/2012	Normal	0.05-0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	BH12/26	BH12/26_1.3	16/03/2012	Normal	1.3-1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	BH12/27	BH12/27_1.0	16/03/2012	Normal	1-1	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	BH12/27	BH12/27_0.05	16/03/2012	Normal	0.05-0.05	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	HA19/01	HA19/01_0.5	2/08/2019	Normal	0.4-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	HA19/01	HA19/01_0.1	2/08/2019	Normal	0-0.2	<0.5	-	-	-	-	-	<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	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5
15	MW11/22	MW11/22_0.5	28/09/2011	Normal	0.5-0.5	<5	-	<10	-	-	-	-	-	-	-	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	-	<5	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	MW11/22_3.3	29/09/2011	Normal	3.3-3.3	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/23	MW11/23_0.3	30/09/2011	Normal	0.3-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/23	MW11/23_3.5	30/09/2011	Normal	3.5-3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	MW11/24_0.4	30/09/2011	Normal	0.4-0.4	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	MW11/24_1.6	30/09/2011	Normal	1.6-1.6	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	MW11/27_0.6	30/09/2011	Normal	0.6-0.6	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	MW11/27_1.9	30/09/2011	Normal	1.9-1.9	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	MW11/31_0.5	26/09/2011	Normal	0.5-0.5	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	MW11/31_2.2	26/09/2011	Normal	2.2-2.2	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/33	MW11/33_2.0	29/09/2011	Normal	2-2	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/33	MW11/33_0.5	28/09/2011	Normal	0.5-0.5	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/33	MW11/33_0.8	29/09/2011	Normal	0.8-0.8	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	0.7	<0.5	-	<0.5	0.9	<0.5	<1	3.1	<0.5	-	1.8	-	-	-	7.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/34	MW11/34_0.4	27/09/2011	Normal	0.4-0.4	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/34	MW11/34_3.5	28/09/2011	Normal	3.5-3.5	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	MW11/38_0.45	26/09/2011	Normal	0.45-0.45	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	D_260911_01	26/09/2011	Field_D	0.45-0.45	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	T_260911_01	26/09/2011	Field_D	0.45-0.45	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	MW11/38_2.5	26/09/2011	Normal	2.5-2.5	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	MW11/41_0.35	28/09/2011	Normal	0.35-0.35	<5	-	<10	-	-	-	-	-	-	-	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	-	<5	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	MW11/41_2.3	29/09/2011	Normal	2.3-2.3	<5	-	<10	-	-	-	-	-	-	-	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	-	<5	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	MW11/42_0.6	28/09/2011	Normal	0.6-0.6	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	D_290911_01	29/09/2011	Field_D	0.6-0.6	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	0.6	<0.5	<0.5	<1	<0.5	<0.5	-	0.6	-	-	-	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	T_290911-01	29/09/2011	Interlab_D	0.6-0.6	0.6	-	-	-	-	0.6	-	-	-	-	<0.5	<0.5	1	<0.5	-	<0.5	<0.5	<0.5	<2	0.7	<0.5	4.4	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	MW11/42_2.2	29/09/2011	Normal	2.2-2.2	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	0.6	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	MW11/42_2.6	29/09/2011	Normal	2.6-2.6	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	MW11/43_0.2	28/09/2011	Normal	0.2-0.2	<5	-	<10	-	-	-	-	-	-	-	<5	-	<5	<5	-	<5	<5	<5	<5	<5	<5	-	<5	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	MW11/43_2.3	29/09/2011	Normal	2.3-2.3	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	D_050312_01	5/03/2012	Field_D	-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	T_050312_01	5/03/2012	Interlab_D	-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	MW12/16_2.0	5/03/2012	Normal	2-2	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	MW12/16_6.0	5/03/2012	Normal	6-6	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	MW12/16_0.5	5/03/2012	Normal	0.5-0.5	<0.5	-	<1	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	<0.5	-	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	MW12/17_2.0	5/03/2012	Normal	2-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	MW12/17_0.4	5/03/2012	Normal	0.4-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

					PAH/Phenols																												Per- and Polyfluoroalkyl Subst														
					Benzo(a) pyrene	Benzo(a)pyrene TEQ (half LOR)	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(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	Polycylic aromatic hydrocarbons EPA448	Pyrene	Tetrachlorophenols	Phenols (Total Halogenated)	Total Non-Halogenated Phenol	PAHs (Sum of 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)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/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
EQL					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	20	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	10	1	20	0.5	5	5	5	5	5	5	50	10	5	5	5	5	10	5	5
Clyde WARP SSTL (Direct Contact - Commercial)													40																																		
Clyde WARP SSTL (Direct Contact - Construction Worker)													200																																		
Clyde WARP SSTL (Direct Contact - IMW)													3000																																		
Clyde WARP SSTL (Vapour Intrusion - Commercial) > 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) EIL - Commercial/Industrial																																														
NEPM (1999) ESL - Commercial/Industrial (coarse)					1.4																																								
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																																														
Monitoring_Zone	**Location_Code**	**Field_ID**	**Sampled_Date_Time**	**Sample_Type**	**Sample_Depth_Range**																																										
9	SB18/06	MW(SB)18/06_3.0	7/02/2018	Normal	3-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	SB18/06	MW(SB)18/06_5.0	7/02/2018	Normal	5-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	SB18/06	MW(SB)18/06_0.3	7/02/2018	Normal	0.3-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	SB18/06	MW(SB)18/06_1.2	7/02/2018	Normal	1.2-1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_1.2	7/02/2018	Normal	-1.2	<0.5	0.6	-	1.2	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_0.5	7/02/2018	Normal	-0.5	<0.5	0.6	-	1.2	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_0.5	7/02/2018	Normal	0.5-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_1.2	7/02/2018	Normal	1.2-1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_2.7	7/02/2018	Normal	2.7-2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/06	TP06_1.2	6/02/2018	Normal	-1.2	<0.5	0.6	-	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/06	TP06_0.3	6/02/2018	Normal	-0.3	<0.5	0.6	-	1.2	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_1.0_20180207	7/02/2018	Normal	-1	<0.5	0.6	-	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.6_20180207	7/02/2018	Normal	-0.6	<0.5	0.6	-	1.2	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_1.0_20180207	8/02/2018	Normal	1-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.4_20180207	8/02/2018	Normal	0.4-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.6_20180207	8/02/2018	Normal	0.6-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.7_20180207	8/02/2018	Normal	0.7-0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.85_20180207	8/02/2018	Normal	0.85-0.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_1.2_20180208	8/02/2018	Normal	-1.2	<0.5	0.6	-	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_0.3_20180208	8/02/2018	Normal	-0.3	<0.5	0.6	-	1.2	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	-	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_0.3_20180208	8/02/2018	Normal	0.3-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_1.2_20180208	8/02/2018	Normal	1.2-1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_2.2_20180208	8/02/2018	Normal	2.2-2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP19/42	TP19/42_0.4	24/07/2019	Normal	0.3-0.5	<0.5	-	-	-	-	-	<0.5	1.2	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<0.5	1.1	<0.5	<1	0.9	<0.5	-	<0.5	<10	<1	<20	5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP19/42	TP19/42_2.2	24/07/2019	Normal	2.1-2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP19/47	TP19/47_0.2	29/07/2019	Normal	0.1-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP19/47	TP19/47_0.3	29/07/2019	Normal	0.2-0.4	<0.5	-	-	-	-	-	<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	23.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP19/47	TP19/47_2.0	29/07/2019	Normal	1.9-2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP19/53	TP19/53_0.3	29/07/2019	Normal	0.2-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP19/53	TP19/53_1.0	29/07/2019	Normal	0.9-1.1	<0.5	-	-	-	-	-	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	TP19/58	TP19/58_0.2	1/08/2019	Normal	0.1-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	TP19/59	TP19/59_0.1	1/08/2019	Normal	0-0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	TP19/61	TP19/61_0.4	29/07/2019	Normal	0.3-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	TP19/61	TP19/61_0.8	29/07/2019	Normal	0.7-0.9	<0.5	-	-	-	-	-	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	TP19/62	TP19/62_0.1	24/07/2019	Normal	0-0.2	<0.5	-	-	-	-	-	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	TP19/63	TP19/63_0.6	24/07/2019	Normal	0.5-0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	TP19/63	TP19/63_0.1	24/07/2019	Normal	0-0.2	0.5	-	-	-	-	-	0.5	1.2	0.9	<0.5	1.3	<0.5	1.7	<0.5	<20	<0.5	<0.5	<0.5	<1	<0.5	<0.5	-	0.8	<10	<1	<20	4.3	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5
7	TP19/65	TP19/65_0.1	25/07/2019	Normal	0-0.2	<0.5	-	-	-	-	-	<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	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5
7	TP19/66	TP19/66_0.5	25/07/2019	Normal	0.4-0.6	<0.5	-	-	-	-	-	<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	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5
7	TP19/66	TP19/66_1.0	25/07/2019	Normal	0.9-1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	TP19/67	TP19/67_1.0	25/07/2019	Normal	0.9-1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	TP19/67	TP19/67_0.1	25/07/2019	Normal	0-0.2	<0.5	-	-	-	-	-	<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	<5	<5	<5	<5	<5	<5	<50	12	12	12[#1]	<5	<5	<10	<5	<5
14	TP19/72	TP19/72_0.2	29/07/2019	Normal	0.1-0.3	<0.5	-	-	-	-	-	<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	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5
14	TP19/72	TP19/72_0.5	29/07/2019	Normal	0.4-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	TP19/73	TP19/73_0.4	29/07/2019	Normal	0.3-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	TP19/73	TP19/73_0.9	29/07/2019	Normal	0.8-1	<0.5	-	-	-	-	-	<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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary

Number of Results					53	8	32	8	8	1	12	12	12	20	53	21	53	53	12	53	53	53	49	53	49	1	53	12	12	12	52	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Number of Detects					2	8	0	8	0	1	1	12	12	0	1	0	3	0	0	1	3	0	0	4	0	1	4	0	0	0	7	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0
Minimum Concentration					<0.5	0.6	<1	1.2	<0.5	0.6	<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	4.4	<0.5	<10	<1	<20	<0.5	<5	<5	<5	<5	<5	<5	<50	<10	<5	<5	<5	<5	<10	<5	<5
Minimum Detect					0.5	0.6	ND	1.2	ND	0.6	0.5	1.2	0.6	ND	1.3	ND	0.7	ND	ND	0.6	0.6	ND	ND	0.6	ND	4.4	0.6	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	12	12	12	ND	ND	ND	ND	ND	ND
Maximum Concentration					<5	0.6	<10	1.2	<0.5	0.6	0.5	1.2	0.9	<0.5	<5	<0.5	<5	<5	<20	<5	<5	<5	<5	<5	<5	4.4	<5	<10	<1	<20	23.1	<5	<5	<5	<5	<5	<5	<50	12	12	12	<5	<5	<10	<5	<5
Maximum Detect					0.6	0.6	ND	1.2	ND	0.6	0.5	1.2	0.9	ND	1.3	ND	1.7	ND	ND	0.6	1.1	ND	ND	3.1	ND	4.4	1.8	ND	ND	ND	23.1	ND	ND	ND	ND	ND	ND	ND	12	12	12	ND	ND	ND	ND	ND	ND
Average Concentration					0.43	0.6	1.1	1.2	0.25		0.27	1.2	0.63	0.25	0.44	0.25	0.47	0.42	10	0.43	0.45	0.42	0.71	0.5	0.43		0.47	5	0.5	10	1.8	2.5	2.5	2.5	2.5	2.5	2.5	25	5.8	3.6	3.6	2.5	2.5	5	2.5	2.5
Median Concentration					0.25	0.6	0.5	1.2	0.25	0.6	0.25	1.2	0.6	0.25	0.25	0.25	0.25	0.25	10	0.25	0.25	0.25	0.5	0.25	0.25	4.4	0.25	5	0.5	10	0.5	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
Standard Deviation					0.6	0	1.5	0	0		0.072	0	0.087	0	0.61	0	0.63	0.6	0	0.6	0.61	0.6	0.56	0.7	0.62		0.63	0	0	0	3.8	0	0	0	0	0	0	0	2.3	3.2	3.2	0	0	0	0	0
Number of Guideline Exceedances					4	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
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

Env Stds Comments

#1:Assumes Total chromium is 17% Hexavalent chromium

						PFOS and PFOA															
						N-Ethyl perfluorooctane sulfonamidoacetic acid (Et	N-Methyl perfluorooctane sulfonamidoacetic acid	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid	Perfluorodecanesulfonic acid (PFDS)	Perfluorohexanesulfonic acid (PFHxS)	Perfluoroundecanoic acid (PFUnA)	Perfluorododecanoic acid (PFDA)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorododecanoic acid (PFDoA)	Perfluorononanoic acid (PFNA)	Perfluorooctanesulfonamide (PFOSA)
						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
EQL						10	10	5	5	5	5	5	5	5	5	5	5	5	5	5	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) EIL - Commercial/Industrial																					
NEPM (1999) ESL - Commercial/Industrial (coarse)																					
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																					
Monitoring_Zone	**Location_Code**	**Field_ID**	**Sampled_Date_Time**	**Sample_Type**	**Sample_Depth_Range**																
15	BH12/25	BH12/25_0.2	16/03/2012	Normal	0.2-0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	BH12/25	BH12/25_1.3	16/03/2012	Normal	1.3-1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	BH12/26	BH12/26_0.05	16/03/2012	Normal	0.05-0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	BH12/26	BH12/26_1.3	16/03/2012	Normal	1.3-1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	BH12/27	BH12/27_1.0	16/03/2012	Normal	1-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	BH12/27	BH12/27_0.05	16/03/2012	Normal	0.05-0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	HA19/01	HA19/01_0.5	2/08/2019	Normal	0.4-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	HA19/01	HA19/01_0.1	2/08/2019	Normal	0-0.2	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
15	MW11/22	MW11/22_0.5	28/09/2011	Normal	0.5-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	MW11/22_3.3	29/09/2011	Normal	3.3-3.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/23	MW11/23_0.3	30/09/2011	Normal	0.3-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/23	MW11/23_3.5	30/09/2011	Normal	3.5-3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	MW11/24_0.4	30/09/2011	Normal	0.4-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	MW11/24_1.6	30/09/2011	Normal	1.6-1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	MW11/27_0.6	30/09/2011	Normal	0.6-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	MW11/27_1.9	30/09/2011	Normal	1.9-1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	MW11/31_0.5	26/09/2011	Normal	0.5-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	MW11/31_2.2	26/09/2011	Normal	2.2-2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/33	MW11/33_2.0	29/09/2011	Normal	2-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/33	MW11/33_0.5	28/09/2011	Normal	0.5-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/33	MW11/33_0.8	29/09/2011	Normal	0.8-0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/34	MW11/34_0.4	27/09/2011	Normal	0.4-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/34	MW11/34_3.5	28/09/2011	Normal	3.5-3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	MW11/38_0.45	26/09/2011	Normal	0.45-0.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	D_260911_01	26/09/2011	Field_D	0.45-0.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	T_260911_01	26/09/2011	Field_D	0.45-0.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	MW11/38_2.5	26/09/2011	Normal	2.5-2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	MW11/41_0.35	28/09/2011	Normal	0.35-0.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	MW11/41_2.3	29/09/2011	Normal	2.3-2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	MW11/42_0.6	28/09/2011	Normal	0.6-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	D_290911_01	29/09/2011	Field_D	0.6-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	T_290911-01	29/09/2011	Interlab_D	0.6-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	MW11/42_2.2	29/09/2011	Normal	2.2-2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	MW11/42_2.6	29/09/2011	Normal	2.6-2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	MW11/43_0.2	28/09/2011	Normal	0.2-0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	MW11/43_2.3	29/09/2011	Normal	2.3-2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	D_050312_01	5/03/2012	Field_D	-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	T_050312_01	5/03/2012	Interlab_D	-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	MW12/16_2.0	5/03/2012	Normal	2-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	MW12/16_6.0	5/03/2012	Normal	6-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	MW12/16_0.5	5/03/2012	Normal	0.5-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	MW12/17_2.0	5/03/2012	Normal	2-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	MW12/17_0.4	5/03/2012	Normal	0.4-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

						PFOS and PFOA															
						N-Ethyl perfluorooctane sulfonamidoacetic acid (Et	N-Methyl perfluorooctane sulfonamidoacetic acid	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid	Perfluorodecanesulfonic acid (PFDS)	Perfluorohexanesulfonic acid (PFHxS)	Perfluoroundecanoic acid (PFUnA)	Perfluorododecanoic acid (PFDA)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorododecanoic acid (PFDoA)	Perfluorononanoic acid (PFNA)	Perfluorooctanesulfonamide (PFOSA)
						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
EQL						10	10	5	5	5	5	5	5	5	5	5	5	5	5	5	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) EIL - Commercial/Industrial																					
NEPM (1999) ESL - Commercial/Industrial (coarse)																					
NEPM (1999) Management Limits - Commercial/Industrial (coarse)																					
Monitoring_Zone	**Location_Code**	**Field_ID**	**Sampled_Date_Time**	**Sample_Type**	**Sample_Depth_Range**																
9	SB18/06	MW(SB)18/06_3.0	7/02/2018	Normal	3-3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	SB18/06	MW(SB)18/06_5.0	7/02/2018	Normal	5-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	SB18/06	MW(SB)18/06_0.3	7/02/2018	Normal	0.3-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	SB18/06	MW(SB)18/06_1.2	7/02/2018	Normal	1.2-1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_1.2	7/02/2018	Normal	-1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_0.5	7/02/2018	Normal	-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_0.5	7/02/2018	Normal	0.5-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_1.2	7/02/2018	Normal	1.2-1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/05	TP18/05_2.7	7/02/2018	Normal	2.7-2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/06	TP06_1.2	6/02/2018	Normal	-1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/06	TP06_0.3	6/02/2018	Normal	-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_1.0_20180207	7/02/2018	Normal	-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.6_20180207	7/02/2018	Normal	-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_1.0_20180207	8/02/2018	Normal	1-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.4_20180207	8/02/2018	Normal	0.4-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.6_20180207	8/02/2018	Normal	0.6-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.7_20180207	8/02/2018	Normal	0.7-0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP18/09	TP18/09_0.85_20180207	8/02/2018	Normal	0.85-0.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_1.2_20180208	8/02/2018	Normal	-1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_0.3_20180208	8/02/2018	Normal	-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_0.3_20180208	8/02/2018	Normal	0.3-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_1.2_20180208	8/02/2018	Normal	1.2-1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	TP18/34	TP18/34_2.2_20180208	8/02/2018	Normal	2.2-2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP19/42	TP19/42_0.4	24/07/2019	Normal	0.3-0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP19/42	TP19/42_2.2	24/07/2019	Normal	2.1-2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP19/47	TP19/47_0.2	29/07/2019	Normal	0.1-0.3	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
9	TP19/47	TP19/47_0.3	29/07/2019	Normal	0.2-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP19/47	TP19/47_2.0	29/07/2019	Normal	1.9-2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP19/53	TP19/53_0.3	29/07/2019	Normal	0.2-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	TP19/53	TP19/53_1.0	29/07/2019	Normal	0.9-1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	TP19/58	TP19/58_0.2	1/08/2019	Normal	0.1-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	TP19/59	TP19/59_0.1	1/08/2019	Normal	0-0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	TP19/61	TP19/61_0.4	29/07/2019	Normal	0.3-0.5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
14	TP19/61	TP19/61_0.8	29/07/2019	Normal	0.7-0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	TP19/62	TP19/62_0.1	24/07/2019	Normal	0-0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	TP19/63	TP19/63_0.6	24/07/2019	Normal	0.5-0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	TP19/63	TP19/63_0.1	24/07/2019	Normal	0-0.2	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
7	TP19/65	TP19/65_0.1	25/07/2019	Normal	0-0.2	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
7	TP19/66	TP19/66_0.5	25/07/2019	Normal	0.4-0.6	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
7	TP19/66	TP19/66_1.0	25/07/2019	Normal	0.9-1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	TP19/67	TP19/67_1.0	25/07/2019	Normal	0.9-1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	TP19/67	TP19/67_0.1	25/07/2019	Normal	0-0.2	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
14	TP19/72	TP19/72_0.2	29/07/2019	Normal	0.1-0.3	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
14	TP19/72	TP19/72_0.5	29/07/2019	Normal	0.4-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	TP19/73	TP19/73_0.4	29/07/2019	Normal	0.3-0.5	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
14	TP19/73	TP19/73_0.9	29/07/2019	Normal	0.8-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																					
Number of Results						9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Number of Detects						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration						<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Minimum Detect						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration						<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Maximum Detect						ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration						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
Median Concentration						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
Standard Deviation						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances						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

Env Stds Comments

#1:Assumes Total chromium is 17% Hexavalent chromium

							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
							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			
USEPA (2019) RSL - Industrial Soil (Commercial Workers)																																	
Monitoring_Zone	**Location_Code**	**Field_ID**	**Sample_Depth_Avg**	**Sampled_Date_Time**	**Sample_Type**																												
7	TP19/63	TP19/63_0.1	0.1	24/07/2019	Normal	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
9	TP19/47	TP19/47_0.3	0.3	29/07/2019	Normal	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
14	TP19/61	TP19/61_0.4	0.4	29/07/2019	Normal	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
14	TP19/72	TP19/72_0.2	0.2	29/07/2019	Normal	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
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
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
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
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
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
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
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
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
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
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
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

															PCDD-F and PCB TEQ (WHO 2005)			Indicator PCB						Dioxins
						sum HexaCDD	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	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							0.1		
Monitoring_Zone	**Location_Code**	**Field_ID**	**Sample_Depth_Avg**	**Sampled_Date_Time**	**Sample_Type**																								
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	-
9	TP19/47	TP19/47_0.3	0.3	29/07/2019	Normal	2.76	-	-	-	-	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
14	TP19/61	TP19/61_0.4	0.4	29/07/2019	Normal	83.2	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	47.8	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						8	7	6	8	6	9	9	8	8	7	11	9	11	11	11	11	11	11	11	11	11	11	11	7
Number of Detects						8	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						2.76	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						2.76	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						981	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						981	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						220	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						65.5	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						333	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	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

				MNA						Per- and Polyfluoroalkyl Subst										PFOS and PFOA																	TRH Silica Gel Cleanu				
		N-ethyl-perfluorooctanesulfonamidoacetic acid	Sulfate as SO4 - Turbidimetric (Filtered)	Ferrous Iron - Fe2+	Methane	Nitrate (as N)	Sulphate	TDS	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	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)	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
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/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
EQL		0.00005	1	0.05	0.01	0.01	1	10	0.05	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.05	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	0.02	50	100	50	100	100
ANZG (2018) TV - Marine water (95%)																																											
Clyde WARP SSTL - GW VI - Commercial																																											
Clyde WARP SSTL - GW VI - Construction																																											
Clyde WARP SSTL - GW VI - IMW																																											
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																				0.13[#6]	220[#6]																						
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																				**0.00023**[#6]	**19**[#6]																						
NEPM (2013) - Marine Water																																											
NEPM (2013) - Recreational							5000	6000																																			
NHMRC (2019) HBGV - Recreational Water																			2	2	10								2														
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																																								
15	MW11/22	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	11/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	12/06/2019	Normal	-	2230	4.59	0.046	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<50	<100	<100
15	MW11/41	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	13/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	25/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	28/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	18/08/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.05	<0.01	-	<0.05	<0.05	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	-	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-	-	-	-	<0.05	-	<0.05	<0.05	<0.05	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	8/12/2017	Normal	-	-	-	-	-	-	-	<0.05	-	<0.05	<0.05	<0.05	<0.02	<0.02	**0.01**	**0.01**	<0.01	**<0.01**	**0.01**	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	-	-	-	-	-
15	MW11/41	22/06/2018	Normal	-	-	-	-	-	-	-	<0.12[#5]	-	<0.12[#5]	<0.12[#5]	<0.12[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	**<0.05**[#5]	<0.05[#5]	<0.05	<0.05	<0.05	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.2[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.12[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	-	-	-	-	-
15	MW11/41	6/12/2018	Normal	-	-	-	-	-	-	-	<0.12[#5]	-	<0.12[#5]	<0.12[#5]	<0.12[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	**<0.05**[#5]	<0.05[#5]	<0.05	<0.05	<0.05	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.2[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.12[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<50	<100	<50	<100	<100
15	MW11/41	5/06/2019	Normal	-	-	-	-	-	-	-	-	<0.12[#5]	<0.12[#5]	<0.12[#5]	<0.12[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	**<0.05**[#5]	<0.05[#5]	<0.05	<0.05	<0.05	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.2[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.12[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<50	<100	<50	<100	<100
15	MW11/41	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Normal	-	-	-	-	-	-	-	<0.05	-	<0.05	<0.05	<0.05	<0.02	<0.02	**0.01**	**0.01**	<0.01	**<0.01**	**0.01**	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02	<50	<100	<50	<100	<100
15	MW11/41	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Interlab_D	-	-	-	-	-	-	-	<0.05	-	<0.05	<0.05	<0.05	<0.01	<0.01	<0.1	<0.05	<0.01	**<0.01**	**0.01**	<0.01	<0.01	<0.05	<0.05	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	**0.01**	**0.02**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	-	-	-	-	-
15	MW11/42	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
15	MW11/42	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	11/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	24/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	11/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	28/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	8/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	8/12/2017	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	22/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
15	MW11/43	8/12/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.02	<0.02	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
15	MW11/43	8/12/2011	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
15	MW11/43	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	26/08/1999	Normal	-	-	-	-	-	-	5067	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	25/07/2000	Normal	-	-	-	-	-	-	11,020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	16/12/2003	Normal	-	-	-	-	-	-	11,934	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	15/03/2005	Normal	-	-	-	-	-	-	8398	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	23/03/2006	Normal	-	-	-	-	-	-	12,727	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	28/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	3/10/2006	Normal	-	-	-	-	-	-	12,149	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	13/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	22/02/2008	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	13/11/2008	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	17/04/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	17/04/2009	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	22/04/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	17/11/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	23/06/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	26/11/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	7/06/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	6/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
15	MW94/6X	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	11/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	25/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	11/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	27/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/01/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/05/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

				MNA						Per- and Polyfluoroalkyl Subst										PFOS and PFOA																						TRH Silica Gel Cleanu				
		N-ethyl-perfluorooctanesulfonamidoacetic acid	Sulfate as SO4 - Turbidimetric (Filtered)	Ferrous Iron - Fe2+	Methane	Nitrate (as N)	Sulphate	TDS	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE	N-Methyl perfluorooctane sulfonamide (MeFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOS	Perfluoropentane sulfonic acid (PFPeS)	Perfluoroheptane sulfonic acid (PFHpS)	Sum of PFAS	Sum of PFAS (WA DER List)	Sum of PFHxS and PFOS	PFOS	Perfluorooctanoate	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer Sulfonate (6:2 FtS)	8:2 Fluorotelomer sulfonate	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	N-Ethyl perfluorooctane sulfonamidoacetic acid (Et	N-Methyl perfluorooctane sulfonamidoacetic acid	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid	Perfluorodecanesulfonic acid (PFDS)	Perfluorohexanesulfonic acid (PFHxS)	Perfluoroundecanoic acid (PFUnA)	Perfluorododecanoic acid (PFDoA)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorododecanoic acid (PFDoA)	Perfluorononanoic acid (PFNA)	Perfluorooctanesulfonamide (PFOSA)	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
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/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		0.00005	1	0.05	0.01	0.01	1	10	0.05	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.05	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	0.02	50	100	50	100	100
ANZG (2018) TV - Marine water (95%)																																												
Clyde WARP SSTL - GW VI - Commercial																																												
Clyde WARP SSTL - GW VI - Construction																																												
Clyde WARP SSTL - GW VI - IMW																																												
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																				0.13[#6]	220[#6]																									
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																				**0.00023**[#6]	**19**[#6]																									
NEPM (2013) - Marine Water																																												
NEPM (2013) - Recreational							5000	6000																																					
NHMRC (2019) HBGV - Recreational Water																			2	2	10										2														
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																																											
15	W91/2	1/09/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	26/08/1999	Normal	-	-	-	-	-	-	6795	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	17/12/2003	Normal	-	-	-	-	-	-	9653	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	15/03/2005	Normal	-	-	-	-	-	-	6097	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	2/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	14/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	23/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	30/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	3/10/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	13/09/2007	Normal	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	25/02/2008	Normal	-	-	4	-	<0.02	52	2100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	25/02/2008	Field_D	-	-	3.3	-	0.03	93	3400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/23	6/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
9	MW11/23	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	6/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
9	MW11/24	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/08/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	11/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	25/06/2018	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	6/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
9	MW11/27	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2013	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	6/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
9	MW11/31	19/08/2016	Normal	<0.00005	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	**0.04**[#1]	0.02[#1]	<0.01	<0.05	<0.01	-	-	-	<0.01	<0.05	<0.01	**0.04**[#1]	<0.01	<0.01	<0.01	0.01[#1]	<0.01	<0.01	<0.01	<0.01	0.09	<0.05	-	-	-	-	-
9	MW11/31	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	16/12/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	25/06/2018	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/33	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
9	MW11/34	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
9	MW11/34	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/34	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	11/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	22/03/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	400
9	MW12/16	22/03/2012	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200
9	MW12/16	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	20/06/2012	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	20/06/2012	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	10/12/2012	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	10/12/2012	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,460,000	-	-
9	MW12/16	19/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ERM

					MNA						Per- and Polyfluoroalkyl Subst										PFOS and PFOA																						TRH Silica Gel Cleanu				
				N-ethyl-perfluorooctanesulfonamidoacetic acid	Sulfate as SO4 - Turbidimetric (Filtered)	Ferrous Iron - Fe2+	Methane	Nitrate (as N)	Sulphate	TDS	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	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)	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
				mg/L	mg/L	mg/L	mg/L	mg/l	mg/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				0.00005	1	0.05	0.01	0.01	1	10	0.05	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.01	0.05	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	0.02	50	100	50	100	100
ANZG (2018) TV - Marine water (95%)																																															
Clyde WARP SSTL - GW VI - Commercial																																															
Clyde WARP SSTL - GW VI - Construction																																															
Clyde WARP SSTL - GW VI - IMW																																															
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																					0.13#6	220#6																									
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																					**0.00023#6**	**19#6**																									
NEPM (2013) - Marine Water																																															
NEPM (2013) - Recreational									5000	6000																																					
NHMRC (2019) HBGV - Recreational Water																				2	2	10										2															
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																																												
9	MW12/16	12/06/2019	Normal	-	27	35.6	7.7	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<100	<50	<100	<100
9	MW12/17	22/03/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
9	MW12/17	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	-	-	<0.05	-	-	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05#5	<0.05#5	**<0.05#5**	<0.05#5	<0.05	<0.05	<0.05	<0.05	-	-	<0.05#5	<0.2#5	-	<0.05#5	-	-	<0.05#5	<0.05#5	<0.05#5	-	-	-	-	-	-	-	-	-	-
9	MW18/06	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	14/12/2000	Normal	-	-	-	-	-	-	6809	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/06/2001	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	25/06/2001	Normal	-	-	-	-	-	-	8590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	15/12/2003	Normal	-	-	-	-	-	-	5147	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/07/2004	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/09/2005	Normal	-	-	-	-	-	-	5902	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	14/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	28/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	30/03/2006	Normal	-	-	-	-	-	-	5870	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	27/09/2006	Normal	-	-	-	-	-	-	5655	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	13/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	25/02/2008	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	17/11/2008	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	17/04/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	20/11/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	23/06/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	26/11/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	7/06/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	7/06/2011	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	6/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100
9	MW98/9	13/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	8/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary

Number of Results	1	2	4	2	5	2	17	4	3	7	8	7	7	7	7	9	9	11	12	11	12	11	9	8	8	11	10	9	11	9	9	11	11	11	9	9	9	9	9	7	7	8	7	22
Number of Detects	0	2	4	2	3	2	17	0	0	0	0	0	0	0	2	2	0	1	4	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0	0	0	1	0	0	0	1	0	2
Minimum Concentration	<0.00005	27	3.3	0.046	0.01	52	2100	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<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	<0.02	<50	<100	<50	<100	<100
Minimum Detect	ND	27	3.3	0.046	0.01	52	2100	ND	ND	ND	ND	ND	ND	ND	0.01	0.01	ND	0.04	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04	ND	ND	0.01	0.01	ND	ND	ND	ND	0.09	ND	ND	ND	1460000	ND	200
Maximum Concentration	<0.00005	2230	35.6	7.7	0.03	93	12727	<0.12	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.05	0.09	<0.05	<50	<100	1460000	<100	400
Maximum Detect	ND	2230	35.6	7.7	0.03	93	12727	ND	ND	ND	ND	ND	ND	ND	0.01	0.01	ND	0.04	0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04	ND	ND	0.01	0.02	ND	ND	ND	ND	0.09	ND	ND	ND	1460000	ND	400
Average Concentration			12		0.016		7489	0.043	0.037	0.04	0.038	0.04	0.016	0.016	0.021	0.019	0.016	0.016	0.016	0.02	0.027	0.02	0.023	0.019	0.019	0.015	0.063	0.013	0.019	0.013	0.013	0.016	0.017	0.015	0.03	0.013	0.013	0.023	0.02	25	50	182522	50	73
Median Concentration	0.000025	1128.5	4.295	3.873	0.01	72.5	6795	0.0425	0.025	0.025	0.025	0.025	0.01	0.01	0.025	0.025	0.025	0.01	0.015	0.025	0.025	0.025	0.025	0.025	0.025	0.01	0.05	0.01	0.025	0.01	0.01	0.01	0.02	0.01	0.025	0.01	0.01	0.01	0.025	25	50	25	50	50
Standard Deviation			16		0.0089		3128	0.02	0.02	0.019	0.018	0.019	0.0089	0.0089	0.015	0.0085	0.011	0.012	0.0086	0.0093	0.0072	0.0093	0.0067	0.0078	0.0078	0.0093	0.034	0.009	0.011	0.009	0.009	0.0089	0.0082	0.0093	0.024	0.009	0.009	0.027	0.0075	0	0	516179	0	80
Number of Guideline Exceedances	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	11	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	10	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Comments
#1:Moderate Reliability
#2:Unknown level of species protection; Unknown Reliability
#3:High Reliability
#4:Very high Reliability
#5:Low Reliability
#6:ANZG technical draft default guideline values. Freshwater values are to be used on an interim basis until final marine guideline values can be set using the nationally-agreed process.

Data Comments

	MNA						Per- and Polyfluoroalkyl Subst										PFOS and PFOA																					TRH Silica Gel Cleanu				
	N-ethyl-perfluorooctanesulfonamidoacetic acid	Sulfate as SO4 - Turbidimetric (Filtered)	Ferrous Iron - Fe2+	Methane	Nitrate (as N)	Sulphate	TDS	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	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)	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 Cleanu
	mg/L	mg/L	mg/L	mg/L	mg/l	mg/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
EQL	0.00005	1	0.05	0.01	0.01	1	10	0.05	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.05	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	0.02	50	100	50	100	100
ANZG (2018) TV - Marine water (95%)																																											
Clyde WARP SSTL - GW VI - Commercial																																											
Clyde WARP SSTL - GW VI - Construction																																											
Clyde WARP SSTL - GW VI - IMW																																											
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																			0.13[#6]	220[#6]																							
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																			**0.00023**[#6]	**19**[#6]																							
NEPM (2013) - Marine Water																																											
NEPM (2013) - Recreational						5000	6000																																				
NHMRC (2019) HBGV - Recreational Water																		2	2	10									2													

Monitoring_Zone Location_Code Sampled_Date_Time Sample_Type

#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#2 Combined by ESDAT using a Non-Detect Multiplier of 1. Some Analytes are missing from this Combined Compound.
#3 ESDAT Combined with Non-Detect Multiplier of 0.5. Some Analytes are missing from this Combined Compound.
#4 ESDAT Combined. Some Analytes are missing from this Combined Compound.
#5 Reported Analyte LOR is higher than Requested Analyte LOR
#6 Combined by ESDAT using a Non-Detect Multiplier of 0.5.
#7 Combined by ESDAT using a Non-Detect Multiplier of 1.
#8 ESDAT Combined with Non-Detect Multiplier of 0.5.
#9 ESDAT Combined with Non-Detect Multiplier of 0.5.
#10 *EQL increased due to matrix interference.
#11 ChemCode changed - JRF 30.06.12
#12 ESDAT Combined.
#13 GW 2-4m bgl

				up			TRH Silica Gel Cleanup	BTEX							Naphthalene	TRH NEPM (1999)							TRH NEPM (2013)							Field																
				TRH >C16-C34 Silica Gel Cleanup	TRH >C29-C36	TRH >C34-C40 Silica Gel Cleanup	TRH >C10-C16 Fraction SG less Naphthalene	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	Dissolved Oxygen	Dissolved Oxygen (Filtered)	Dissolved Oxygen (Field) (Filtered)	Electrical conductivity	Electrical Conductivity (Field)	pH	pH (Field)	Purge Volume	Redox	Redox (Field)	Temp	Temperature (Field)	Antimony	Antimony (Filtered)	Arsenic	Arsenic (Filtered)	Beryllium
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	mg/L	mg/L	µS/cm	uS/cm	pH units	pH units	L	mV	mV	oC	oC	mg/L	mg/L	mg/L	mg/L	µg/L
EQL				100	50	100	100	1	1	1	1	2	1	1	0.05	20	20	50	100		50	50	20	20	50	50	100	100	100													0.005	0.005	0.001	0.001	1
ANZG (2018) TV - Marine water (95%)								700[#1]	180[#2]	5[#2]	350[#2]	275[#2]			70[#1]																											0.27[#2]	0.27[#2]			
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	-		-																	
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																																														
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																																														
NEPM (2013) - Marine Water								500							50																															
NEPM (2013) - Recreational								10	8000	3000			6000																	1000	1000					85						0.03	0.03	0.1	0.1	600
NHMRC (2019) HBGV - Recreational Water																																														
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																																											
15	MW11/22	5/10/2011	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.033	-
15	MW11/22	10/12/2012	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<5	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	9/12/2013	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<20	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100	-	2.7	2.7	21,960	21,960	5.57	5.57	13	77	77	22.4	22.4	-	-	-	-	-
15	MW11/22	11/12/2014	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	<6[#12]	<20	<20	-	<50	<100	-	<100	<100	<20	<20	<50	<50	100	-	<100	-	3	3	16,770	16,770	6.5	6.5	0	151.6	151.6	21.9	21.9	-	-	-	-	-
15	MW11/22	19/08/2016	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	2.04	2.04	20,548	20,548	5.39	5.39	-	131.4	131.4	20.7	20.7	-	-	-	-	-
15	MW11/22	12/06/2019	Normal	<100	<50	<100	<100	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	170	<100	-	480	650	<20	<20	180	180	360	750	210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/10/2011	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	-	<20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	14/06/2012	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<5	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	13/12/2012	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<5	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	25/06/2013	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<20	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	10/12/2013	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<20	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100	-	1.64	1.64	19,334	19,334	3.53	3.53	7	339.2	339.2	23.1	23.1	-	-	-	-	-
15	MW11/41	28/05/2014	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#13]	<6[#13]	<20	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100	-	-	1.69	-	-	-	3.68	8	-	314.2	-	23.7	-	-	-	-	-
15	MW11/41	10/12/2014	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	<6[#12]	<20	<20	-	<50	100	-	<100	100	<20	<20	<50	<50	200	-	<100	-	0.33	0.33	16,810	16,810	4.48	4.48	0	280.2	280.2	23.8	23.8	-	-	-	-	-
15	MW11/41	18/08/2016	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	0.92	0.92	16,819	16,819	3.72	3.72	-	291.8	291.8	21.5	21.5	-	-	-	-	-
15	MW11/41	18/08/2016	Field_D	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	16/12/2016	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	0.35	-	13,841	-	4.58	-	-	155	-	23.3	-	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	<50	140	-	<50	140	<20	<20	<100	<100	190	190	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.95	-	14,408	-	6.08	-	-	64.6	-	21.9	-	-	-	-	-
15	MW11/41	8/12/2017	Normal	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	1.04	-	15,529	-	6.74	-	-	117.5	-	24	-	-	-	-	-
15	MW11/41	22/06/2018	Normal	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	130	130	-	590	850	<20	<20	130	130	540	930	260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	6/12/2018	Normal	<100	<50	<100	<100	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/06/2019	Normal	<100	<50	<100	<100	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.98	-	13,550	-	3.98	-	-	96.7	-	21.1	-	-	-	-	-
15	MW11/41	20/11/2019	Normal	<100	<50	<100	<100	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-
15	MW11/41	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.88	-	7020	-	4.7	-	-	209.6	-	23	-	-	-	-	-
15	MW11/41	20/11/2019	Interlab_D	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10	-	<20	50	300	-	100	450	<20	<20	70	70	400	470	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-
15	MW11/42	5/10/2011	Normal	-	<100	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	<1	<20	-	<50	-	-	-	<50[#11]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.038	-
15	MW11/42	14/06/2012	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<5	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	11/12/2012	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<5	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	24/06/2013	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<20	<20	-	<50	200	250[#9]	<100	200 - 275[#9]	<20	<20	<50	<50	200	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	11/12/2013	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<20	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100	-	0	0	29,459	29,459	6.52	6.52	13	-63.5	-63.5	22.2	22.2	-	-	-	-	-
15	MW11/42	28/05/2014	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<20	<20	-	<50	300	350[#9]	<100	300 - 375[#9]	<20	<20	50	50	300	-	<100	-	-	2.33	-	-	-	6.39	8	-	-46.8	-	23.5	-	-	-	-	-
15	MW11/42	10/12/2014	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	<6[#12]	<20	<20	-	<50	100	-	<100	100	<20	<20	<50	<50	100	-	<100	-	1.4	1.4	38,680	38,680	6.77	6.77	0	86.9	86.9	23	23	-	-	-	-	-
15	MW11/42	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.19	2.19	38,083	38,083	6.39	6.39	-	-53.5	-53.5	22.5	22.5	-	-	-	-	-
15	MW11/42	19/08/2016	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.33	-	13,842	-	6.44	-	-	-65.8	-	22.4	-	-	-	-	-
15	MW11/42	16/12/2016	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	<50	280	-	<50	280	<20	<20	<100	<100	310	310	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.22	-	15,821	-	6.91	-	-	-56.3	-	22.8	-	-	-	-	-
15	MW11/42	8/12/2017	Normal	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	0.8	-	33,753	-	6.28	-	-	-86	-	23.6	-	-	-	-	-
15	MW11/42	8/12/2017	Field_D	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	22/06/2018	Normal	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	<50	140	-	130	270	<20	<20	<100	<100	230	230	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	5/10/2011	Normal	-	<100	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	<1	<20	-	<50	-	-	-	<50[#11]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.039	-
15	MW11/43	8/12/2011	Normal	-	<100	-	-	<1	<1	<1	<1	<2	<3 - 1.5[#6]	<10 - 3[#6]	<1	<20	-	<50	-	-	-	<50[#11]	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	8/12/2011	Field_D	-	<100	-	-	<1	<1	<1	<1	<2	<3 - 1.5[#6]	<10 - 3[#6]	<1	<20	-	<50	-	-	-	<50[#4]	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.92	0.92	23,436	23,436	4.83	4.83	-	192.9	192.9	22.1	22.1	-	-	-	-	-
15	MW11/43	19/08/2016	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	16/12/2016	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100	-	-	1.65	-	6335	-	6.25	-	-	48.1	-	20.2	-	-	-	-	-
15	MW94/6X	1/08/1999	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	53	824	874[#6]	<100	927[#6]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	26/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.39	-	-	7910	-	6.57	-	-	-15	-	17.81	-	-	-	-	-	-
15	MW94/6X	1/07/2000	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	<40	<100	<200[#7]	<100	<240[#7]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	25/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.73	-	-	17,214	-	4.39	-	-	30	-	20.12	-	-	-	-	-	-
15	MW94/6X	1/12/2003	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	<40	<100	<200[#7]	<100	<240[#7]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	16/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.03	-	-	18,360	-	4.38	-	-	231	-	20.46	-	-	-	-	-	-
15	MW94/6X	1/03/2005	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	<40	<100	<200[#7]	<100	<240[#7]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	15/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.42	-	-	12,920	-	4.88	-	-	169	-	22.3	-	-	-	-	-	-
15	MW94/6X	23/03/2006	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	<40	<100	<200[#7]	<100	<240[#7]	-	-	-	-	-	-	-	1.92	-	-	19,580	-	4.43	-	-	183	-	22.2	-	-	-	-	-	-
15	MW94/6X	28/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-
15	MW94/6X	3/10/2006	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	<40	<100	<200[#7]	<100	<240[#7]	-	-	-	-	-	-	-	0.79	-	-	18,690	-	4.3	-	-	97	-	19.7	-	-	-	<0.001	-	-
15	MW94/6X	1/09/2007	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	<40	<100	<200[#7]	<100	<240[#7]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001	-	-
15	MW94/6X	13/09/2007	Normal	-	-	-	-	<1	<1	<1	-	-	<1	<4[#7]	-	<20	-	<50	<100	<200[#7]	<100	<250[#7]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	-	0.001	-	1
15	MW94/6X	22/02/2008	Normal	-	-	-	-	<1	<1	<1	-	-	<1	<4[#7]	<1	<20	-	<50	300	350[#6]	<100	375[#6]	-	-	-	-	-	-	-	4.91	-	-	18,910	-	5.19	-	-	64	-	22	-	-	-	0.01	-	-
15	MW94/6X	13/11/2008	Normal	-	-	-	-	<1	<1	<1	-	-	<1	<4[#7]	<1	<20	-	<50	100	150[#6]	<100	175[#6]	-	-	-	-	-	-	-	1.06	-	-	16.2	-	5.5	-	-	49	-	20	-	-	-	0.009	-	-
15	MW94/6X	17/04/2009	Normal	-	-	-	-	<1	<1	<1	-	-	<1	<4[#7]	<1	<20	-	<50	<100	<200[#7]	<100	<250[#7]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-
15	MW94/6X	17/04/2009	Field_D	-	-	-	-	<1	<1	<1	-	-	<1	<4[#7]	<1	<20	-	<50	<100	<200[#7]	<100	<250[#7]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-
15	MW94/6X	22/04/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.23	-	-	15,470	-	5.62	-	-	34	-	21.5	-	-	-	-	-	-
15	MW94/6X	17/11/2009	Normal	-	-	-	-	<1	<1	<1	-	-	<1	<4[#7]	<1	<20	-	<50	<100	<200[#7]	<100	<250[#7]	-	-	-	-	-	-	-	0.9	-	-	15,710	-	5.51	-	-	64	-	18.9	-	-	-	-	-	-
15	MW94/6X	23/06/2010	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	<50	<100	<200[#7]	<100	<250[#7]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	26/11/2010	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	<1	<20	-	<50	<100	<200[#7]	<100	<250[#7]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	7/06/2011	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	-	<20	-	<50	<100	250[#6]	200	200 - 275[#11]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	6/10/2011	Normal	-	<100	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	<1	<20	-	<50	-	-	-	<50[#11]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-
15	MW94/6X	14/06/2012	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<1	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	11/12/2012	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<1	<20	-	50	200	250[#9]	<100	300[#9]	<20	<20	<50	<50	200	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	25/06/2013	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<20	<20	-	<50	100	150[#9]	<100	100 - 175[#9]	<20	<20	<50	<50	100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	11/12/2013	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<1	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100	-	1.97	1.97	17,098	17,098	4.89	4.89	9	160.9	160.9	21.5	21.5	-	-	-	-	-
15	MW94/6X	27/05/2014	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#13]	<6[#13]	<20	<20	-	<50	<100	<200[#13]	<100	<100[#13]	<20	<20	<50	<50	<100	-	<100	-	-	1.71	-	-	-	4.3	11	-	245.2	-	22.2	-	-	-	-	-
15	W91/2	1/01/1993	Normal	-	-	-	-	<1	<1	-	-	-	<3	<5[#2]	-	<20	-	<40	<100	<200[#7]	<100	<240[#7]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/05/1993	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Monitoring_Zone	Location_Code	Sampled_Date_Time	Sample_Type	p			TRH Silica Gel Cleanup	BTEX							Naphthalene
				TRH >C16-C34 Silica Gel Cleanup	TRH >C29-C36	TRH >C34-C40 Silica Gel Cleanup	TRH >C10-C16 Fraction SG less Naphthalene	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX	Naphthalene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				100	50	100	100	1	1	1	1	2	1	1	0.05
ANZG (2018) TV - Marine water (95%)								700[#1]	180[#2]	5[#2]	350[#2]	275[#2]			70[#1]
Clyde WARP SSTL - GW VI - Commercial								5000							13000
Clyde WARP SSTL - GW VI - Construction								NL							NL
Clyde WARP SSTL - GW VI - IMW								NL							NL
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)															
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)															
NEPM (2013) - Marine Water								500							50
NEPM (2013) - Recreational								10	8000	3000			6000		
NHMRC (2019) HBGV - Recreational Water															
15	W91/2	1/09/1993	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-
15	W91/2	1/12/1993	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-
15	W91/2	1/08/1999	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-
15	W91/2	26/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/07/2000	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-
15	W91/2	1/12/2000	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-
15	W91/2	1/12/2003	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-
15	W91/2	17/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/03/2005	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-
15	W91/2	15/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	2/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	14/09/2005	Normal	-	-	-	-	31	44	21	-	-	194	290[#6]	-
15	W91/2	23/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	30/03/2006	Normal	-	-	-	-	1	<1	10	-	-	6	17.5[#6]	-
15	W91/2	3/10/2006	Normal	-	-	-	-	<1	<1	4	-	-	<3	6.5[#6]	-
15	W91/2	1/09/2007	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-
15	W91/2	13/09/2007	Normal	-	-	-	-	<5	<5	<5	-	-	<5	<20[#7]	-
15	W91/2	25/02/2008	Normal	-	-	-	-	<1	<1	1	-	-	1	3[#6]	-
15	W91/2	25/02/2008	Field_D	-	-	-	-	<1	<1	3	-	-	2	6[#6]	-
9	MW11/23	6/10/2011	Normal	-	<100	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	<1
9	MW11/23	19/08/2016	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10
9	MW11/24	6/10/2011	Normal	-	<100	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	<1
9	MW11/24	20/06/2012	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<5
9	MW11/24	10/12/2012	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<5
9	MW11/24	19/06/2013	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<20
9	MW11/24	10/12/2013	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<20
9	MW11/24	23/05/2014	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#13]	<6[#13]	<20
9	MW11/24	10/12/2014	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	<6[#12]	<20
9	MW11/24	19/08/2016	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10
9	MW11/24	19/08/2016	Field_D	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10
9	MW11/24	15/12/2016	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10
9	MW11/24	29/05/2017	Normal	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5
9	MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	11/12/2017	Normal	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5
9	MW11/24	25/06/2018	Normal	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5
9	MW11/24	25/06/2018	Field_D	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5
9	MW11/24	7/12/2018	Normal	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5
9	MW11/24	5/06/2019	Normal	<100	<50	<100	<100	<1	<2	<2	<2	<2	<2	<1	<5
9	MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	26/11/2019	Normal	<100	<50	<100	<100	<1	<2	<2	<2	<2	<2	<1	<5
9	MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	6/10/2011	Normal	-	<100	-	-	4	<1	<1	<1	<2	<3[#7]	<10 - 6.5[#6]	<1
9	MW11/27	20/06/2012	Normal	-	-	-	-	7	<1	<1	<1	<2	<3[#12]	<10 - 9.5[#9]	<5
9	MW11/27	10/12/2012	Normal	-	-	-	-	23	<1	<1	<1	<2	<3[#12]	20 - 25.5[#9]	<5
9	MW11/27	19/06/2013	Normal	-	-	-	-	25	<1	<1	<1	<2	<3[#12]	27.5[#9]	<20
9	MW11/27	10/12/2013	Normal	-	-	-	-	21	<1	<1	<1	<2	<3[#12]	23.5[#9]	<20
9	MW11/27	10/12/2013	Field_D	-	-	-	-	21	<1	<1	<1	<2	<3[#12]	23.5[#9]	<20
9	MW11/27	23/05/2014	Normal	-	-	-	-	16	<1	<1	<1	<2	<3[#13]	18.5[#13]	<20
9	MW11/27	10/12/2014	Normal	-	-	-	-	46	<1	<1	<1	<2	<3	48.5[#8]	<20
9	MW11/31	6/10/2011	Normal	-	<100	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	<1
9	MW11/31	19/08/2016	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10
9	MW11/31	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	16/12/2016	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10
9	MW11/31	16/12/2016	Field_D	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10
9	MW11/31	29/05/2017	Normal	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5
9	MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	25/06/2018	Normal	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5
9	MW11/31	25/06/2018	Interlab_D	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10
9	MW11/31	7/12/2018	Normal	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5
9	MW11/33	5/10/2011	Normal	-	<100	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	<1
9	MW11/34	5/10/2011	Normal	-	<100	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	<1
9	MW11/34	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/34	19/08/2016	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10
9	MW11/38	14/06/2012	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<1
9	MW11/38	10/12/2012	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<1
9	MW11/38	19/06/2013	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<1
9	MW11/38	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	11/12/2013	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<1
9	MW11/38	23/05/2014	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#13]	<6[#13]	<1
9	MW11/38	10/12/2014	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	<6[#12]	<1
9	MW12/16	22/03/2012	Normal	-	200	-	-	490	1200	290	700	2000	2700[#9]	4680 - 4700[#9]	200 - 240
9	MW12/16	22/03/2012	Field_D	-	<100	-	-	440	1100	280	670	1900	2570 - 2600[#9]	4400 - 4420[#9]	180 - 200
9	MW12/16	20/06/2012	Normal	-	-	-	-	860	1300	480	710	2600	3300 - 3310[#9]	5900 - 5940[#9]	160 - 170
9	MW12/16	20/06/2012	Field_D	-	-	-	-	830	1200	460	690	2500	3190 - 3200[#9]	5690 - 5700[#9]	160 - 200
9	MW12/16	20/06/2012	Interlab_D	-	-	-	-	607	1050	420	605	1950	2555 - 2560[#9]	4630 - 4637[#9]	116 - 167
9	MW12/16	10/12/2012	Normal	-	-	-	-	4000	16,000	1600	3600	9100	12,700 - 13,000[#9]	34,600 - 35,000[#9]	<500 - 1900
9	MW12/16	10/12/2012	Field_D	-	-	-	-	4800	20,000	2100	4600	12,000	16,000 - 16,600[#9]	42,900 - 43,000[#9]	<500 - 1800
9	MW12/16	10/12/2012	Interlab_D	-	-	-	-	4060	15,900	2880	7310	17,500	24,800 - 24,810[#9]	47,600 - 47,640[#9]	3240 - 12,200
9	MW12/16	19/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-

Location_Code	Sampled_Date_Time	Sample_Type	TRH NEPM (1999)							TRH NEPM (2013)						
			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
			µg/L	µg/L	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			20	20	50	100		50	50	20	20	50	50	100	100	100
ANZG (2018) TV - Marine water (95%)																
Clyde WARP SSTL - GW VI - Commercial											6200		NL			
Clyde WARP SSTL - GW VI - Construction										-	NL	-	NL	-		-
Clyde WARP SSTL - GW VI - IMW										-	NL	-	NL	-		-
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																
NEPM (2013) - Marine Water																
NEPM (2013) - Recreational																
NHMRC (2019) HBGV - Recreational Water																
W91/2	1/09/1993	Normal	<20	-	<40	<100	<200[#7]	<100	<240[#7]	-	-	-	-	-	-	-
W91/2	1/12/1993	Normal	<20	-	<40	<100	<200[#7]	<100	<240[#7]	-	-	-	-	-	-	-
W91/2	1/08/1999	Normal	<20	-	<40	<100	<200[#7]	<100	<240[#7]	-	-	-	-	-	-	-
W91/2	26/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	1/07/2000	Normal	<20	-	<40	400	600[#6]	200	620[#6]	-	-	-	-	-	-	-
W91/2	1/12/2000	Normal	<20	-	<40	600	800[#6]	200	820[#6]	-	-	-	-	-	-	-
W91/2	1/12/2003	Normal	<20	-	<40	100	150[#6]	<100	170[#6]	-	-	-	-	-	-	-
W91/2	17/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	1/03/2005	Normal	<20	-	<40	<100	<200[#7]	<100	<240[#7]	-	-	-	-	-	-	-
W91/2	15/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	2/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	14/09/2005	Normal	320	-	96,078	210,700	210,930[#6]	230	307,008[#6]	-	-	-	-	-	-	-
W91/2	23/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	30/03/2006	Normal	70	-	5600	15,980	16,030[#6]	<100	21,630[#6]	-	-	-	-	-	-	-
W91/2	3/10/2006	Normal	30	-	430	2600	2840[#6]	240	3270[#6]	-	-	-	-	-	-	-
W91/2	1/09/2007	Normal	30	-	3100	12,000	12,050[#6]	<100	15,150[#6]	-	-	-	-	-	-	-
W91/2	13/09/2007	Normal	30	-	3100	12,000	12,050[#6]	<100	15,150[#6]	-	-	-	-	-	-	-
W91/2	25/02/2008	Normal	-	-	-	-	1650[#6]	-	2050[#6]	-	-	-	-	-	-	-
W91/2	25/02/2008	Field_D	-	-	-	-	1250[#6]	-	1550[#6]	-	-	-	-	-	-	-
MW11/23	6/10/2011	Normal	<20	-	<50	-	-	-	<50[#11]	-	-	-	-	-	-	-
MW11/23	19/08/2016	Normal	<20	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100
MW11/24	6/10/2011	Normal	<20	-	<50	-	-	-	<50[#11]	-	-	-	-	-	-	-
MW11/24	20/06/2012	Normal	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100
MW11/24	10/12/2012	Normal	<20	-	<50	200	250[#9]	<100	200 - 275[#9]	<20	<20	<50	<50	200	-	<100
MW11/24	19/06/2013	Normal	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100
MW11/24	10/12/2013	Normal	<20	-	<50	200	250[#9]	<100	200 - 275[#9]	<20	<20	<50	<50	200	-	<100
MW11/24	23/05/2014	Normal	<20	-	<50	<100	<200[#13]	<100	<100[#13]	<20	<20	<50	<50	<100	-	<100
MW11/24	10/12/2014	Normal	<20	-	<50	200	-	<100	200	<20	<20	<50	<50	200	-	<100
MW11/24	19/08/2016	Normal	<20	<20	<50	100	-	300	400	<20	<20	<50	<50	300	-	400
MW11/24	19/08/2016	Field_D	<20	<20	350	3500	-	1000	4850	<20	<20	670	670	4000	-	500
MW11/24	15/12/2016	Normal	-	<20	170	100	-	<100	270	<20	<20	<50	<50	100	-	100
MW11/24	29/05/2017	Normal	<20	-	<50	120	-	<50	120	<20	<20	<100	<100	140	140	<100
MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/24	11/12/2017	Normal	<20	-	<50	120	-	<50	120	<20	<20	<100	<100	120	120	<100
MW11/24	25/06/2018	Normal	<20	-	270	<100	-	210	480	<20	<20	230	230	190	420	<100
MW11/24	25/06/2018	Field_D	<20	-	<50	<100	-	240	240	<20	<20	<100	<100	250	250	<100
MW11/24	7/12/2018	Normal	<20	-	120	<100	-	440	560	<20	<20	120	120	370	650	160
MW11/24	5/06/2019	Normal	<20	-	100	<100	-	280	380	<20	<20	110	110	270	480	100
MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/24	26/11/2019	Normal	<20	-	120	150	-	780	1050	<20	<20	170	170	660	1120	290
MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/27	6/10/2011	Normal	<20	-	<50	-	-	-	<50[#11]	-	-	-	-	-	-	-
MW11/27	20/06/2012	Normal	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100
MW11/27	10/12/2012	Normal	80	-	<50	<100	<200[#12]	<100	<100[#12]	80	60	<50	<50	<100	-	<100
MW11/27	19/06/2013	Normal	50	-	<50	<100	<200[#12]	<100	<100[#12]	50	30	<50	<50	<100	-	<100
MW11/27	10/12/2013	Normal	60	-	<50	<100	<200[#12]	<100	<100[#12]	60	40	<50	<50	<100	-	<100
MW11/27	10/12/2013	Field_D	60	-	<50	<100	<200[#12]	<100	<100[#12]	60	30	<50	<50	<100	-	<100
MW11/27	23/05/2014	Normal	50	-	<50	<100	<200[#13]	<100	<100[#13]	50	40	<50	<50	<100	-	<100
MW11/27	10/12/2014	Normal	240	-	<50	<100	-	<100	<100	240	200	<50	<50	<100	-	<100
MW11/31	6/10/2011	Normal	<20	-	<50	-	-	-	<50[#11]	-	-	-	-	-	-	-
MW11/31	19/08/2016	Normal	<20	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	100	-	<100
MW11/31	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/31	16/12/2016	Normal	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100
MW11/31	16/12/2016	Field_D	-	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100
MW11/31	29/05/2017	Normal	<20	-	<50	<100	-	<50	<50	<20	<20	<100	<100	<100	<100	<100
MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/31	25/06/2018	Normal	<20	-	110	<100	-	340	450	<20	<20	110	110	220	490	160
MW11/31	25/06/2018	Interlab_D	-	<20	100	<100	-	100	200	<20	<20	110	110	100	-	<100
MW11/31	7/12/2018	Normal	<20	-	130	<100	-	110	240	<20	<20	120	120	<100	120	<100
MW11/33	5/10/2011	Normal	<20	-	<50	-	-	-	<50[#11]	-	-	-	-	-	-	-
MW11/34	5/10/2011	Normal	<20	-	<50	-	-	-	<50[#11]	-	-	-	-	-	-	-
MW11/34	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/34	19/08/2016	Normal	<20	<20	<50	<100	-	<100	<100	<20	<20	<50	<50	<100	-	<100
MW11/38	14/06/2012	Normal	<20	-	<50	200	250[#9]	<100	200 - 275[#9]	<20	<20	<50	<50	200	-	<100
MW11/38	10/12/2012	Normal	<20	-	60	<100	<200[#12]	<100	<100 - 160[#9]	<20	<20	<50	<50	<100	-	<100
MW11/38	19/06/2013	Normal	<20	-	<50	100	150[#9]	<100	100 - 175[#9]	<20	<20	50	50	100	-	<100
MW11/38	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/38	11/12/2013	Normal	<20	-	<50	<100	<200[#12]	<100	<100[#12]	<20	<20	<50	<50	<100	-	<100
MW11/38	23/05/2014	Normal	<20	-	<50	<100	<200[#13]	<100	<100[#13]	<20	<20	<50	<50	<100	-	<100
MW11/38	10/12/2014	Normal	<20	-	80	100	-	<100	180	<20	<20	90	90	200	-	<100
MW12/16	22/03/2012	Normal	5700	-	3800	-	-	-	3800 - 4400[#11]	6800	2200	2500	2300	300	-	<100
MW12/16	22/03/2012	Field_D	5400	-	3700	-	-	-	3700 - 3900[#3]	6500	2100	2400	2200	<100	-	<100
MW12/16	20/06/2012	Normal	7500	-	2800	500	550[#9]	<100	3300 - 3350[#9]	8800	2900	2200	2000	200	-	<100
MW12/16	20/06/2012	Field_D	7200	-	2600	300	350[#9]	<100	2900 - 2950[#9]	8500	2800	1900	1700	<100	-	<100
MW12/16	20/06/2012	Interlab_D	6850	-	4100	180	205[#9]	<50	4280 - 4305[#9]	7830	3200	2440	-	<100	2440	<100
MW12/16	10/12/2012	Normal	44,000	-	22,000	5600	5650[#9]	<100	27,650 - 28,000[#9]	51,000	17,000	20,000	74,000	1500	-	<100
MW12/16	10/12/2012	Field_D	53,000	-	94,000	31,000	31,700[#9]	700	125,700 - 130,000[#9]	61,000	18,000	100,000	100,000	8700	-	300
MW12/16	10/12/2012	Interlab_D	-	97,600	1,240,000	221,000	221,025[#9]	<50	1,461,025[#9]	138,000	90,400	1,020,000	-	78,900	1,100,000	<100
MW12/16	19/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Location_Code	Sampled_Date_Time	Sample_Type	Field																
			Dissolved Oxygen	Dissolved Oxygen (Filtered)	Dissolved Oxygen (Field) (Filtered)	Electrical conductivity	Electrical Conductivity (Field)	pH	pH (Field)	Purge Volume	Redox	Redox (Field)	Temp	Temperature (Field)	Antimony	Antimony (Filtered)	Arsenic	Arsenic (Filtered)	Beryllium
			mg/L	mg/L	mg/L	µS/cm	uS/cm	pH units	pH units	L	mV	mV	oC	oC	mg/L	mg/L	mg/L	mg/L	µg/L
EQL															0.005	0.005	0.001	0.001	1
ANZG (2018) TV - Marine water (95%)															0.27[#2]	0.27[#2]			
Clyde WARP SSTL - GW VI - Commercial																			
Clyde WARP SSTL - GW VI - Construction																			
Clyde WARP SSTL - GW VI - IMW																			
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																			
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																			
NEPM (2013) - Marine Water																			
NEPM (2013) - Recreational			1000	1000					85						0.03	0.03	0.1	0.1	600
NHMRC (2019) HBGV - Recreational Water																			
W91/2	1/09/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	1/12/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	1/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	26/08/1999	Normal	-	-	-	10,616	-	6.92	-	-	-26	-	19.04	-	-	-	-	-	-
W91/2	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	1/12/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	17/12/2003	Normal	3.16	-	-	14,850	-	6.44	-	-	-18	-	21.13	-	-	-	-	-	-
W91/2	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	15/03/2005	Normal	5.05	-	-	9380	-	6.19	-	-	19	-	25.7	-	-	-	-	-	-
W91/2	2/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	14/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	23/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	30/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	3/10/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	13/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W91/2	25/02/2008	Normal	0.5	-	-	10,000	-	7.14	-	-	-176	-	23.9	-	-	-	-	-	-
W91/2	25/02/2008	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/23	6/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.037	-
MW11/23	19/08/2016	Normal	-	1.92	1.92	13,846	13,846	5.09	5.09	-	138.1	138.1	20.1	20.1	-	-	-	-	-
MW11/24	6/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.082	-
MW11/24	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/24	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/24	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/24	10/12/2013	Normal	-	1.66	1.66	14,389	14,389	4.59	4.59	7	351.7	351.7	23	23	-	-	-	-	-
MW11/24	23/05/2014	Normal	-	-	1.52	-	-	-	5.33	11	-	153.6	-	24.4	-	-	-	-	-
MW11/24	10/12/2014	Normal	-	3	3	12,290	12,290	4.78	4.78	0	281	281	24.2	24.2	-	-	-	-	-
MW11/24	19/08/2016	Normal	-	2.08	2.08	24,306	24,306	5.03	5.03	-	157	157	22.6	22.6	-	-	-	-	-
MW11/24	19/08/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/24	15/12/2016	Normal	-	-	0.77	-	14,486	-	4.92	-	-	217.7	-	20.6	-	-	-	-	-
MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/24	29/05/2017	Normal	-	-	0.87	-	9537	-	5.82	-	-	45.3	-	23.2	-	-	-	-	-
MW11/24	11/12/2017	Normal	-	-	0.6	-	15,879	-	4.86	-	-	105.7	-	25.3	-	-	-	-	-
MW11/24	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/24	25/06/2018	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/24	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/24	5/06/2019	Normal	-	-	2.32	-	14,974	-	5.27	-	-	76.3	-	21.2	-	-	-	-	-
MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001	-
MW11/24	26/11/2019	Normal	-	-	1.25	-	11,326	-	5.4	-	-	169.3	-	23.7	-	-	-	-	-
MW11/27	6/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05	-
MW11/27	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/27	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/27	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/27	10/12/2013	Normal	-	1.7	1.7	18,112	18,112	4.02	4.02	10	347.1	347.1	21.8	21.8	-	-	-	-	-
MW11/27	10/12/2013	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/27	23/05/2014	Normal	-	-	1.34	-	-	-	4.35	14	-	244.7	-	22.7	-	-	-	-	-
MW11/27	10/12/2014	Normal	-	0.97	0.97	18,730	18,730	4.06	4.06	0	340.1	340.1	23.4	23.4	-	-	-	-	-
MW11/31	6/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.018	-
MW11/31	19/08/2016	Normal	-	1.72	1.72	6339	6339	4.47	4.47	-	244.3	244.3	20.3	20.3	-	-	-	-	-
MW11/31	15/12/2016	Normal	-	-	1.47	-	3648	-	6.28	-	-	-7	-	21.4	-	-	-	-	-
MW11/31	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/31	16/12/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/31	29/05/2017	Normal	-	-	2.16	-	150	-	6.9	-	-	-45.1	-	22.1	-	-	-	-	-
MW11/31	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/31	25/06/2018	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/31	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/33	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.015	-
MW11/34	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.023	-
MW11/34	18/08/2016	Normal	-	1.68	1.68	17,825	17,825	4.25	4.25	-	287.3	287.3	21.5	21.5	-	-	-	-	-
MW11/34	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/38	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/38	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/38	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/38	9/12/2013	Normal	-	1.37	1.37	15,634	15,634	4.1	4.1	10	314.3	314.3	23.6	23.6	-	-	-	-	-
MW11/38	11/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11/38	23/05/2014	Normal	-	-	1.34	-	-	-	2.89	13	-	249.6	-	25	-	-	-	-	-
MW11/38	10/12/2014	Normal	-	0.81	0.81	13,880	13,880	3.88	3.88	0	361.7	361.7	24.5	24.5	-	-	-	-	-
MW12/16	22/03/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12/16	22/03/2012	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-
MW12/16	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12/16	20/06/2012	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12/16	20/06/2012	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12/16	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12/16	10/12/2012	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12/16	10/12/2012	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12/16	19/05/2014	Normal	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-

Monitoring_Zone	Location_Code	Sampled_Date_Time	Sample_Type	...p			TRH Silica Gel Cleanup⍰	BTEX							Naphthalene	TRH NEPM (1999)						
				TRH >C16-C34 Silica Gel Cleanup	TRH >C29-C36	TRH >C34-C40 Silica Gel Cleanup	TRH >C10-C16 Fraction SG less Naphthalene	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
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	50	100	100	1	1	1	1	2	1	1	0.05	20	20	50	100		50	50
ANZG (2018) TV - Marine water (95%)								700[#1]	180[#2]	5[#2]	350[#2]	275[#2]			70[#1]							
Clyde WARP SSTL - GW VI - Commercial								5000							13000							
Clyde WARP SSTL - GW VI - Construction								NL							NL							
Clyde WARP SSTL - GW VI - IMW								NL							NL							
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																						
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																						
NEPM (2013) - Marine Water								500							50							
NEPM (2013) - Recreational								10	8000	3000			6000									
NHMRC (2019) HBGV - Recreational Water																						
9	MW12/16	12/06/2019	Normal	<100	<50	<100	<100	832	<5[#5]	968	21	73	94	1890	150	2830	-	370	<100	-	130	500
9	MW12/17	22/03/2012	Normal	-	<100	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<0.05	<20	-	<50	-	-	-	<50[#11]
9	MW12/17	20/06/2012	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<5	<20	-	<50	<100	<200[#12]	<100	<100[#12]
9	MW12/17	10/12/2012	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<5	<20	-	70	1000	1050[#9]	<100	1100 - 1120[#9]
9	MW12/17	19/06/2013	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<20	<20	-	70	800	850[#9]	<100	900 - 920[#9]
9	MW12/17	9/12/2013	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<20	<20	-	<50	900	950[#9]	<100	900 - 975[#9]
9	MW12/17	23/05/2014	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#13]	<6[#13]	<20	<20	-	60	800	850[#13]	<100	900 - 910[#13]
9	MW12/17	10/12/2014	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	<6[#12]	<20	<20	-	<50	800	-	<100	800
9	MW12/17	19/08/2016	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10	<20	<20	240	1100	-	<100	1340
9	MW12/17	15/12/2016	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	-	<10	-	<20	240	600	-	<100	840
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	<50	<100	-	<50	<50
9	MW18/06	7/12/2018	Normal	-	-	-	-	<1	<2	<2	<2	<2	<2	<1	<5	<20	-	190	<100	-	240	430
9	MW98/9	1/07/2000	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	<40	200	250[#6]	<100	270[#6]
9	MW98/9	14/12/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/06/2001	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	<40	<100	<200[#7]	<100	<240[#7]
9	MW98/9	25/06/2001	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/12/2003	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	80	600	900[#6]	300	980[#6]
9	MW98/9	15/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/07/2004	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	<40	800	850[#6]	<100	870[#6]
9	MW98/9	1/03/2005	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	<40	<100	<200[#7]	<100	<240[#7]
9	MW98/9	1/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	14/09/2005	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	<40	341	391[#6]	<100	411[#6]
9	MW98/9	28/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	30/03/2006	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	40	167	217[#6]	<100	257[#6]
9	MW98/9	27/09/2006	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	<40	300	400[#6]	100	420[#6]
9	MW98/9	1/09/2007	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	<40	<100	<200[#7]	<100	<240[#7]
9	MW98/9	13/09/2007	Normal	-	-	-	-	<1	<1	<1	-	-	<1	<4[#7]	-	<20	-	<50	<100	<200[#7]	<100	<250[#7]
9	MW98/9	25/02/2008	Normal	-	-	-	-	<1	<1	<1	-	-	<1	<4[#7]	-	-	-	-	-	150[#6]	-	175[#6]
9	MW98/9	17/11/2008	Normal	-	-	-	-	<1	<1	<1	-	-	<1	<4[#7]	-	<20	-	<50	<100	<200[#7]	<100	<250[#7]
9	MW98/9	17/04/2009	Normal	-	-	-	-	<1	<1	<1	-	-	<1	<4[#7]	-	<20	-	<50	<100	<200[#7]	<100	<250[#7]
9	MW98/9	20/11/2009	Normal	-	-	-	-	<1	<1	<1	-	-	<1	<4[#7]	-	<20	-	<50	<100	<200[#7]	<100	<250[#7]
9	MW98/9	23/06/2010	Normal	-	-	-	-	<1	<1	<1	-	-	<3	<6[#7]	-	<20	-	<50	<100	<200[#7]	<100	<250[#7]
9	MW98/9	26/11/2010	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	-	<20	-	<50	<100	<200[#7]	<100	<250[#7]
9	MW98/9	7/06/2011	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	-	<20	-	<50	<100	<200[#7]	<100	<100[#11]
9	MW98/9	7/06/2011	Field_D	-	-	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	-	<20	-	<50	<100	<200[#7]	<100	<100[#7]
9	MW98/9	6/10/2011	Normal	-	<100	-	-	<1	<1	<1	<1	<2	<3[#7]	<6[#7]	<1	<20	-	<50	-	-	-	<50[#11]
9	MW98/9	13/06/2012	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<5	<20	-	<50	<100	<200[#12]	<100	<100[#12]
9	MW98/9	10/12/2012	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<5	<20	-	<50	<100	<200[#12]	<100	<100[#12]
9	MW98/9	19/06/2013	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<20	<20	-	<50	<100	<200[#12]	<100	<100[#12]
9	MW98/9	9/12/2013	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#12]	<6[#12]	<20	<20	-	<50	<100	<200[#12]	<100	<100[#12]
9	MW98/9	23/05/2014	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3[#13]	<6[#13]	<20	<20	-	60	<100	<200[#13]	<100	<100 - 160[#13]
9	MW98/9	8/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	10/12/2014	Normal	-	-	-	-	<1	<1	<1	<1	<2	<3	<6[#12]	<20	<20	-	<50	<100	-	<100	<100

Monitoring_Zone	Location_Code	Sampled_Date_Time	Sample_Type	TRH NEPM (2013)							Field																
				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	Dissolved Oxygen	Dissolved Oxygen (Filtered)	Dissolved Oxygen (Field) (Filtered)	Electrical conductivity	Electrical Conductivity (Field)	pH	pH (Field)	Purge Volume	Redox	Redox (Field)	Temp	Temperature (Field)	Antimony	Antimony (Filtered)	Arsenic	Arsenic (Filtered)	Beryllium
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µS/cm	uS/cm	pH units	pH units	L	mV	mV	oC	oC	mg/L	mg/L	mg/L	mg/L	µg/L
EQL				20	20	50	50	100	100	100													0.005	0.005	0.001	0.001	1
ANZG (2018) TV - Marine water (95%)																							0.27[#2]	0.27[#2]			
Clyde WARP SSTL - GW VI - Commercial					6200		NL																				
Clyde WARP SSTL - GW VI - Construction				-	NL	-	NL	-		-																	
Clyde WARP SSTL - GW VI - IMW				-	NL	-	NL	-		-																	
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																											
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																											
NEPM (2013) - Marine Water																											
NEPM (2013) - Recreational											1000	1000					85						0.03	0.03	0.1	0.1	600
NHMRC (2019) HBGV - Recreational Water																											
9	MW12/16	12/06/2019	Normal	3300	1410	400	250	140	540	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	22/03/2012	Normal	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	20/06/2012	Normal	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	10/12/2012	Normal	<20	<20	170	170	900	-	<100	-	1.63	1.63	3766	3766	7.2	7.2	10	-64.8	-64.8	22.6	22.6	-	-	-	-	-
9	MW12/17	19/06/2013	Normal	<20	<20	190	190	700	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	9/12/2013	Normal	<20	<20	130	130	900	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	23/05/2014	Normal	<20	<20	170	170	800	-	<100	-	-	2.05	-	-	-	6.89	19	-	-48.9	-	23.5	-	-	-	-	-
9	MW12/17	10/12/2014	Normal	<20	<20	130	130	800	-	<100	-	0.85	0.85	4210	4210	6.85	6.85	0	-53.7	-53.7	25.5	25.5	-	-	-	-	-
9	MW12/17	19/08/2016	Normal	<20	<20	360	360	1000	-	100	-	2.36	2.36	3805	3805	7.02	7.02	-	-77.2	-77.2	20.4	20.4	-	-	-	-	-
9	MW12/17	15/12/2016	Normal	<20	<20	190	190	500	-	<100	-	-	0.83	-	398.6	-	6.62	-	-	-62.4	-	21.3	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	<20	<20	<100	<100	<100	<100	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	7/12/2018	Normal	<20	<20	230	230	200	530	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	14/12/2000	Normal	-	-	-	-	-	-	-	2.14	-	-	10,636	-	4.29	-	-	240	-	22.98	-	-	-	-	-	-
9	MW98/9	1/06/2001	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	25/06/2001	Normal	-	-	-	-	-	-	-	-	-	-	13,426	-	4.16	-	-	300	-	21.9	-	-	-	-	-	-
9	MW98/9	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	15/12/2003	Normal	-	-	-	-	-	-	-	1.8	-	-	7919	-	4.11	-	-	234	-	24.11	-	-	-	-	-	-
9	MW98/9	1/07/2004	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/09/2005	Normal	-	-	-	-	-	-	-	3.63	-	-	9080	-	4.72	-	-	290	-	21.2	-	-	-	-	-	-
9	MW98/9	14/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	28/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-
9	MW98/9	30/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	9030	-	4.22	-	-	181	-	28	-	-	-	-	-	-
9	MW98/9	27/09/2006	Normal	-	-	-	-	-	-	-	2.18	-	-	8700	-	4.51	-	-	289	-	21.4	-	-	-	0.003	-	-
9	MW98/9	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.001	-	-
9	MW98/9	13/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	-	<0.001	-	2
9	MW98/9	25/02/2008	Normal	-	-	-	-	-	-	-	1.89	-	-	8250	-	4.13	-	-	228	-	26.5	-	-	-	0.013	-	-
9	MW98/9	17/11/2008	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.004	-	-
9	MW98/9	17/04/2009	Normal	-	-	-	-	-	-	-	2.44	-	-	6740	-	4.4	-	-	146	-	24.9	-	-	-	<0.001	-	-
9	MW98/9	20/11/2009	Normal	-	-	-	-	-	-	-	1.9	-	-	12,600	-	4.91	-	-	218	-	28.1	-	-	-	0.003	-	-
9	MW98/9	23/06/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	26/11/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.005	-	<0.005[#10]	-
9	MW98/9	7/06/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	7/06/2011	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	6/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.017	-
9	MW98/9	13/06/2012	Normal	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	10/12/2012	Normal	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	19/06/2013	Normal	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	9/12/2013	Normal	<20	<20	<50	<50	<100	-	<100	-	2.66	2.66	5546	5546	4.56	4.56	8	357.5	357.5	24.3	24.3	-	-	-	-	-
9	MW98/9	23/05/2014	Normal	<20	<20	60	60	<100	-	<100	-	-	2.08	-	-	-	4.31	9	-	237.1	-	24.1	-	-	-	-	-
9	MW98/9	8/12/2014	Normal	-	-	-	-	-	-	-	-	0.53	0.53	8.18	8.18	7.06	7.06	0	-101.1	-101.1	27.5	27.5	-	-	-	-	-
9	MW98/9	10/12/2014	Normal	<20	<20	<50	<50	<100	-	<100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary

Statistic	TRH >C16-C34 Silica Gel Cleanup	TRH >C29-C36	TRH >C34-C40 Silica Gel Cleanup	TRH >C10-C16 Fraction SG less Naphthalene	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
Number of Results	7	22	7	7	168	168	167	123	123	168	148	122	153	21	162	147	98	147	165
Number of Detects	0	1	0	0	19	9	14	9	9	15	24	9	19	1	39	53	39	24	71
Minimum Concentration	<100	<50	<100	<100	<1	<1	<1	<1	<2	<1	<1	<0.05	<20	<20	<40	<100	150	<50	<50
Minimum Detect	ND	200	ND	ND	1	44	1	21	73	1	3	116	30	97600	40	100	150	100	100
Maximum Concentration	<100	200	<100	<100	4800	20000	2880	7310	17500	24810	47640	12200	53000	97600	1240000	221000	221025	1000	1461025
Maximum Detect	ND	200	ND	ND	4800	20000	2880	7310	17500	24810	47640	12200	53000	97600	1240000	221000	221025	1000	1461025
Average Concentration	50	49	50	50	102	345	58	154	404	410	1037	93	881	4657	9184	3635	5450	91	12340
Median Concentration	50	50	50	50	0.5	0.5	0.5	0.5	1	1.5	3	2.5	10	10	25	50	100	50	120
Standard Deviation	0	36	0	0	583	2316	315	844	2099	2519	6004	710	5649	21296	97884	25219	30803	138	116396
Number of Guideline Exceedances	0	0	0	0	16	8	11	8	8	3	0	9	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	16	8	11	8	8	3	0	9	0	0	0	0	0	0	0

Statistic	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	Dissolved Oxygen	Dissolved Oxygen (Filtered)	Dissolved Oxygen (Field) (Filtered)	Electrical conductivity	Electrical Conductivity (Field)	pH	pH (Field)	Purge Volume	Redox	Redox (Field)	Temp	Temperature (Field)	Antimony	Antimony (Filtered)	Arsenic	Arsenic (Filtered)	Beryllium
Number of Results	106	106	106	104	106	27	106	20	26	51	49	43	49	51	26	49	51	49	51	2	1	16	16	2
Number of Detects	15	15	32	30	46	19	12	20	26	51	49	43	49	51	26	49	51	49	51	0	0	8	12	2
Minimum Concentration	<20	<20	<50	<50	<100	<100	<100	0.5	0	0	8.18	8.18	3.53	2.89	0	-176	-101.1	17.81	20.1	<0.005	<0.005	<0.001	<0.001	1
Minimum Detect	50	30	50	50	100	120	100	0.5	0.33	0.33	8.18	8.18	3.53	2.89	1	ND	ND	17.81	20.1	ND	ND	0.001	0.001	1
Maximum Concentration	138000	90400	1020000	100000	78900	1100000	500	5.39	3	3	38680	38680	7.2	7.2	19	361.7	361.7	28.1	27.5	<0.01	<0.005	0.013	0.082	2
Maximum Detect	138000	90400	1020000	100000	78900	1100000	500	5.39	3	3	38680	38680	7.2	7.2	19	361.7	361.7	28.1	27.5	ND	ND	0.013	0.082	2
Average Concentration	2766	1333	10923	1812	1035	41133	70	2.7	1.6	1.5	14443	14795	5.2	5.3	7	149	134	23	23			0.003	0.024	
Median Concentration	10	10	25	25	50	250	50	2.16	1.67	1.52	14389	14486	4.83	5.09	8	160.9	151.6	22.2	22.7	0.00375	0.0025	0.00075	0.019	1.5
Standard Deviation	15389	9068	99436	12129	7692	211617	70	1.5	0.79	0.7	8010	9094	1.1	1.2	5.7	145	147	2.3	1.5			0.004	0.022	
Number of Guideline Exceedances	106	3	106	104	106	0	106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	106	3	106	104	106	0	106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Comments

#1:Moderate Reliability
#2:Unknown level of species protection; Unknown Reliability
#3:High Reliability
#4:Very high Reliability
#5:Low Reliability
#6:ANZG technical draft default guideline values. Freshwater values are to be us

Data Comments

	...p			TRH Silica Gel Cleanup	BTEX							Naphthalene
	TRH >C16-C34 Silica Gel Cleanup	TRH >C29-C36	TRH >C34-C40 Silica Gel Cleanup	TRH >C10-C16 Fraction SG less Naphthalene	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	BTEX	Naphthalene
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	100	50	100	100	1	1	1	1	2	1	1	0.05
ANZG (2018) TV - Marine water (95%)					700[#1]	180[#2]	5[#2]	350[#2]	275[#2]			70[#1]
Clyde WARP SSTL - GW VI - Commercial					5000							13000
Clyde WARP SSTL - GW VI - Construction					NL							NL
Clyde WARP SSTL - GW VI - IMW					NL							NL
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)												
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)												
NEPM (2013) - Marine Water					500							50
NEPM (2013) - Recreational					10	8000	3000			6000		
NHMRC (2019) HBGV - Recreational Water												

	TRH NEPM (1999)							TRH NEPM (2013)						
	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
	µg/L	µg/L	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	20	20	50	100		50	50	20	20	50	50	100	100	100
ANZG (2018) TV - Marine water (95%)														
Clyde WARP SSTL - GW VI - Commercial									6200		NL			
Clyde WARP SSTL - GW VI - Construction								-	NL	-	NL	-		-
Clyde WARP SSTL - GW VI - IMW								-	NL	-	NL	-		-
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)														
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)														
NEPM (2013) - Marine Water														
NEPM (2013) - Recreational														
NHMRC (2019) HBGV - Recreational Water														

	Field																	
	Dissolved Oxygen	Dissolved Oxygen (Filtered)	Dissolved Oxygen (Field) (Filtered)	Electrical conductivity	Electrical Conductivity (Field)	pH	pH (Field)	Purge Volume	Redox	Redox (Field)	Temp	Temperature (Field)	Antimony	Antimony (Filtered)	Arsenic	Arsenic (Filtered)	Beryllium
	mg/L	mg/L	mg/L	µS/cm	uS/cm	pH units	pH units	L	mV	mV	oC	oC	mg/L	mg/L	mg/L	mg/L	µg/L
EQL													0.005	0.005	0.001	0.001	1
ANZG (2018) TV - Marine water (95%)													0.27[#2]	0.27[#2]			
Clyde WARP SSTL - GW VI - Commercial																	
Clyde WARP SSTL - GW VI - Construction																	
Clyde WARP SSTL - GW VI - IMW																	
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																	
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																	
NEPM (2013) - Marine Water																	
NEPM (2013) - Recreational	1000	1000					85						0.03	0.03	0.1	0.1	600
NHMRC (2019) HBGV - Recreational Water																	

Monitoring_Zone Location_Code Sampled_Date_Time Sample_Type

#1 Quantification of linear and branched isomers has been conducted as a single
#2 Combined by ESDAT using a Non-Detect Multiplier of 1. Some Analytes are m
#3 ESDAT Combined with Non-Detect Multiplier of 0.5. Some Analytes are missi
#4 ESDAT Combined. Some Analytes are missing from this Combined Compounc
#5 Reported Analyte LOR is higher than Requested Analyte LOR
#6 Combined by ESDAT using a Non-Detect Multiplier of 0.5.
#7 Combined by ESDAT using a Non-Detect Multiplier of 1.
#8 ESDAT Combined with Non-Detect Multiplier of 0.5.
#9 ESDAT Combined with Non-Detect Multiplier of 0.5.
#10 *EQL increased due to matrix interference.
#11 ChemCode changed - JRF 30.06.12
#12 ESDAT Combined.
#13 GW 2-4m bgl

				Metals																												
				Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Chromium	Chromium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium (Trivalent)	Cobalt	Cobalt (Filtered)	Copper	Copper (Filtered)	Iron	Lead	Lead (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Selenium	Selenium (Filtered)	Silver (Filtered)	Tin	Tin (Filtered)	Zinc	Zinc (Filtered)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	µg/L
EQL				50	10	0.2	0.1	1	1	1	1	1	1	1	1	1	50	1	1	0.1	0.1	5	1	1	1	1	5	0.0001	5	5	1	5
ANZG (2018) TV - Marine water (95%)						5.5[#3]	5.5[#3]	4.4[#4]|27.4[#5]	4.4[#4]|27.4[#5]				1[#3]	1[#3]	1.3[#4]	1.3[#4]		4.4[#5]	4.4[#5]	0.4[#4]	0.4[#4]			70[#3]	70[#3]			0.0014[#1]			15[#4]	15[#4]
Clyde WARP SSTL - GW VI - Commercial																																
Clyde WARP SSTL - GW VI - Construction										-	-																					
Clyde WARP SSTL - GW VI - IMW										-	-																					
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																																
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																																
NEPM (2013) - Marine Water						0.7	0.7			4.4	4.4	27	1.1	1.1	1.3	1.3		4.4	4.4	0.1	0.1			7	7			0.0014			15	15
NEPM (2013) - Recreational				40000	40000	20	20			500	500				20000	20000	3000	100	100	10	10	500	500	200	200	100	100	1			30000	30000
NHMRC (2019) HBGV - Recreational Water																																
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																													
15	MW11/22	5/10/2011	Normal	-	-	-	0.2	-	29	-	-	-	-	-	-	20	-	-	<1	-	<0.1	-	-	-	37	-	-	-	-	-	-	320
15	MW11/22	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	11/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	12/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	13/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	25/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	28/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	18/08/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	8/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	22/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	6/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Normal	-	-	-	<0.1	-	1	-	-	-	-	-	-	6	-	-	3	-	0.1	-	-	-	40	-	-	-	-	-	-	1030
15	MW11/41	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Interlab_D	-	-	-	<0.2	-	3	-	-	-	-	-	-	5	-	-	3	-	<0.1	-	-	-	40	-	-	-	-	-	-	960
15	MW11/42	5/10/2011	Normal	-	-	-	0.1	-	48	-	-	-	-	-	-	20	-	-	<1	-	<0.1	-	-	-	37	-	-	-	-	-	-	60
15	MW11/42	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	11/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	24/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	11/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	28/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	8/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	8/12/2017	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	22/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	5/10/2011	Normal	-	-	-	0.3	-	23	-	-	-	-	-	-	72	-	-	4	-	<0.1	-	-	-	320	-	-	-	-	-	-	1600
15	MW11/43	8/12/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	8/12/2011	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	26/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	25/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	16/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	15/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	23/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	28/03/2006	Normal	-	-	0.2	-	4	-	<1	-	-	-	-	8	-	-	-	-	-	-	-	-	52	-	-	-	-	-	-	259	-
15	MW94/6X	3/10/2006	Normal	-	-	0.2	-	<1	-	<1	-	-	105	-	2	-	-	2	-	-	-	-	-	44	-	-	-	-	-	-	295	-
15	MW94/6X	1/09/2007	Normal	-	-	<0.1	-	<1	-	-	-	-	25	-	3	-	-	3	-	-	-	-	-	12	-	-	-	-	-	-	41	-
15	MW94/6X	13/09/2007	Normal	-	-	<0.2	-	<1	-	<5	-	-	25	-	3	-	-	3	-	<0.1	-	<5	-	12	-	<1	-	-	<5	-	41	-
15	MW94/6X	22/02/2008	Normal	70	-	<0.2	-	<1	-	<5	-	<5	43	-	1	-	-	<1	-	<0.1	-	<5	-	38	-	40	-	-	<5	-	22	-
15	MW94/6X	13/11/2008	Normal	90	-	<0.2	-	6	-	<1	-	6	37	-	2	-	-	<1	-	<0.1	-	<5	-	26	-	10	-	-	<5	-	36	-
15	MW94/6X	17/04/2009	Normal	130	-	<0.2	-	<1	-	<1	-	<1	33	-	<1	-	-	<1	-	<0.1	-	<5	-	15	-	<1	-	-	<5	-	40	-
15	MW94/6X	17/04/2009	Field_D	130	-	<0.2	-	<1	-	<1	-	<1	33	-	<1	-	-	<1	-	<0.1	-	<5	-	16	-	<1	-	-	<5	-	40	-
15	MW94/6X	22/04/2009	Normal	-	-	-	-	<1	-	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	17/11/2009	Normal	-	-	-	-	12	-	<1	-	12	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	23/06/2010	Normal	-	-	-	-	<5	-	<1	-	<5	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	26/11/2010	Normal	-	-	-	-	<5	<1 - 1	<1	-	<5 - 1	-	-	-	-	-	<5	<1 - 2	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	7/06/2011	Normal	-	-	-	-	13	-	<5	-	13	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	6/10/2011	Normal	-	-	-	0.2	9	7	<1	-	9	-	-	-	9	-	-	<1	-	<0.1	-	-	-	20	-	-	-	-	-	-	62
15	MW94/6X	14/06/2012	Normal	-	-	-	-	-	<1	<1	-	<1	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	11/12/2012	Normal	-	-	-	-	-	<1	<1	-	<1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	25/06/2013	Normal	-	-	-	-	-	<1	<5	-	<1	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	11/12/2013	Normal	-	-	-	-	-	<1	-	<1	<1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	27/05/2014	Normal	-	-	-	-	-	<1	-	<1	<5	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/01/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/05/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-

				Microbiology		OCs																							
				Contaminant Utilising Bacteria	Standard Plate Count	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Drins	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
				ORG/ML	ORG/mL	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.01	0.01	0.01		0.01	0.5	0.01	0.01	0.01	0.01	0.05		0.01		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05
ANZG (2018) TV - Marine water (95%)						0.0005[#2]		0.003[#2]			0.001[#2]					0.0004[#2]		0.01[#2]					0.008[#1]			0.007[#2]	0.0004[#2]		0.004[#2]
Clyde WARP SSTL - GW VI - Commercial																													
Clyde WARP SSTL - GW VI - Construction																													
Clyde WARP SSTL - GW VI - IMW																													
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																													
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																													
NEPM (2013) - Marine Water																							0.004						
NEPM (2013) - Recreational									3							90										100	3		3000
NHMRC (2019) HBGV - Recreational Water																													
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																										
15	MW11/22	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	11/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	12/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	13/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	25/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	28/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	18/08/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	8/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	22/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	6/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	5/10/2011	Normal	-	-	<0.5	<0.5	<0.5	<1[#7]	<0.5	-	<0.5	<0.5	<0.5	<0.5	<2	<3[#2]	<0.5	<1.5[#7]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2
15	MW11/42	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	11/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	24/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	11/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	28/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	8/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	8/12/2017	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	22/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	5/10/2011	Normal	-	-	<0.5	<0.5	<0.5	<1[#7]	<0.5	-	<0.5	<0.5	<0.5	<0.5	<2	<3[#2]	<0.5	<1.5[#7]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2
15	MW11/43	8/12/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	8/12/2011	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	26/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	25/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	16/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	15/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	23/03/2006	Normal	-	-	-	<1	<1	<2[#7]	<1	<1	-	-	<1	<1	<1	<3[#2]	<1	<3[#7]	<1	<1	<1	<1	<1	-	<1	<1	<1	<1
15	MW94/6X	28/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	3/10/2006	Normal	-	-	-	<0.5	<0.5	<1[#7]	<0.5	-	<0.5	<0.5	<0.5	<0.5	<2	<3[#2]	<0.5	<1.5[#7]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2
15	MW94/6X	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	13/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	22/02/2008	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	13/11/2008	Normal	-	-	<0.1	<0.1	<0.1	<0.2[#7]	<0.1	<1	-	-	<0.1	<0.1	<0.1	<0.3[#2]	<0.1	<0.3[#7]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15	MW94/6X	17/04/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	17/04/2009	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	22/04/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	17/11/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	23/06/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	26/11/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	7/06/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	6/10/2011	Normal	-	-	<0.5	<0.5	<0.5	<1[#7]	<0.5	-	<0.5	<0.5	<0.5	<0.5	<2	<3[#2]	<0.5	<1.5[#7]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2
15	MW94/6X	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	11/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	25/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	11/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	27/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/01/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/05/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

				Metals																													Microbiology	
				Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Chromium	Chromium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium (Trivalent)	Cobalt	Cobalt (Filtered)	Copper	Copper (Filtered)	Iron	Lead	Lead (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Selenium	Selenium (Filtered)	Silver (Filtered)	Tin	Tin (Filtered)	Zinc	Zinc (Filtered)	Contaminant Utilising Bacteria	Standard Plate Count
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	µg/L	ORG/ML	ORG/mL
EQL				50	10	0.2	0.1	1	1	1	1	1	1	1	1	1	50	1	1	0.1	0.1	5	1	1	1	1	5	0.0001	5	5	1	5	1	1
ANZG (2018) TV - Marine water (95%)						5.5[#3]	5.5[#3]	4.4[#4]|27.4[#5]	4.4[#4]|27.4[#5]				1[#3]	1[#3]	1.3[#4]	1.3[#4]		4.4[#5]	4.4[#5]	0.4[#4]	0.4[#4]			70[#3]	70[#3]			0.0014[#1]			15[#4]	15[#4]		
Clyde WARP SSTL - GW VI - Commercial																																		
Clyde WARP SSTL - GW VI - Construction										-	-																							
Clyde WARP SSTL - GW VI - IMW										-	-																							
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																																		
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																																		
NEPM (2013) - Marine Water						0.7	0.7			4.4	4.4	27	1.1	1.1	1.3	1.3		4.4	4.4	0.1	0.1			7	7			0.0014			15	15		
NEPM (2013) - Recreational				40000	40000	20	20			500	500				20000	20000	3000	100	100	10	10	500	500	200	200	100	100	1			30000	30000		
NHMRC (2019) HBGV - Recreational Water																																		
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																															
15	W91/2	1/09/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	26/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	17/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	15/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	2/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	14/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	23/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	30/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	3/10/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	13/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	1100	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	25/02/2008	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12,000	12,000
15	W91/2	25/02/2008	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,000	6500
9	MW11/23	6/10/2011	Normal	-	-	-	0.2	100	<20	<1	-	100	-	-	-	6	-	-	<1	-	<0.1	-	-	-	77	-	-	-	-	-	-	200	-	-
9	MW11/23	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	6/10/2011	Normal	-	-	-	0.4	130	<20	<1	-	130	-	-	-	19	-	-	<1	-	<0.1	-	-	-	67	-	-	-	-	-	-	100	-	-
9	MW11/24	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/08/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	11/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	25/06/2018	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	26/11/2019	Normal	-	-	-	<0.1	-	1	-	-	-	-	-	-	2	-	-	4	-	<0.1	-	-	-	18	-	-	-	-	-	-	55	-	-
9	MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	6/10/2011	Normal	-	-	-	0.1	100	<20	<1	-	100	-	-	-	14	-	-	1	-	<0.1	-	-	-	140	-	-	-	-	-	-	260	-	-
9	MW11/27	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2013	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	6/10/2011	Normal	-	-	-	<0.1	80	<20	<1	-	80	-	-	-	6	-	-	<1	-	<0.1	-	-	-	48	-	-	-	-	-	-	200	-	-
9	MW11/31	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	16/12/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	25/06/2018	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/33	5/10/2011	Normal	-	-	-	0.5	-	9	-	-	-	-	-	-	13	-	-	3	-	<0.1	-	-	-	76	-	-	-	-	-	-	420	-	-
9	MW11/34	5/10/2011	Normal	-	-	-	0.3	-	16	-	-	-	-	-	-	57	-	-	11	-	<0.1	-	-	-	170	-	-	-	-	-	-	1000	-	-
9	MW11/34	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/34	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	11/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	22/03/2012	Normal	-	-	-	-	-	<1	<1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	22/03/2012	Field_D	-	-	-	0.2	-	<1	<1	-	<1	-	-	-	<1	-	-	<1	-	<0.1	-	<1	-	20	-	<5	<0.0001	-	<5	-	43	-	-
9	MW12/16	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	20/06/2012	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	20/06/2012	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	10/12/2012	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	10/12/2012	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	19/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

				OCs																							
				4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Drins	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.5	0.01	0.01	0.01	0.01	0.05		0.01		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05
ANZG (2018) TV - Marine water (95%)				0.0005[#2]		0.003[#2]			0.001[#2]					0.0004[#2]		0.01[#2]					0.008[#1]			0.007[#2]	0.0004[#2]		0.004[#2]
Clyde WARP SSTL - GW VI - Commercial																											
Clyde WARP SSTL - GW VI - Construction																											
Clyde WARP SSTL - GW VI - IMW																											
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																											
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																											
NEPM (2013) - Marine Water																					0.004						
NEPM (2013) - Recreational							3							90										100	3		3000
NHMRC (2019) HBGV - Recreational Water																											
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																								
15	W91/2	1/09/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	26/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	17/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	15/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	2/09/2005	Normal	-	<1	<1	<2[#7]	<1	<1	-	-	<1	<1	<1	<3[#2]	<1	<3[#7]	<1	<1	<1	<1	<1	-	<1	<1	<1	<1
15	W91/2	14/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	23/03/2006	Normal	-	<1	<1	<2[#7]	<1	<1	-	-	<1	<1	<1	<3[#2]	<1	<3[#7]	<1	<1	<1	<1	<1	-	<1	<1	<1	<1
15	W91/2	30/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	3/10/2006	Normal	-	<0.5	<0.5	<1[#7]	<0.5	-	<0.5	<0.5	<0.5	<0.5	<2	<3[#2]	<0.5	<1.5[#7]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2
15	W91/2	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	13/09/2007	Normal	<0.1	<0.1	<0.1	<0.2[#7]	<0.1	<2	-	-	<0.1	<0.1	<0.1	<0.3[#2]	<0.1	<0.3[#7]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15	W91/2	25/02/2008	Normal	<0.1	<0.1	<0.1	<0.2[#7]	<0.1	<1	-	-	<0.1	<0.1	<0.1	<0.3[#2]	<0.1	<0.3[#7]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
15	W91/2	25/02/2008	Field_D	<0.1	<0.1	<0.1	<0.2[#7]	<0.1	<1	-	-	<0.1	<0.1	<0.1	<0.3[#2]	<0.1	<0.3[#7]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
9	MW11/23	6/10/2011	Normal	<0.5	<0.5	<0.5	<1[#7]	<0.5	-	<0.5	<0.5	<0.5	<0.5	<2	<3[#2]	<0.5	<1.5[#7]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2
9	MW11/23	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	6/10/2011	Normal	<0.5	<0.5	<0.5	<1[#7]	<0.5	-	<0.5	<0.5	<0.5	<0.5	<2	<3[#2]	<0.5	<1.5[#7]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2
9	MW11/24	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/08/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	11/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	25/06/2018	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	6/10/2011	Normal	<0.5	<0.5	<0.5	<1[#7]	<0.5	-	<0.5	<0.5	<0.5	<0.5	<2	<3[#2]	<0.5	<1.5[#7]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2
9	MW11/27	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2013	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	6/10/2011	Normal	<0.5	<0.5	<0.5	<1[#7]	<0.5	-	<0.5	<0.5	<0.5	<0.5	<2	<3[#2]	<0.5	<1.5[#7]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2
9	MW11/31	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	16/12/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	25/06/2018	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/33	5/10/2011	Normal	<0.5	<0.5	<0.5	<1[#7]	<0.5	-	<0.5	<0.5	<0.5	<0.5	<2	<3[#2]	<0.5	<1.5[#7]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2
9	MW11/34	5/10/2011	Normal	<0.5	<0.5	<0.5	<1[#7]	<0.5	-	<0.5	<0.5	<0.5	<0.5	<2	<3[#2]	<0.5	<1.5[#7]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2
9	MW11/34	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/34	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	11/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	22/03/2012	Normal	<0.01	<0.01	<0.01	<0.02[#12]	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.07[#4]	<0.01	<0.03[#12]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
9	MW12/16	22/03/2012	Field_D	<0.01	<0.01	<0.01	<0.02[#12]	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.05	<0.07[#4]	<0.01	<0.03[#12]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
9	MW12/16	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	20/06/2012	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	20/06/2012	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	10/12/2012	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	10/12/2012	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	19/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

				Metals																								
				Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Chromium	Chromium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium (Trivalent)	Cobalt	Cobalt (Filtered)	Copper	Copper (Filtered)	Iron	Lead	Lead (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Selenium	Selenium (Filtered)	Silver (Filtered)	Tin	Tin (Filtered)	Zinc	Zinc (Filtered)
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	µg/L
EQL				50	10	0.2	0.1	1	1	1	1	1	1	1	1	1	50	1	1	0.1	0.1	5	1	1	1	1	5	0.0001	5	5	1	5
ANZG (2018) TV - Marine water (95%)						5.5[#3]	5.5[#3]	4.4[#4]|27.4[#5]	4.4[#4]|27.4[#5]				1[#3]	1[#3]	1.3[#4]	1.3[#4]		4.4[#5]	4.4[#5]	0.4[#4]	0.4[#4]			70[#3]	70[#3]			0.0014[#1]			15[#4]	15[#4]
Clyde WARP SSTL - GW VI - Commercial																																
Clyde WARP SSTL - GW VI - Construction										-	-																					
Clyde WARP SSTL - GW VI - IMW										-	-																					
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																																
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																																
NEPM (2013) - Marine Water						0.7	0.7			4.4	4.4	27	1.1	1.1	1.3	1.3		4.4	4.4	0.1	0.1			7	7			0.0014			15	15
NEPM (2013) - Recreational				40000	40000	20	20			500	500				20000	20000	3000	100	100	10	10	500	500	200	200	100	100	1			30000	30000
NHMRC (2019) HBGV - Recreational Water																																
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																													
9	MW12/16	12/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	22/03/2012	Normal	-	-	-	-	-	<1	1	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	14/12/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/06/2001	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	25/06/2001	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	15/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/07/2004	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	14/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	28/03/2006	Normal	-	-	<0.1	-	2	-	<1	-	-	-	-	7	-	-	-	-	-	-	-	-	22	-	-	-	-	-	-	434	-
9	MW98/9	30/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	27/09/2006	Normal	-	-	<0.1	-	<1	-	<1	-	-	31	-	5	-	-	1	-	-	-	-	-	17	-	-	-	-	-	-	206	-
9	MW98/9	1/09/2007	Normal	-	-	<0.1	-	<1	-	-	-	-	16	-	3	-	-	5	-	-	-	-	-	9	-	-	-	-	-	-	39	-
9	MW98/9	13/09/2007	Normal	-	-	<0.2	-	<1	-	-	-	-	16	-	3	-	-	5	-	<0.1	-	<5	-	9	-	12	-	-	<5	-	39	-
9	MW98/9	25/02/2008	Normal	<50	-	<0.2	-	<1	-	<5	-	<5	26	-	6	-	-	3	-	<0.1	-	<5	-	12	-	28	-	-	<5	-	83	-
9	MW98/9	17/11/2008	Normal	<50	-	<0.2	-	<1	-	<1	-	<1	11	-	2	-	-	2	-	<0.1	-	<5	-	7	-	<1	-	-	<5	-	26	-
9	MW98/9	17/04/2009	Normal	<50	-	<0.2	-	<1	-	<1	-	<1	21	-	5	-	-	2	-	<0.1	-	<5	-	11	-	<1	-	-	<5	-	59	-
9	MW98/9	20/11/2009	Normal	<50	-	<0.2	-	10	-	10	-	<1	19	-	4	-	-	2	-	<0.1	-	<5	-	11	-	12	-	-	<5	-	44	-
9	MW98/9	23/06/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	26/11/2010	Normal	-	60	-	<0.1	-	2	-	-	-	-	35	-	65	-	-	2	-	<0.1	-	<1	-	22	-	<5	-	-	-	-	100
9	MW98/9	7/06/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	7/06/2011	Field_D	-	-	-	-	13	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	6/10/2011	Normal	-	-	-	<0.1	28	8	<1	-	28	-	-	-	11	-	-	1	-	<0.1	-	-	-	19	-	-	-	-	-	-	80
9	MW98/9	13/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	8/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																																
Number of Results				8	1	16	16	28	24	30	2	27	14	1	16	16	1	47	75	10	16	10	2	16	16	10	2	1	10	1	16	16
Number of Detects				4	1	2	10	13	12	2	0	10	14	1	14	15	1	25	43	0	1	0	0	16	16	5	0	0	0	0	16	16
Minimum Concentration				<50	60	<0.1	<0.1	<1	<1	<1	<1	<1	11	35	<1	<1	1100	<1	<1	<0.1	<0.1	<5	<1	7	18	<1	<5	<0.0001	<5	<5	22	43
Minimum Detect				70	60	0.2	0.1	2	1	1	ND	6	11	35	1	2	1100	1	1	ND	0.1	ND	ND	7	18	10	ND	ND	ND	ND	22	43
Maximum Concentration				130	60	0.2	0.5	130	48	10	<1	130	105	35	8	72	1100	25	27	<0.1	0.1	<5	<1	52	320	40	<5	<0.0001	<5	<5	434	1600
Maximum Detect				130	60	0.2	0.5	130	48	10	ND	130	105	35	8	72	1100	25	27	ND	0.1	ND	ND	52	320	40	ND	ND	ND	ND	434	1600
Average Concentration				65		0.1	0.18	19	8	1.2		18	32		3.4	20		3	3.7	0.05	0.053	2.5		20	72	10			2.5		107	406
Median Concentration				47.5	60	0.1	0.15	2.25	2.5	0.5	0.5	1.75	25.5	35	3	12	1100	2	1.25	0.05	0.05	2.5	0.5	13.5	40	5.25	2.5	0.00005	2.5	2.5	41	200
Standard Deviation				47		0.045	0.14	36	11	1.8		37	23		2.2	23		4.6	5.8	0	0.013	0		14	79	14			0		123	474
Number of Guideline Exceedances				0	0	0	0	5	2	6	0	5	14	1	13	15	0	9	18	0	1	0	0	16	16	0	0	0	0	0	16	16
Number of Guideline Exceedances(Detects Only)				0	0	0	0	5	2	1	0	5	14	1	13	15	0	7	18	0	1	0	0	16	16	0	0	0	0	0	16	16

				Microbiology		OCs																							
				Contaminant Utilising Bacteria	Standard Plate Count	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Drins	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
				ORG/ML	ORG/mL	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.01	0.01	0.01		0.01	0.5	0.01	0.01	0.01	0.01	0.05		0.01		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05
ANZG (2018) TV - Marine water (95%)						0.0005[#2]		0.003[#2]			0.001[#2]					0.0004[#2]		0.01[#2]					0.008[#1]			0.007[#2]	0.0004[#2]		0.004[#2]
Clyde WARP SSTL - GW VI - Commercial																													
Clyde WARP SSTL - GW VI - Construction																													
Clyde WARP SSTL - GW VI - IMW																													
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																													
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																													
NEPM (2013) - Marine Water																							0.004						
NEPM (2013) - Recreational									3							90										100	3		3000
NHMRC (2019) HBGV - Recreational Water																													
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																										
9	MW12/16	12/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	22/03/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	14/12/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/06/2001	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	25/06/2001	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	15/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/07/2004	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/09/2005	Normal	-	-	-	<1	<1	<2[#7]	<1	<1	-	-	<1	<1	<1	<3[#2]	<1	<3[#7]	<1	<1	<1	<1	<1	-	<1	<1	<1	<1
9	MW98/9	14/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	28/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	30/03/2006	Normal	-	-	-	<1	<1	<2[#7]	<1	<1	-	-	<1	<1	<1	<3[#2]	<1	<3[#7]	<1	<1	<1	<1	<1	-	<1	<1	<1	<1
9	MW98/9	27/09/2006	Normal	-	-	-	<0.5	<0.5	<1[#7]	<0.5	-	<0.5	<0.5	<0.5	<0.5	<2	<3[#2]	<0.5	<1.5[#7]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2
9	MW98/9	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	13/09/2007	Normal	-	-	<0.1	<0.1	<0.1	<0.2[#7]	<0.1	<2	-	-	<0.1	<0.1	<0.1	<0.3[#2]	<0.1	<0.3[#7]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
9	MW98/9	25/02/2008	Normal	-	-	<0.1	<0.1	<0.1	<0.2[#7]	<0.1	<1	-	-	<0.1	<0.1	<0.1	<0.3[#2]	<0.1	<0.3[#7]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
9	MW98/9	17/11/2008	Normal	-	-	<0.1	<0.1	<0.1	<0.2[#7]	<0.1	<1	-	-	<0.1	<0.1	<0.1	<0.3[#2]	<0.1	<0.3[#7]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
9	MW98/9	17/04/2009	Normal	-	-	<0.1	<0.1	<0.1	<0.2[#7]	<0.1	<1	-	-	<0.1	<0.1	<0.1	<0.3[#2]	<0.1	<0.3[#7]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
9	MW98/9	20/11/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	23/06/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	26/11/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	7/06/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	7/06/2011	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	6/10/2011	Normal	-	-	<0.5	<0.5	<0.5	<1[#7]	<0.5	-	<0.5	<0.5	<0.5	<0.5	<2	<3[#2]	<0.5	<1.5[#7]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2
9	MW98/9	13/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	8/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																													
Number of Results				2	2	20	28	28	28	28	13	15	15	28	28	28	28	28	28	28	28	28	28	28	23	28	28	28	28
Number of Detects				2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration				12000	6500	<0.01	<0.01	<0.01	<0.02	<0.01	<1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.07	<0.01	<0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Minimum Detect				12000	6500	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				20000	12000	<0.5	<1	<1	<2	<1	<2	<0.5	<0.5	<1	<1	<2	<3	<1	<3	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<2
Maximum Detect				20000	12000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration						0.15	0.22	0.22	0.44	0.22	0.58	0.22	0.22	0.22	0.22	0.57	1	0.22	0.66	0.22	0.22	0.22	0.22	0.22	0.16	0.22	0.22	0.22	0.57
Median Concentration				16000	9250	0.15	0.25	0.25	0.5	0.25	0.5	0.25	0.25	0.25	0.25	0.5	1.5	0.25	0.75	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5
Standard Deviation						0.11	0.16	0.16	0.33	0.16	0.19	0.086	0.086	0.16	0.16	0.44	0.67	0.16	0.49	0.16	0.16	0.16	0.16	0.16	0.11	0.16	0.16	0.16	0.44
Number of Guideline Exceedances				0	0	20	0	28	0	0	13	0	0	0	0	28	0	26	0	0	0	0	28	0	0	28	28	0	28
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

Env Stds Comments

#1:Moderate Reliability
#2:Unknown level of species protection; Unknown Reliability
#3:High Reliability
#4:Very high Reliability
#5:Low Reliability
#6:ANZG technical draft default guideline values. Freshwater values are to be us

Data Comments

	Metals																												
	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Chromium	Chromium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium (Trivalent)	Cobalt	Cobalt (Filtered)	Copper	Copper (Filtered)	Iron	Lead	Lead (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Selenium	Selenium (Filtered)	Silver (Filtered)	Tin	Tin (Filtered)	Zinc	Zinc (Filtered)
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	µg/L
EQL	50	10	0.2	0.1	1	1	1	1	1	1	1	1	1	50	1	1	0.1	0.1	5	1	1	1	1	5	0.0001	5	5	1	5
ANZG (2018) TV - Marine water (95%)			5.5[#3]	5.5[#3]	4.4[#4]|27.4[#5]	4.4[#4]|27.4[#5]				1[#3]	1[#3]	1.3[#4]	1.3[#4]		4.4[#5]	4.4[#5]	0.4[#4]	0.4[#4]			70[#3]	70[#3]			0.0014[#1]			15[#4]	15[#4]
Clyde WARP SSTL - GW VI - Commercial																													
Clyde WARP SSTL - GW VI - Construction							-	-																					
Clyde WARP SSTL - GW VI - IMW							-	-																					
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																													
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																													
NEPM (2013) - Marine Water			0.7	0.7			4.4	4.4	27	1.1	1.1	1.3	1.3		4.4	4.4	0.1	0.1			7	7			0.0014			15	15
NEPM (2013) - Recreational	40000	40000	20	20			500	500				20000	20000	3000	100	100	10	10	500	500	200	200	100	100	1			30000	30000
NHMRC (2019) HBGV - Recreational Water																													

	Microbiology		OCs																							
	Contaminant Utilising Bacteria	Standard Plate Count	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Drins	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor
	ORG/ML	ORG/mL	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.01	0.01	0.01		0.01	0.5	0.01	0.01	0.01	0.01	0.05		0.01		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05
ANZG (2018) TV - Marine water (95%)			0.0005[#2]		0.003[#2]			0.001[#2]					0.0004[#2]		0.01[#2]					0.008[#1]			0.007[#2]	0.0004[#2]		0.004[#2]
Clyde WARP SSTL - GW VI - Commercial																										
Clyde WARP SSTL - GW VI - Construction																										
Clyde WARP SSTL - GW VI - IMW																										
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																										
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																										
NEPM (2013) - Marine Water																				0.004						
NEPM (2013) - Recreational						3							90										100	3		3000
NHMRC (2019) HBGV - Recreational Water																										

Monitoring_Zone Location_Code Sampled_Date_Time Sample_Type

#1 Quantification of linear and branched isomers has been conducted as a single
#2 Combined by ESDAT using a Non-Detect Multiplier of 1. Some Analytes are m
#3 ESDAT Combined with Non-Detect Multiplier of 0.5. Some Analytes are missi
#4 ESDAT Combined. Some Analytes are missing from this Combined Compounc
#5 Reported Analyte LOR is higher than Requested Analyte LOR
#6 Combined by ESDAT using a Non-Detect Multiplier of 0.5.
#7 Combined by ESDAT using a Non-Detect Multiplier of 1.
#8 ESDAT Combined with Non-Detect Multiplier of 0.5.
#9 ESDAT Combined with Non-Detect Multiplier of 0.5.
#10 *EQL increased due to matrix interference.
#11 ChemCode changed - JRF 30.06.12
#12 ESDAT Combined.
#13 GW 2-4m bgl

OPs

Monitoring_Zone	Location_Code	Sampled_Date_Time	Sample_Type	Toxaphene	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Demeton (total)	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Fenamiphos	Fenitrothion	Fenthion	Malathion	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Parathion	Phorate	Pirimphos-ethyl	Prothiofos	Ronnel	Stirophos	Temephos	Trichloronate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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				0.5	0.5				0.1	1	0.2		0.1	0.1	0.1	0.1	2		0.1	0.1	0.1	0.1	0.1	20	0.1	0.1		0.1	0.1	2	1	0.1
ANZG (2018) TV - Marine water (95%)				0.0006[#2]	0.01[#2]				0.009[#5]			4[#2]	0.01[#2]		0.15[#2]				0.001[#2]		0.05[#2]				0.004[#2]						0.05[#1]	
Clyde WARP SSTL - GW VI - Commercial																																
Clyde WARP SSTL - GW VI - Construction																																
Clyde WARP SSTL - GW VI - IMW																																
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																																
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																																
NEPM (2013) - Marine Water									0.009																						0.05	
NEPM (2013) - Recreational					300	100			100				40	50	70	40	40	5	70	70	700	7	50	20	200		5				4000	
NHMRC (2019) HBGV - Recreational Water																																
15	MW11/22	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	11/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	12/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	13/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	25/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	28/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	18/08/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	8/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	22/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	6/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	5/10/2011	Normal	-	<2	-	-	-	<2	-	<4	-	<2	<2	<2	<2	-	-	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	-	<2
15	MW11/42	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	11/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	24/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	11/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	28/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	8/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	8/12/2017	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	22/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	5/10/2011	Normal	-	<2	-	-	-	<2	-	<4	-	<2	<2	<2	<2	-	-	<2	<2	<2	<2	<2	<20	<2	<2	-	<2	<2	<2	-	<2
15	MW11/43	8/12/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	8/12/2011	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	26/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	25/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	16/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	15/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	23/03/2006	Normal	<1	<10	-	-	-	<10	<10	-	<10	<10	<10	-	<10	<10	-	<10	<10	<10	<10	<10	-	-	<10	-	<10	<10	<10	-	-
15	MW94/6X	28/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	3/10/2006	Normal	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<2	-	<2	<2	-	<0.5	<0.5	-	-	-	-
15	MW94/6X	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	13/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	22/02/2008	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	13/11/2008	Normal	<1	<2	-	-	-	<2	<1	-	-	<2	-	<1	-	<2	-	<2	<2	<1	<2	-	-	-	-	-	-	<2	-	-	-
15	MW94/6X	17/04/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	17/04/2009	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	22/04/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	17/11/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	23/06/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	26/11/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	7/06/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	6/10/2011	Normal	-	<2	-	-	-	<2	-	<4	-	<2	<2	<2	<2	-	-	<2	<2	<2	<2	<2	<20	<2	<2	-	<2	<2	<2	-	<2
15	MW94/6X	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	11/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	25/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	11/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	27/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/01/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/05/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Organic

Monitoring_Zone	Location_Code	Sampled_Date_Time	Sample_Type	Perfluorononanesulfonic acid (PFNS)	Perfluoropropanesulfonic acid (PFPrS)	Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	Sum of US EPA PFAS (PFOS + PFOA)*
				UG/L	UG/L	µg/L	µg/L
EQL				0.01	0.01	0.01	0.01
ANZG (2018) TV - Marine water (95%)							
Clyde WARP SSTL - GW VI - Commercial							
Clyde WARP SSTL - GW VI - Construction							
Clyde WARP SSTL - GW VI - IMW							
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)							
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)							
NEPM (2013) - Marine Water							
NEPM (2013) - Recreational							
NHMRC (2019) HBGV - Recreational Water							
15	MW11/22	5/10/2011	Normal	-	-	-	-
15	MW11/22	10/12/2012	Normal	-	-	-	-
15	MW11/22	9/12/2013	Normal	-	-	-	-
15	MW11/22	11/12/2014	Normal	-	-	-	-
15	MW11/22	19/08/2016	Normal	-	-	-	-
15	MW11/22	12/06/2019	Normal	-	-	-	-
15	MW11/41	5/10/2011	Normal	-	-	-	-
15	MW11/41	14/06/2012	Normal	-	-	-	-
15	MW11/41	13/12/2012	Normal	-	-	-	-
15	MW11/41	25/06/2013	Normal	-	-	-	-
15	MW11/41	10/12/2013	Normal	-	-	-	-
15	MW11/41	28/05/2014	Normal	-	-	-	-
15	MW11/41	10/12/2014	Normal	-	-	-	-
15	MW11/41	18/08/2016	Normal	-	-	-	-
15	MW11/41	18/08/2016	Field_D	-	-	-	-
15	MW11/41	16/12/2016	Normal	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-
15	MW11/41	8/12/2017	Normal	-	-	-	-
15	MW11/41	22/06/2018	Normal	-	-	-	-
15	MW11/41	6/12/2018	Normal	-	-	-	-
15	MW11/41	5/06/2019	Normal	-	-	-	-
15	MW11/41	5/06/2019	Normal	-	-	-	-
15	MW11/41	20/11/2019	Normal	-	-	-	-
15	MW11/41	20/11/2019	Normal	-	-	-	-
15	MW11/41	20/11/2019	Interlab_D	<0.01	<0.01	0.01	0.01
15	MW11/42	5/10/2011	Normal	-	-	-	-
15	MW11/42	14/06/2012	Normal	-	-	-	-
15	MW11/42	11/12/2012	Normal	-	-	-	-
15	MW11/42	24/06/2013	Normal	-	-	-	-
15	MW11/42	11/12/2013	Normal	-	-	-	-
15	MW11/42	28/05/2014	Normal	-	-	-	-
15	MW11/42	10/12/2014	Normal	-	-	-	-
15	MW11/42	18/08/2016	Normal	-	-	-	-
15	MW11/42	19/08/2016	Normal	-	-	-	-
15	MW11/42	15/12/2016	Normal	-	-	-	-
15	MW11/42	16/12/2016	Normal	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-
15	MW11/42	8/12/2017	Normal	-	-	-	-
15	MW11/42	8/12/2017	Field_D	-	-	-	-
15	MW11/42	22/06/2018	Normal	-	-	-	-
15	MW11/43	5/10/2011	Normal	-	-	-	-
15	MW11/43	8/12/2011	Normal	-	-	-	-
15	MW11/43	8/12/2011	Field_D	-	-	-	-
15	MW11/43	18/08/2016	Normal	-	-	-	-
15	MW11/43	19/08/2016	Normal	-	-	-	-
15	MW11/43	16/12/2016	Normal	-	-	-	-
15	MW94/6X	1/08/1999	Normal	-	-	-	-
15	MW94/6X	26/08/1999	Normal	-	-	-	-
15	MW94/6X	1/07/2000	Normal	-	-	-	-
15	MW94/6X	25/07/2000	Normal	-	-	-	-
15	MW94/6X	1/12/2003	Normal	-	-	-	-
15	MW94/6X	16/12/2003	Normal	-	-	-	-
15	MW94/6X	1/03/2005	Normal	-	-	-	-
15	MW94/6X	15/03/2005	Normal	-	-	-	-
15	MW94/6X	23/03/2006	Normal	-	-	-	-
15	MW94/6X	28/03/2006	Normal	-	-	-	-
15	MW94/6X	3/10/2006	Normal	-	-	-	-
15	MW94/6X	1/09/2007	Normal	-	-	-	-
15	MW94/6X	13/09/2007	Normal	-	-	-	-
15	MW94/6X	22/02/2008	Normal	-	-	-	-
15	MW94/6X	13/11/2008	Normal	-	-	-	-
15	MW94/6X	17/04/2009	Normal	-	-	-	-
15	MW94/6X	17/04/2009	Field_D	-	-	-	-
15	MW94/6X	22/04/2009	Normal	-	-	-	-
15	MW94/6X	17/11/2009	Normal	-	-	-	-
15	MW94/6X	23/06/2010	Normal	-	-	-	-
15	MW94/6X	26/11/2010	Normal	-	-	-	-
15	MW94/6X	7/06/2011	Normal	-	-	-	-
15	MW94/6X	6/10/2011	Normal	-	-	-	-
15	MW94/6X	14/06/2012	Normal	-	-	-	-
15	MW94/6X	11/12/2012	Normal	-	-	-	-
15	MW94/6X	25/06/2013	Normal	-	-	-	-
15	MW94/6X	11/12/2013	Normal	-	-	-	-
15	MW94/6X	27/05/2014	Normal	-	-	-	-
15	W91/2	1/01/1993	Normal	-	-	-	-
15	W91/2	1/05/1993	Normal	-	-	-	-

PAH/Phenols

Monitoring_Zone	Location_Code	Sampled_Date_Time	Sample_Type	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(a)pyrene TEQ (WHO)	Benzo(b)&(k)fluoranthene	Benzo(b)fluoranthene	Benzo(b&j)fluoranthene (TEF 0.1)	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzo[b]fluoranthene+Benzo[j]fluoranthene	Chrysene	Dibenz(a,h)anthracene	Dinoseb	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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				0.5	1	1	1	30	1	1	1	1	2	30	1	30	0.05	0.05	0.05	0.05	0.01	0.5	0.05	1	1	0.05	1	1	0.05	0.05	100	0.05	0.05	0.05
ANZG (2018) TV - Marine water (95%)				4[#2]	3[#2]	120[#2]	2[#2]	45[#2]	34[#2]	340[#2]		2[#2]				58[#2]			0.1[#2]		0.1[#2]											1[#2]		
Clyde WARP SSTL - GW VI - Commercial																																		
Clyde WARP SSTL - GW VI - Construction																						-												
Clyde WARP SSTL - GW VI - IMW																						-												
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																																		
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																																		
NEPM (2013) - Marine Water																																		
NEPM (2013) - Recreational					200	2000				3000																								
NHMRC (2019) HBGV - Recreational Water																																		
15	MW11/22	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	11/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	12/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	13/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	25/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	28/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	18/08/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	8/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	22/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	6/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	5/10/2011	Normal	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	<1	<1
15	MW11/42	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	11/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	24/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	11/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	28/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	8/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	8/12/2017	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	22/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	5/10/2011	Normal	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-	<1	<1	<1	20	10	-	20	-	-	<1	-	-	30	<1	-	20	30	<1
15	MW11/43	8/12/2011	Normal	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	<1	<1
15	MW11/43	8/12/2011	Field_D	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	<1	<1
15	MW11/43	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	26/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	25/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	16/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	15/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	23/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	28/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	3/10/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	13/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	22/02/2008	Normal	-	<1	<1	<1	-	<1	<1	<1	<5	<2	-	<1	-	<1	<1	<1	<1	<1	-	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
15	MW94/6X	13/11/2008	Normal	-	<1	<1	<1	-	<1	<1	<1	<5	<2	-	<1	-	<1	<1	<1	<1	<1	-	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
15	MW94/6X	17/04/2009	Normal	-	<2	<2	<2	-	<2	<2	<2	<5	<2	-	<2	-	<1	<1	<1	<1	<1	-	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
15	MW94/6X	17/04/2009	Field_D	-	<2	<2	<2	-	<2	<2	<2	<5	<2	-	<2	-	<1	<1	<1	<1	<1	-	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
15	MW94/6X	22/04/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	17/11/2009	Normal	-	<2	<2	<2	-	<2	<2	<2	<5	<2	-	<2	-	<1	<1	<1	<1	<1	-	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
15	MW94/6X	23/06/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	26/11/2010	Normal	-	<10	<1	<1	-	<3	<3	<3	<5	<6	-	<10	-	<1	<1	<1	<1	<1	-	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
15	MW94/6X	7/06/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	6/10/2011	Normal	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	<1	<1
15	MW94/6X	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	11/12/2012	Normal	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	<1	<1
15	MW94/6X	25/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	11/12/2013	Normal	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-	<1	<1	<1	<1	<1	-	-	-	<1	<1	<1	-	<1	<1	-	<1	<1	<1
15	MW94/6X	27/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/01/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/05/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ERM

Monitoring_Zone	Location_Code	Sampled_Date_Time	Sample_Type	Toxaphene	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Demeton (total)	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Fenamiphos	Fenitrothion	Fenthion	Malathion	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Parathion	Phorate	Pirimphos-ethyl	Prothiofos	Ronnel	Stirophos	Temephos	Trichloronate
					OPs																											
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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				0.5	0.5				0.1	1	0.2		0.1	0.1	0.1	0.1	2		0.1	0.1	0.1	0.1	0.1	20	0.1	0.1		0.1	0.1	2	1	0.1
ANZG (2018) TV - Marine water (95%)				0.0006[#2]	0.01[#2]				0.009[#5]			4[#2]	0.01[#2]		0.15[#2]				0.001[#2]		0.05[#2]				0.004[#2]						0.05[#1]	
Clyde WARP SSTL - GW VI - Commercial																																
Clyde WARP SSTL - GW VI - Construction																																
Clyde WARP SSTL - GW VI - IMW																																
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																																
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																																
NEPM (2013) - Marine Water									0.009																						0.05	
NEPM (2013) - Recreational					300	100			100				40	50	70	40	40	5	70	70	700	7	50	20	200		5				4000	
NHMRC (2019) HBGV - Recreational Water																																
15	W91/2	1/09/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	26/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	17/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	15/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	2/09/2005	Normal	<1	<10	-	-	-	<10	<10	-	<10	<10	<10	-	<10	<10	-	<10	<10	<10	<10	<10	-	-	<10	-	<10	<10	<10	-	-
15	W91/2	14/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	23/03/2006	Normal	<1	<10	-	-	-	<10	<10	-	<10	<10	<10	-	<10	<10	-	<10	<10	<10	<10	<10	-	-	<10	-	<10	<10	<10	-	-
15	W91/2	30/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	3/10/2006	Normal	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<2	-	<2	<2	-	<0.5	<0.5	-	-	-	-
15	W91/2	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	13/09/2007	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	25/02/2008	Normal	<1	<2	-	-	-	<2	<1	-	-	<2	-	<1	-	<2	-	<2	<2	<1	<2	-	-	<1	-	-	-	<2	-	<1	-
15	W91/2	25/02/2008	Field_D	<1	<2	-	-	-	<2	<1	-	-	<2	-	<1	-	<2	-	<2	<2	<1	<2	-	-	<1	-	-	-	<2	-	<1	-
9	MW11/23	6/10/2011	Normal	-	<2	-	-	-	<2	-	<4	-	<2	<2	<2	<2	-	-	<2	<2	<2	<2	<2	<20	<2	<2	-	<2	<2	<2	-	<2
9	MW11/23	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	6/10/2011	Normal	-	<2	-	-	-	<2	-	<4	-	<2	<2	<2	<2	-	-	<2	<2	<2	<2	<2	<20	<2	<2	-	<2	<2	<2	-	<2
9	MW11/24	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/08/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	11/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	25/06/2018	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	6/10/2011	Normal	-	<2	-	-	-	<2	-	<4	-	<2	<2	<2	<2	-	-	<2	<2	<2	<2	<2	<20	<2	<2	-	<2	<2	<2	-	<2
9	MW11/27	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2013	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	6/10/2011	Normal	-	<2	-	-	-	<2	-	<4	-	<2	<2	<2	<2	-	-	<2	<2	<2	<2	<2	<20	<2	<2	-	<2	<2	<2	-	<2
9	MW11/31	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	16/12/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	25/06/2018	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/33	5/10/2011	Normal	-	<2	-	-	-	<2	-	<4	-	<2	<2	<2	<2	-	-	<2	<2	<2	<2	<2	<20	<2	<2	-	<2	<2	<2	-	<2
9	MW11/34	5/10/2011	Normal	-	<2	-	-	-	<2	-	<4	-	<2	<2	<2	<2	-	-	<2	<2	<2	<2	<2	<20	<2	<2	-	<2	<2	<2	-	<2
9	MW11/34	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/34	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	11/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	22/03/2012	Normal	-	<0.5	-	-	-	<0.1	-	<0.2	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<20	<0.1	<0.1	-	<0.1	<0.1	<2	-	<0.1
9	MW12/16	22/03/2012	Field_D	-	<0.5	-	-	-	<0.1	-	<0.2	-	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<20	<0.1	<0.1	-	<0.1	<0.1	<2	-	<0.1
9	MW12/16	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	20/06/2012	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	20/06/2012	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	10/12/2012	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	10/12/2012	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	19/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Monitoring_Zone	Location_Code	Sampled_Date_Time	Sample_Type	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
				Organic				PAH/Phenols												
				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
EQL				0.01	0.01	0.01	0.01	0.5	1	1	1	30	1	1	1	1	2	30	1	30
ANZG (2018) TV - Marine water (95%)								4[#2]	3[#2]	120[#2]	2[#2]	45[#2]	34[#2]	340[#2]		2[#2]				58[#2]
Clyde WARP SSTL - GW VI - Commercial																				
Clyde WARP SSTL - GW VI - Construction																				
Clyde WARP SSTL - GW VI - IMW																				
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																				
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																				
NEPM (2013) - Marine Water																				
NEPM (2013) - Recreational									200	2000				3000						
NHMRC (2019) HBGV - Recreational Water																				
15	W91/2	1/09/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	26/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	17/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	15/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	2/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	14/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	23/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	30/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	3/10/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	13/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	25/02/2008	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	25/02/2008	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/23	6/10/2011	Normal	-	-	-	-	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-
9	MW11/23	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	6/10/2011	Normal	-	-	-	-	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-
9	MW11/24	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/08/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	11/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	25/06/2018	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	6/10/2011	Normal	-	-	-	-	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-
9	MW11/27	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2013	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	6/10/2011	Normal	-	-	-	-	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-
9	MW11/31	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	16/12/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	25/06/2018	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/33	5/10/2011	Normal	-	-	-	-	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-
9	MW11/34	5/10/2011	Normal	-	-	-	-	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-
9	MW11/34	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/34	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	14/06/2012	Normal	-	-	-	-	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-
9	MW11/38	10/12/2012	Normal	-	-	-	-	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-
9	MW11/38	19/06/2013	Normal	-	-	-	-	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-
9	MW11/38	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	11/12/2013	Normal	-	-	-	-	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-
9	MW11/38	23/05/2014	Normal	-	-	-	-	<10	<10	<3	<3	<30	<3	<3	<3	<10	<6	<30	<10	<30
9	MW11/38	10/12/2014	Normal	-	-	-	-	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-
9	MW12/16	22/03/2012	Normal	-	-	-	-	<0.5	<1	<1	16	-	-	<1	23	<1	18	-	<1	-
9	MW12/16	22/03/2012	Field_D	-	-	-	-	<0.5	<1	<1	17	-	-	<1	23	<1	18	-	<1	-
9	MW12/16	20/06/2012	Normal	-	-	-	-	<2	<2	<2	15	-	-	<2	17	<2	15	-	<2	-
9	MW12/16	20/06/2012	Field_D	-	-	-	-	<2	<2	<2	17	-	-	<2	21	<2	19	-	<2	-
9	MW12/16	20/06/2012	Interlab_D	-	-	-	-	<1	<1	<1	26.5	-	<1	<1	10.3	<1	9.7	-	<1	-
9	MW12/16	10/12/2012	Normal	-	-	-	-	<2	<2	<2	20	-	-	<20	55	<2	56	-	<2	-
9	MW12/16	10/12/2012	Field_D	-	-	-	-	<2	<2	<2	24	-	-	<20	69	<2	70	-	<2	-
9	MW12/16	10/12/2012	Interlab_D	-	-	-	-	<19.2	<19.2	<19.2	<19.2	-	<19.2	<19.2	227	<19.2	296	-	<19.2	-
9	MW12/16	19/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Monitoring_Zone	Location_Code	Sampled_Date_Time	Sample_Type	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ (WHO)	Benzo(b)&(k)fluoranthene	Benzo(b)fluoranthene	Benzo(b&j)fluoranthene (TEF 0.1)	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzo[b]fluoranthene+Benzo[j]fluoranthene	Chrysene	Dibenz(a,h)anthracene	Dinoseb	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene
				PAH/Phenols																	
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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				0.05	0.05	0.05	0.05	0.01	0.5	0.05	1	1	0.05	1	1	0.05	0.05	100	0.05	0.05	0.05
ANZG (2018) TV - Marine water (95%)						0.1[#2]		0.1[#2]											1[#2]		
Clyde WARP SSTL - GW VI - Commercial																					
Clyde WARP SSTL - GW VI - Construction									-												
Clyde WARP SSTL - GW VI - IMW									-												
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																					
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																					
NEPM (2013) - Marine Water																					
NEPM (2013) - Recreational																					
NHMRC (2019) HBGV - Recreational Water																					
15	W91/2	1/09/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	26/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	17/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	15/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	2/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	14/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	23/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	30/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	3/10/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	13/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	25/02/2008	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	25/02/2008	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/23	6/10/2011	Normal	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	<1	<1
9	MW11/23	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	6/10/2011	Normal	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	<1	<1
9	MW11/24	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/08/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	11/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	25/06/2018	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	6/10/2011	Normal	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	<1	<1
9	MW11/27	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2013	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	6/10/2011	Normal	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	<1	<1
9	MW11/31	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	16/12/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	25/06/2018	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/33	5/10/2011	Normal	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	<1	<1
9	MW11/34	5/10/2011	Normal	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	<1	<1
9	MW11/34	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/34	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	14/06/2012	Normal	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	<1	<1
9	MW11/38	10/12/2012	Normal	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	<1	<1
9	MW11/38	19/06/2013	Normal	<1	<1	<1	<1	<1	-	-	-	-	<1	<1	<1	<1	<1	-	<1	<1	<1
9	MW11/38	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	11/12/2013	Normal	<1	<1	<1	<1	<1	-	-	-	<1	<1	<1	-	<1	<1	-	<1	<1	<1
9	MW11/38	23/05/2014	Normal	<1	<1	<1	<1	<1	-	-	-	<1	<1	<1	-	<1	<1	<100	<1	<1	<1
9	MW11/38	10/12/2014	Normal	<1	<1	<1	<1	<1	-	-	-	<1	<1	<1	-	<1	<1	-	<1	<1	<1
9	MW12/16	22/03/2012	Normal	<0.05	<0.05	<0.05	<0.05	<0.01	-	<0.05	-	-	<0.05	-	-	<0.05	<0.05	-	<0.05	0.9	<0.05
9	MW12/16	22/03/2012	Field_D	<0.05	<0.05	<0.05	<0.05	<0.01	-	<0.05	-	-	<0.05	-	-	<0.05	<0.05	-	<0.05	0.9	<0.05
9	MW12/16	20/06/2012	Normal	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	1	<1
9	MW12/16	20/06/2012	Field_D	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	1	<1
9	MW12/16	20/06/2012	Interlab_D	<1	<1	<1	<1	<0.5	-	-	<1	-	<1	<1	-	<1	<1	-	<1	<1	<1
9	MW12/16	10/12/2012	Normal	3	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	11	<1
9	MW12/16	10/12/2012	Field_D	3	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	15	<1
9	MW12/16	10/12/2012	Interlab_D	<19.2	<19.2	<19.2	<19.2	<19.2	<9.6	-	<19.2	-	<19.2	<19.2	-	<19.2	<19.2	-	<19.2	126	<19.2
9	MW12/16	19/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

				OPs																								
				Toxaphene	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Demeton (total)	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Fenamiphos	Fenitrothion	Fenthion	Malathion	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Parathion	Phorate	Pirimphos-ethyl	Prothiofos	Ronnel	Stirophos	Temephos	Trichloronate
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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				0.5	0.5				0.1	1	0.2		0.1	0.1	0.1	0.1	2		0.1	0.1	0.1	0.1	0.1	20	0.1	0.1		0.1	0.1	2	1	0.1
ANZG (2018) TV - Marine water (95%)				0.0006[#2]	0.01[#2]				0.009[#5]			4[#2]	0.01[#2]		0.15[#2]				0.001[#2]		0.05[#2]				0.004[#2]						0.05[#1]	
Clyde WARP SSTL - GW VI - Commercial																																
Clyde WARP SSTL - GW VI - Construction																																
Clyde WARP SSTL - GW VI - IMW																																
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																																
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																																
NEPM (2013) - Marine Water									0.009																						0.05	
NEPM (2013) - Recreational					300	100			100				40	50	70	40	40	5	70	70	700	7	50	20	200		5				4000	
NHMRC (2019) HBGV - Recreational Water																																
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																													
9	MW12/16	12/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	22/03/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	14/12/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/06/2001	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	25/06/2001	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	15/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/07/2004	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/09/2005	Normal	<1	<10	-	-	-	<10	<10	-	<10	<10	<10	-	<10	<10	-	<10	<10	<10	<10	<10	-	-	<10	-	<10	<10	<10	-	-
9	MW98/9	14/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	28/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	30/03/2006	Normal	<1	<10	-	-	-	<10	<10	-	<10	<10	<10	-	<10	<10	-	<10	<10	<10	<10	<10	-	-	<10	-	<10	<10	<10	-	-
9	MW98/9	27/09/2006	Normal	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	<2	-	<2	<2	-	<0.5	<0.5	-	-	-	-
9	MW98/9	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	13/09/2007	Normal	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	25/02/2008	Normal	<1	<2	-	-	-	<2	<1	-	-	<2	-	<1	-	<2	-	<2	<2	<1	<2	-	-	<1	-	-	-	<2	-	<1	-
9	MW98/9	17/11/2008	Normal	<1	<2	-	-	-	<2	<1	-	-	<2	-	<1	-	<2	-	<2	<2	<1	<2	-	-	-	-	-	-	<2	-	-	-
9	MW98/9	17/04/2009	Normal	<1	<2	-	-	-	<2	<2	-	-	<2	-	<2	-	<2	-	<2	<2	<2	<2	-	-	-	-	-	-	<2	-	-	-
9	MW98/9	20/11/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	23/06/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	26/11/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	7/06/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	7/06/2011	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	6/10/2011	Normal	-	<2	-	-	-	<2	-	<4	-	<2	<2	<2	<2	-	-	<2	<2	<2	<2	<2	<20	<2	<2	-	<2	<2	<2	-	<2
9	MW98/9	13/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	8/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																																
Number of Results				13	26	3	3	3	26	14	12	8	26	20	21	17	14	3	23	26	26	26	17	15	18	17	3	20	23	17	3	12
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
Minimum Concentration				<1	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.2	<0.5	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<0.1	<0.1	<0.5	<0.1	<0.1	<2	<1	<0.1
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
Maximum Concentration				<2	<10	<0.5	<0.5	<0.5	<10	<10	<4	<10	<10	<10	<2	<10	<10	<0.5	<10	<10	<10	<10	<10	<20	<2	<10	<0.5	<10	<10	<10	<1	<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
Average Concentration				0.58	1.6	0.25	0.25	0.25	1.6	2.1	1.7	3.2	1.6	1.8	0.68	2.1	2.3	0.25	1.8	1.6	1.5	1.7	2.1	7.6	0.81	2.1	0.25	1.8	1.8	2.2	0.5	0.84
Median Concentration				0.5	1	0.25	0.25	0.25	1	0.5	2	5	1	1	1	1	1	0.25	1	1	1	1	1	10	1	1	0.25	1	1	1	0.5	1
Standard Deviation				0.19	1.7	0	0	0	1.7	2.3	0.74	2.5	1.7	1.9	0.36	2	2.1	0	1.8	1.7	1.8	1.7	2	4.1	0.34	2	0	1.9	1.8	1.9	0	0.37
Number of Guideline Exceedances				13	26	0	0	0	26	0	0	5	26	0	19	0	0	0	23	0	26	5	0	0	18	0	0	0	0	0	3	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

				Organic				PAH/Phenols																														
				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(a)pyrene TEQ (WHO)	Benzo(b)&(k)fluoranthene	Benzo(b)fluoranthene	Benzo(b&j)fluoranthene (TEF 0.1)	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzo[b]fluoranthene+Benzo[j]fluoranthene	Chrysene	Dibenz(a,h)anthracene	Dinoseb	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene
				UG/L	UG/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				0.01	0.01	0.01	0.01	0.5	1	1	1	30	1	1	1	1	2	30	1	30	0.05	0.05	0.05	0.05	0.01	0.5	0.05	1	1	0.05	1	1	0.05	0.05	100	0.05	0.05	0.05
ANZG (2018) TV - Marine water (95%)								4[#2]	3[#2]	120[#2]	2[#2]	45[#2]	34[#2]	340[#2]		2[#2]				58[#2]			0.1[#2]		0.1[#2]											1[#2]		
Clyde WARP SSTL - GW VI - Commercial																																						
Clyde WARP SSTL - GW VI - Construction																										-												
Clyde WARP SSTL - GW VI - IMW																										-												
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																																						
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																																						
NEPM (2013) - Marine Water																																						
NEPM (2013) - Recreational									200	2000				3000																								
NHMRC (2019) HBGV - Recreational Water																																						
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																																			
9	MW12/16	12/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	22/03/2012	Normal	-	-	-	-	<0.5	<1	<1	<1	-	-	<1	<1	<1	<2	-	<1	-	<0.05	<0.05	<0.05	<0.05	<0.01	-	<0.05	-	-	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	<0.05
9	MW12/17	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	14/12/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/06/2001	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	25/06/2001	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	15/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/07/2004	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	14/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	28/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	30/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	27/09/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	13/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	25/02/2008	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	17/11/2008	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	17/04/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	20/11/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	23/06/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	26/11/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	7/06/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	7/06/2011	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	6/10/2011	Normal	-	-	-	-	<2	<2	<2	<2	-	-	<2	<2	<2	<4	-	<2	-	<1	<1	<1	<1	<1	-	<2	-	-	<1	-	-	<1	<1	-	<1	<1	<1
9	MW98/9	13/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	8/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																																						
Number of Results				1	1	1	1	29	35	35	35	1	9	35	35	35	35	1	35	1	35	35	35	35	35	1	22	8	4	35	13	1	35	35	1	35	35	35
Number of Detects				0	0	1	1	0	0	0	7	0	0	0	8	0	8	0	0	0	2	0	0	1	1	0	1	0	0	0	0	0	1	0	0	1	8	0
Minimum Concentration				<0.01	<0.01	0.01	0.01	<0.5	<1	<1	<1	<30	<1	<1	<1	<1	<2	<30	<1	<30	<0.05	<0.05	<0.05	<0.05	<0.01	<9.6	<0.05	<1	<1	<0.05	<1	<1	<0.05	<0.05	<100	<0.05	<0.05	<0.05
Minimum Detect				ND	ND	0.01	0.01	ND	ND	ND	15	ND	ND	ND	10.3	ND	9.7	ND	ND	ND	3	ND	ND	20	10	ND	20	ND	ND	ND	ND	ND	30	ND	ND	20	0.9	ND
Maximum Concentration				<0.01	<0.01	0.01	0.01	<19.2	<19.2	<19.2	26.5	<30	<19.2	<20	227	<19.2	296	<30	<19.2	<30	<19.2	<19.2	<19.2	20	<19.2	<9.6	20	<19.2	<1	<19.2	<19.2	<1	30	<19.2	<100	20	126	<19.2
Maximum Detect				ND	ND	0.01	0.01	ND	ND	ND	26.5	ND	ND	ND	227	ND	296	ND	ND	ND	3	ND	ND	20	10	ND	20	ND	ND	ND	ND	ND	30	ND	ND	20	126	ND
Average Concentration								1.3	1.4	1.2	4.9		1.9	1.7	13	1.6	16		1.4		0.86	0.72	0.72	1.3	0.98		1.7	1.6	0.5	0.72	1.2		1.6	0.72		1.3	5.7	0.72
Median Concentration				0.005	0.005	0.01	0.01	1	1	1	1	15	1	1	1	1	2	15	1	15	0.5	0.5	0.5	0.5	0.5	4.8	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	50	0.5	0.5	0.5
Standard Deviation								1.8	1.7	1.5	7.7		2.9	2.5	40	1.7	51		1.7		1.6	1.6	1.6	3.6	2.2		4.1	3.2	0	1.6	2.5		5.2	1.6		3.6	22	1.6
Number of Guideline Exceedances				0	0	0	0	2	3	0	9	0	0	0	0	8	0	0	0	0	0	0	32	0	32	1	0	0	0	0	0	0	0	0	0	2	0	0
Number of Guideline Exceedances(Detects Only)				0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0

Env Stds Comments
#1:Moderate Reliability
#2:Unknown level of species protection; Unknown Reliability
#3:High Reliability
#4:Very high Reliability
#5:Low Reliability
#6:ANZG technical draft default guideline values. Freshwater values are to be use

Data Comments

		OPs																											
	Toxaphene	Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Demeton (total)	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Fenamiphos	Fenitrothion	Fenthion	Malathion	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Parathion	Phorate	Pirimphos-ethyl	Prothiofos	Ronnel	Stirophos	Temephos	Trichloronate
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	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	0.5	0.5				0.1	1	0.2		0.1	0.1	0.1	0.1	2		0.1	0.1	0.1	0.1	0.1	20	0.1	0.1		0.1	0.1	2	1	0.1
ANZG (2018) TV - Marine water (95%)	0.0006[#2]	0.01[#2]				0.009[#5]			4[#2]	0.01[#2]		0.15[#2]				0.001[#2]		0.05[#2]				0.004[#2]						0.05[#1]	
Clyde WARP SSTL - GW VI - Commercial																													
Clyde WARP SSTL - GW VI - Construction																													
Clyde WARP SSTL - GW VI - IMW																													
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																													
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																													
NEPM (2013) - Marine Water						0.009																						0.05	
NEPM (2013) - Recreational		300	100			100				40	50	70	40	40	5	70	70	700	7	50	20	200		5				4000	
NHMRC (2019) HBGV - Recreational Water																													

	Organic				PAH/Phenols																														
	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(a)pyrene TEQ (WHO)	Benzo(b)&(k)fluoranthene	Benzo(b)fluoranthene	Benzo(b&j)fluoranthene (TEF 0.1)	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzo[b]fluoranthene+Benzo[j]fluoranthene	Chrysene	Dibenz(a,h)anthracene	Dinoseb	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene
	UG/L	UG/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	0.01	0.01	0.01	0.01	0.5	1	1	1	30	1	1	1	1	2	30	1	30	0.05	0.05	0.05	0.05	0.01	0.5	0.05	1	1	0.05	1	1	0.05	0.05	100	0.05	0.05	0.05
ANZG (2018) TV - Marine water (95%)					4[#2]	3[#2]	120[#2]	2[#2]	45[#2]	34[#2]	340[#2]		2[#2]				58[#2]			0.1[#2]		0.1[#2]											1[#2]		
Clyde WARP SSTL - GW VI - Commercial																																			
Clyde WARP SSTL - GW VI - Construction																							-												
Clyde WARP SSTL - GW VI - IMW																							-												
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																																			
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																																			
NEPM (2013) - Marine Water																																			
NEPM (2013) - Recreational						200	2000				3000																								
NHMRC (2019) HBGV - Recreational Water																																			

Monitoring_Zone Location_Code Sampled_Date_Time Sample_Type

#1 Quantification of linear and branched isomers has been conducted as a single
#2 Combined by ESDAT using a Non-Detect Multiplier of 1. Some Analytes are m
#3 ESDAT Combined with Non-Detect Multiplier of 0.5. Some Analytes are missi
#4 ESDAT Combined. Some Analytes are missing from this Combined Compounc
#5 Reported Analyte LOR is higher than Requested Analyte LOR
#6 Combined by ESDAT using a Non-Detect Multiplier of 0.5.
#7 Combined by ESDAT using a Non-Detect Multiplier of 1.
#8 ESDAT Combined with Non-Detect Multiplier of 0.5.
#9 ESDAT Combined with Non-Detect Multiplier of 0.5.
#10 *EQL increased due to matrix interference.
#11 ChemCode changed - JRF 30.06.12
#12 ESDAT Combined.
#13 GW 2-4m bgl

											PCBs								Pesticides					SVOC				
				Pentachlorophenol	Phenanthrene	Phenol	Polycylic aromatic hydrocarbons EPA448	Pyrene	Tetrachlorophenols	Phenols (Total Halogenated)	Total Non-Halogenated Phenol	PAHs (Sum of total)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	Bolstar (Sulprofos)	DDE	Merphos	Moderately harmful pesticides (total)	Profenofos	2,6-Dinitro-o-cyclohexyl phenol	Coumaphos	Ethoprop	Fensulfothion	Hexachlorobenzene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/l	µg/L	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	µg/L	µg/L	µg/L
EQL				2	0.05	1	0.5	0.05	30	10	100	0.2	0.5	1	0.5	0.5	0.5	0.5	0.5	1					0.1	100	0.5	0.1	0.1	0.01
ANZG (2018) TV - Marine water (95%)				22	0.6[#2]	400[#5]										0.3[#2]		0.01[#2]							0.002[#2]					0.05[#2]
Clyde WARP SSTL - GW VI - Commercial																													
Clyde WARP SSTL - GW VI - Construction																													
Clyde WARP SSTL - GW VI - IMW																													
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																													
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																													
NEPM (2013) - Marine Water				11		400																							
NEPM (2013) - Recreational				100																100				3			10	100	
NHMRC (2019) HBGV - Recreational Water																													
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																										
15	MW11/22	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	11/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/22	12/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/10/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	13/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	25/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	28/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	18/08/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	8/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	22/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	6/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/41	20/11/2019	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	5/10/2011	Normal	<10	<1	<2	-	<1	-	-	-	<2	<5	-	<5	<5	<5	<5	<5	<5	-	-	-	<14[#4]	<2	-	<2	<2	<2	<0.5
15	MW11/42	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	11/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	24/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	11/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	28/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	8/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	8/12/2017	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/42	22/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	5/10/2011	Normal	<10	10	<2	-	20	-	-	-	160	<5	-	<5	<5	<5	<5	<5	<5	-	-	-	<14[#4]	<2	-	<2	<2	<2	<0.5
15	MW11/43	8/12/2011	Normal	<10	<1	<2	-	<1	-	-	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	8/12/2011	Field_D	<10	<1	<2	-	<1	-	-	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW11/43	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	26/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	25/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	16/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	15/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	23/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<10	<1	<0.01	<60[#4]	-	<10	<10	<10	<1
15	MW94/6X	28/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	3/10/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.5	-	<4.5[#4]	-	-	-	-	<0.5
15	MW94/6X	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	13/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	22/02/2008	Normal	<5	<1	<1	-	<1	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	13/11/2008	Normal	<5	<1	<1	-	<1	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<10	-	-	-	<10[#4]	-	-	-	-	-	<0.1
15	MW94/6X	17/04/2009	Normal	<5	<1	<2	-	<1	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	17/04/2009	Field_D	<5	<1	<2	-	<1	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	22/04/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	17/11/2009	Normal	<5	<1	<2	-	<1	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	23/06/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	26/11/2010	Normal	<10	<1	<3	-	<1	-	<10	<100	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	7/06/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	6/10/2011	Normal	<10	<1	<2	-	<1	-	-	-	<2	<5	-	<5	<5	<5	<5	<5	0	-	-	-	<14[#4]	<2	-	<2	<2	<2	<0.5
15	MW94/6X	14/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	11/12/2012	Normal	<10	<1	<2	-	<1	-	-	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	25/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	11/12/2013	Normal	<10	<1	<2	-	<1	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	MW94/6X	27/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/01/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/05/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

											PCBs								Pesticides					SVOC				
				Pentachlorophenol	Phenanthrene	Phenol	Polycylic aromatic hydrocarbons EPA448	Pyrene	Tetrachlorophenols	Phenols (Total Halogenated)	Total Non-Halogenated Phenol	PAHs (Sum of total)	Aroclhor 1016	Aroclhor 1221	Aroclhor 1232	Aroclhor 1242	Aroclhor 1248	Aroclhor 1254	Aroclhor 1260	PCBs (Sum of total)	Bolstar (Sulprofos)	DDE	Merphos	Moderately harmful pesticides (total)	Profenofos	2,6-Dinitro-o-cyclohexyl phenol	Coumaphos	Ethoprop	Fensulfothion	Hexachlorobenzene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/l	µg/L	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	µg/L	µg/L	µg/L
EQL				2	0.05	1	0.5	0.05	30	10	100	0.2	0.5	1	0.5	0.5	0.5	0.5	0.5	1					0.1	100	0.5	0.1	0.1	0.01
ANZG (2018) TV - Marine water (95%)				22	0.6[#2]	400[#5]										0.3[#2]		0.01[#2]							0.002[#2]					0.05[#2]
Clyde WARP SSTL - GW VI - Commercial																													
Clyde WARP SSTL - GW VI - Construction																													
Clyde WARP SSTL - GW VI - IMW																													
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																													
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																													
NEPM (2013) - Marine Water				11		400																							
NEPM (2013) - Recreational				100																	100				3			10	100	
NHMRC (2019) HBGV - Recreational Water																													
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																										
15	W91/2	1/09/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/1993	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	26/08/1999	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	17/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	15/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	2/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<10	<1	<0.01	<60[#4]	-	-	<10	<10	<10	<1
15	W91/2	14/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	23/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<10	<1	<0.01	<60[#4]	-	-	<10	<10	<10	<1
15	W91/2	30/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	3/10/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.5	-	<4.5[#4]	-	-	-	-	-	<0.5
15	W91/2	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	W91/2	13/09/2007	Normal	-	-	-	-	-	-	-	-	-	<2	<2	<2	<2	<2	<2	<2	<20	-	-	-	-	-	-	-	-	-	<0.1
15	W91/2	25/02/2008	Normal	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	-	-	-	<10[#4]	-	-	-	-	-	<0.1
15	W91/2	25/02/2008	Field_D	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	-	-	-	<10[#4]	-	-	-	-	-	<0.1
9	MW11/23	6/10/2011	Normal	<10	<1	<2	-	<1	-	-	-	<2	<5	-	<5	<5	<5	<5	<5	0	-	-	-	<14[#4]	<2	-	<2	<2	<2	<0.5
9	MW11/23	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	6/10/2011	Normal	<10	<1	<2	-	<1	-	-	-	<2	<5	-	<5	<5	<5	<5	<5	0	-	-	-	<14[#4]	<2	-	<2	<2	<2	<0.5
9	MW11/24	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	19/08/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	11/12/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	25/06/2018	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	5/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/24	26/11/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	6/10/2011	Normal	<10	<1	<2	-	<1	-	-	-	<2	<5	-	<5	<5	<5	<5	<5	0	-	-	-	<14[#4]	<2	-	<2	<2	<2	<0.5
9	MW11/27	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2013	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/27	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	6/10/2011	Normal	<10	<1	<2	-	<1	-	-	-	<2	<5	-	<5	<5	<5	<5	<5	0	-	-	-	<14[#4]	<2	-	<2	<2	<2	<0.5
9	MW11/31	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	16/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	16/12/2016	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	29/05/2017	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	25/06/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	25/06/2018	Interlab_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/31	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/33	5/10/2011	Normal	<10	<1	<2	-	<1	-	-	-	<2	<5	-	<5	<5	<5	<5	<5	<5	-	-	-	<14[#4]	<2	-	<2	<2	<2	<0.5
9	MW11/34	5/10/2011	Normal	<10	<1	<2	-	<1	-	-	-	<2	<5	-	<5	<5	<5	<5	<5	<5	-	-	-	<14[#4]	<2	-	<2	<2	<2	<0.5
9	MW11/34	18/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/34	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	14/06/2012	Normal	<10	<1	<2	-	<1	-	-	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	10/12/2012	Normal	<10	<1	<2	-	<1	-	-	-	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	19/06/2013	Normal	<10	<1	<2	-	<1	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	11/12/2013	Normal	<10	<1	<2	-	<1	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW11/38	23/05/2014	Normal	<10	<1	<3	-	<1	<30	<10	<100	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	-	-	-	-
9	MW11/38	10/12/2014	Normal	<10	<1	<2	-	<1	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	22/03/2012	Normal	<2	<0.05	28	-	<0.05	-	-	-	200	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.7[#4]	<0.1	-	<0.5	<0.1	<0.1	<0.01
9	MW12/16	22/03/2012	Field_D	<2	<0.05	28	-	<0.05	-	-	-	200	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.7[#4]	<0.1	-	<0.5	<0.1	<0.1	<0.01
9	MW12/16	20/06/2012	Normal	<10	<1	54	-	<1	-	-	-	160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	20/06/2012	Field_D	<10	<1	35	-	<1	-	-	-	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	20/06/2012	Interlab_D	<2	<1	5.9	121	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	10/12/2012	Normal	<10	5	44	-	<1	-	-	-	1900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	10/12/2012	Field_D	<10	8	52	-	<1	-	-	-	1800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	10/12/2012	Interlab_D	<38.3	65.3	155	12,400	<19.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/16	19/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

											PCBs								Pesticides					SVOC				
	Pentachlorophenol	Phenanthrene	Phenol	Polycylic aromatic hydrocarbons EPA448	Pyrene	Tetrachlorophenols	Phenols (Total Halogenated)	Total Non-Halogenated Phenol	PAHs (Sum of total)	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Sum of total)	Bolstar (Sulprofos)	DDE	Merphos	Moderately harmful pesticides (total)	Profenofos	2,6-Dinitro-o-cyclohexyl phenol	Coumaphos	Ethoprop	Fensulfothion	Hexachlorobenzene
	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	µg/L	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
EQL	2	0.05	1	0.5	0.05	30	10	100	0.2	0.5	1	0.5	0.5	0.5	0.5	0.5	1					0.1	100	0.5	0.1	0.1	0.01
ANZG (2018) TV - Marine water (95%)	22	0.6[#2]	400[#5]										0.3[#2]		0.01[#2]							0.002[#2]					0.05[#2]
Clyde WARP SSTL - GW VI - Commercial																											
Clyde WARP SSTL - GW VI - Construction																											
Clyde WARP SSTL - GW VI - IMW																											
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																											
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																											
NEPM (2013) - Marine Water	11		400																								
NEPM (2013) - Recreational	100																	100				3			10	100	
NHMRC (2019) HBGV - Recreational Water																											
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																									
9	MW12/16	12/06/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	22/03/2012	Normal	<2	<0.05	<1	-	<0.05	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	20/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	19/08/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW12/17	15/12/2016	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW18/06	7/12/2018	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/07/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	14/12/2000	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/06/2001	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	25/06/2001	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	15/12/2003	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/07/2004	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/03/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	1/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<10	<1	<0.01	<60[#4]	-	-	<10	<10	<10	<1
9	MW98/9	14/09/2005	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	28/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	30/03/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<10	<10	<1	<0.01	<60[#4]	-	-	<10	<10	<10	<1
9	MW98/9	27/09/2006	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	<0.5	-	<4.5[#4]	-	-	-	-	-	<0.5
9	MW98/9	1/09/2007	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	13/09/2007	Normal	-	-	-	-	-	-	-	-	<2	<2	<2	<2	<2	<2	<2	<20	-	-	-	-	-	-	-	-	<0.1
9	MW98/9	25/02/2008	Normal	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	-	-	-	<10[#4]	-	-	-	-	<0.1
9	MW98/9	17/11/2008	Normal	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	-	-	-	<10[#4]	-	-	-	-	<0.1
9	MW98/9	17/04/2009	Normal	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<10	-	-	-	<12[#4]	-	-	-	-	<0.1
9	MW98/9	20/11/2009	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	23/06/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	26/11/2010	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	7/06/2011	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	7/06/2011	Field_D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	6/10/2011	Normal	<10	<1	<2	-	<1	-	-	-	<2	<5	-	<5	<5	<5	<5	<5	0	-	-	-	<14[#4]	<2	-	<2	<2	<2	<0.5
9	MW98/9	13/06/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	10/12/2012	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	19/06/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	9/12/2013	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	23/05/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	8/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	MW98/9	10/12/2014	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																												
Number of Results				35	35	35	2	35	1	2	2	33	20	8	20	20	20	20	20	28	5	8	5	26	12	1	17	17	17	28
Number of Detects				0	4	8	2	1	0	0	0	8	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0
Minimum Concentration				<2	<0.05	<1	121	<0.05	<30	<10	<100	0	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	0	<10	<0.5	<0.01	<0.7	<0.1	<100	<0.5	<0.1	<0.1	<0.01
Minimum Detect				ND	5	5.9	121	20	ND	ND	ND	160	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration				<38.3	65.3	155	12400	20	<30	<10	<100	1900	<5	<2	<5	<5	<5	<5	<5	<20	<10	<1	<0.01	<60	<2	<100	<10	<10	<10	<1
Maximum Detect				ND	65.3	155	12400	20	ND	ND	ND	1900	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration				4.6	2.9	12		1.3				141	1.5	0.63	1.5	1.5	1.5	1.5	1.5	3.1	5	0.41	0.005	9.9	0.84		2.1	2.1	2.1	0.22
Median Concentration				5	0.5	1	6260.5	0.5	15	5	50	1	1.75	0.5	1.75	1.75	1.75	1.75	1.75	2.5	5	0.5	0.005	7	1	50	1	1	1	0.25
Standard Deviation				2.9	11	29		3.6				446	1	0.23	1	1	1	1	1	2.9	0	0.13	0	10	0.37		2	2	2	0.16
Number of Guideline Exceedances				1	32	0	0	0	0	0	0	0	0	0	0	20	0	20	0	0	0	0	0	0	12	0	0	0	0	26
Number of Guideline Exceedances(Detects Only)				0	4	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:Unknown level of species protection; Unknown Reliability
#3:High Reliability
#4:Very high Reliability
#5:Low Reliability
#6:ANZG technical draft default guideline values. Freshwater values are to be use

Data Comments

										PCBs								Pesticides					SVOC				
	Pentachlorophenol	Phenanthrene	Phenol	Polycylic aromatic hydrocarbons EPA448	Pyrene	Tetrachlorophenols	Phenols (Total Halogenated)	Total Non-Halogenated Phenol	PAHs (Sum of total)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	Bolstar (Sulprofos)	DDE	Merphos	Moderately harmful pesticides (total)	Profenofos	2,6-Dinitro-o-cyclohexyl phenol	Coumaphos	Ethoprop	Fensulfothion	Hexachlorobenzene
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/l	µg/L	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	µg/L	µg/L	µg/L	µg/L
EQL	2	0.05	1	0.5	0.05	30	10	100	0.2	0.5	1	0.5	0.5	0.5	0.5	0.5	1					0.1	100	0.5	0.1	0.1	0.01
ANZG (2018) TV - Marine water (95%)	22	0.6[#2]	400[#5]										0.3[#2]		0.01[#2]							0.002[#2]					0.05[#2]
Clyde WARP SSTL - GW VI - Commercial																											
Clyde WARP SSTL - GW VI - Construction																											
Clyde WARP SSTL - GW VI - IMW																											
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)																											
NEMP V2.0 Draft (2019) Interim GV - Marine (99%)																											
NEPM (2013) - Marine Water	11		400																								
NEPM (2013) - Recreational	100																	100				3			10	100	
NHMRC (2019) HBGV - Recreational Water																											

Monitoring_Zone	Location_Code	Sampled_Date_Time	Sample_Type

#1 Quantification of linear and branched isomers has been conducted as a single
#2 Combined by ESDAT using a Non-Detect Multiplier of 1. Some Analytes are n
#3 ESDAT Combined with Non-Detect Multiplier of 0.5. Some Analytes are missi
#4 ESDAT Combined. Some Analytes are missing from this Combined Compounc
#5 Reported Analyte LOR is higher than Requested Analyte LOR
#6 Combined by ESDAT using a Non-Detect Multiplier of 0.5.
#7 Combined by ESDAT using a Non-Detect Multiplier of 1.
#8 ESDAT Combined with Non-Detect Multiplier of 0.5.
#9 ESDAT Combined with Non-Detect Multiplier of 0.5.
#10 *EQL increased due to matrix interference.
#11 ChemCode changed - JRF 30.06.12
#12 ESDAT Combined.
#13 GW 2-4m bgl

					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**																														
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					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					1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Minimum Concentration					21	1.39	<180	2.25	<0.001	<0.01	18.1	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
Minimum Detect					21	1.39	ND	2.25	ND	ND	18.1	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
Maximum Concentration					21	1.39	<180	40400	<0.001	<0.01	236000	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
Maximum Detect					21	1.39	ND	40400	ND	ND	236000	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
Average Concentration																																	
Median Concentration					21	1.39	90	20201.125	0.0005	0.005	118009.05	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
Standard Deviation																																	
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	1
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	1

Monitoring_Zone	Field_ID	Location_Code	Sampled_Date_Time
9	SV19/07	SV19/07	28/08/2019

	Iso-propanol	SVOC					
	Iso-propanol	1,2,4-trichlorobenzene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Benzyl chloride	Hexachlorobutadiene
	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³
EQL	0.12	0.37	0.3	0.3	0.3	0.26	0.53
Clyde WARP SSTL - SV VI - Commercial 0.15m							
SV19/07 (28/08/2019)	<0.12	<0.37	<0.3	<0.3	<0.3	<0.26	<0.53
Statistical Summary							
Number of Results	1	1	1	1	1	1	1
Number of Detects	0	0	0	0	0	0	0
Minimum Concentration	<0.12	<0.37	<0.3	<0.3	<0.3	<0.26	<0.53
Minimum Detect	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.12	<0.37	<0.3	<0.3	<0.3	<0.26	<0.53
Maximum Detect	ND	ND	ND	ND	ND	ND	ND
Average Concentration							
Median Concentration	0.06	0.185	0.15	0.15	0.15	0.13	0.265
Standard Deviation							
Number of Guideline Exceedances	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0

	VOC												
	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,2,4-trimethylbenzene	1,2-dibromoethane	1,2-dichloroethane	1,2-dichloropropane	1,3,5-trimethylbenzene	1,3-Butadiene	1,4-Dioxane	1-methyl-4 ethyl benzene
	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³	mg/m³
EQL	0.27	0.34	0.27	0.2	0.2	0.24	0.38	0.2	0.23	0.24	0.11	0.18	0.24
Clyde WARP SSTL - SV VI - Commercial 0.15m													
SV19/07 (28/08/2019)	<0.27	<0.34	<0.27	<0.2	<0.2	78.1	<0.38	<0.2	<0.23	30.3	<0.11	<0.18	8.5
Statistical Summary													
Number of Results	1	1	1	1	1	1	1	1	1	1	1	1	1
Number of Detects	0	0	0	0	0	1	0	0	0	1	0	0	1
Minimum Concentration	<0.27	<0.34	<0.27	<0.2	<0.2	78.1	<0.38	<0.2	<0.23	30.3	<0.11	<0.18	8.5
Minimum Detect	ND	ND	ND	ND	ND	78.1	ND	ND	ND	30.3	ND	ND	8.5
Maximum Concentration	<0.27	<0.34	<0.27	<0.2	<0.2	78.1	<0.38	<0.2	<0.23	30.3	<0.11	<0.18	8.5
Maximum Detect	ND	ND	ND	ND	ND	78.1	ND	ND	ND	30.3	ND	ND	8.5
Average Concentration													
Median Concentration	0.135	0.17	0.135	0.1	0.1	78.1	0.19	0.1	0.115	30.3	0.055	0.09	8.5
Standard Deviation													
Number of Guideline Exceedances	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

	VOC														
	2-butanone (MEK)	2-hexanone (MBK)	4-methyl-2-pentanone (MIBK)	Acetone	Allyl chloride	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane
	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	0.15	0.2	0.2	0.12	0.16	0.34	0.52	0.19	0.16	0.31	0.23	0.43	0.13	0.24	0.1
Clyde WARP SSTL - SV VI - Commercial 0.15m															
SV19/07 (28/08/2019)	<0.15	<0.2	<0.2	<0.12	<0.16	<0.34	<0.52	<0.19	0.32	<0.31	<0.23	<0.43	<0.13	<0.24	<0.1
Statistical Summary															
Number of Results	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	1	0	0	0	0	0	0
Minimum Concentration	<0.15	<0.2	<0.2	<0.12	<0.16	<0.34	<0.52	<0.19	0.32	<0.31	<0.23	<0.43	<0.13	<0.24	<0.1
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	0.32	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.15	<0.2	<0.2	<0.12	<0.16	<0.34	<0.52	<0.19	0.32	<0.31	<0.23	<0.43	<0.13	<0.24	<0.1
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	0.32	ND	ND	ND	ND	ND	ND
Average Concentration															
Median Concentration	0.075	0.1	0.1	0.06	0.08	0.17	0.26	0.095	0.32	0.155	0.115	0.215	0.065	0.12	0.05
Standard Deviation															
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

	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**																						
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	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	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0
Minimum Concentration	<0.2	<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	<0.34	<0.15	<0.2	<0.23	<0.28	<0.18	<0.22	<0.128
Minimum Detect	ND	ND	49.2	ND	ND	ND	ND	ND	3.89	6.73	34.2	0.227	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.2	<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	<0.34	<0.15	<0.2	<0.23	<0.28	<0.18	<0.22	<0.128
Maximum Detect	ND	ND	49.2	ND	ND	ND	ND	ND	3.89	6.73	34.2	0.227	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration																						
Median Concentration	0.1	0.115	49.2	0.125	0.085	0.09	0.19	0.175	3.89	6.73	34.2	0.227	0.105	0.125	0.17	0.075	0.1	0.115	0.14	0.09	0.11	0.064
Standard Deviation																						
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

				Per- and Polyfluoroalkyl Subst										PFOS and PFOA																				
				N-ethyl-perfluorooctanesulfonamidoacetic acid	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	Perfluorododecanesulfonic acid (PFDS)	Perfluorohexanesulfonic acid (PFHxS)	Perfluoroundecanoic acid (PFUnA)	Perfluorododecanoic 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)
				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
EQL				0.00005	0.05	0.05	0.05	0.05	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.01	0.05	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	0.02
NEMP V2.0 Draft (2019) Interim GV - Marine (95%)														0.13[#1]	220[#1]																			
NHMRC (2019) HBGV - Recreational Water													2		10										2									
Monitoring_Zone	**Location_Code**	**Sampled_Date_Time**	**Sample_Type**																															
	WPA1	26/11/2019	Normal	-	<0.12[#5]	<0.12[#5]	<0.12[#5]	<0.12[#5]	<0.05[#5]	<0.05[#5]	1.47	1.47	<0.05[#5]	<0.05[#5]	1.47	<0.05	<0.05	<0.05	<0.05	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.2[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.12[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]
	WPA2	26/11/2019	Normal	-	<0.12[#5]	<0.12[#5]	<0.12[#5]	<0.12[#5]	<0.05[#5]	<0.05[#5]	1.18	1.18	0.1	0.1	1.08	<0.05	<0.05	<0.05	<0.05	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.2[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.12[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]
	WPA3	26/11/2019	Normal	-	<0.12[#5]	<0.12[#5]	<0.12[#5]	<0.12[#5]	<0.05[#5]	<0.05[#5]	1.79	1.79	0.76	0.57	1.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.2[#5]	<0.05[#5]	0.19	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.12[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]
	WPA4	25/11/2019	Normal	-	<0.05	<0.05	<0.05	<0.05	0.06	0.05	4.22	4.11	3.7	2.99	0.12	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.1	<0.02	0.71	<0.02	<0.02	0.08	0.21	<0.02	<0.05	<0.02	<0.02	<0.02	<0.02
9	MW11/31	19/08/2016	Normal	<0.00005	-	-	<0.05	-	-	-	-	-	-	0.04[#1]	0.02[#1]	<0.01	<0.05	<0.01	-	-	-	<0.01	<0.05	<0.01	0.04[#1]	<0.01	<0.01	<0.01	0.01[#1]	<0.01	<0.01	<0.01	0.09	<0.05
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	<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	-	-	-	-	-
9	MW18/06	19/02/2018	Normal	-	-	-	-	-	-	-	-	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05[#5]	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	<0.05[#5]	<0.2[#5]	-	<0.05[#5]	-	<0.05[#5]	<0.05[#5]	<0.05[#5]	-	-	-	-	-
Statistical Summary																																		
Number of Results				1	4	4	5	4	4	4	4	6	6	6	7	7	7	7	6	4	4	7	6	5	7	5	5	7	7	7	5	5	5	5	5
Number of Detects				0	0	0	0	0	1	1	4	4	3	4	5	0	0	0	0	0	0	0	0	0	3	0	0	1	2	0	0	0	0	1	0
Minimum Concentration				<0.00005	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.18	<0.05	<0.05	0.04	0.02	<0.01	<0.05	<0.01	<0.05	<0.02	<0.02	<0.01	<0.05	<0.01	0.04	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02
Minimum Detect				ND	ND	ND	ND	ND	0.06	0.05	1.18	1.18	0.1	0.04	0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04	ND	ND	0.08	0.01	ND	ND	ND	ND	0.09	ND
Maximum Concentration				<0.00005	<0.12	<0.12	<0.12	<0.12	0.06	0.05	4.22	4.11	3.7	2.99	1.47	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	0.71	<0.05	<0.05	0.08	0.21	<0.05	<0.12	<0.05	<0.05	0.09	<0.05
Maximum Detect				ND	ND	ND	ND	ND	0.06	0.05	4.22	4.11	3.7	2.99	1.47	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.71	ND	ND	0.08	0.21	ND	ND	ND	ND	0.09	ND
Average Concentration					0.051	0.051	0.046	0.051	0.034	0.031	2.2	1.4	0.77	0.63	0.54	0.022	0.025	0.022	0.025	0.021	0.021	0.02	0.079	0.018	0.15	0.018	0.018	0.03	0.049	0.02	0.042	0.018	0.018	0.035	0.022
Median Concentration				0.000025	0.06	0.06	0.06	0.06	0.025	0.025	1.63	1.325	0.0625	0.07	0.12	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.1	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.06	0.025	0.025	0.025	0.025
Standard Deviation					0.018	0.018	0.019	0.018	0.018	0.013	1.4	1.5	1.5	1.2	0.63	0.0076	0	0.0076	0	0.0075	0.0075	0.0087	0.033	0.0097	0.25	0.0097	0.0097	0.023	0.071	0.0087	0.026	0.0097	0.0097	0.031	0.0067
Number of Guideline Exceedances				0	0	0	0	0	0	0	0	0	1	2	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	1	2	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:ANZG technical draft default guideline values. Freshwater values are to be used on an interim basis until final marine guideline values can be set using the nationally-agreed process.

Data Comments

#1 Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard.
#2 Combined by ESDAT using a Non-Detect Multiplier of 1. Some Analytes are missing from this Combined Compound.
#3 ESDAT Combined with Non-Detect Multiplier of 0.5. Some Analytes are missing from this Combined Compound.
#4 ESDAT Combined. Some Analytes are missing from this Combined Compound.
#5 Reported Analyte LOR is higher than Requested Analyte LOR
#6 Combined by ESDAT using a Non-Detect Multiplier of 0.5.
#7 Combined by ESDAT using a Non-Detect Multiplier of 1.
#8 ESDAT Combined with Non-Detect Multiplier of 0.5.
#9 ESDAT Combined with Non-Detect Multiplier of 0.5.
#10 *EQL increased due to matrix interference.
#11 ChemCode changed - JRF 30.06.12
#12 ESDAT Combined.
#13 GW 2-4m bgl

(Monitoring_Zone = '9' Or

Location_Code In('WPA1' , 'WPA2' , 'WPA3' , 'WPA4') And

Chem_Group In('PFOS and PFOA' , 'Per- and Polyfluoroalkyl Subst'))

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	-	-	-	-	-	-	-	-	-	-	-	-	-

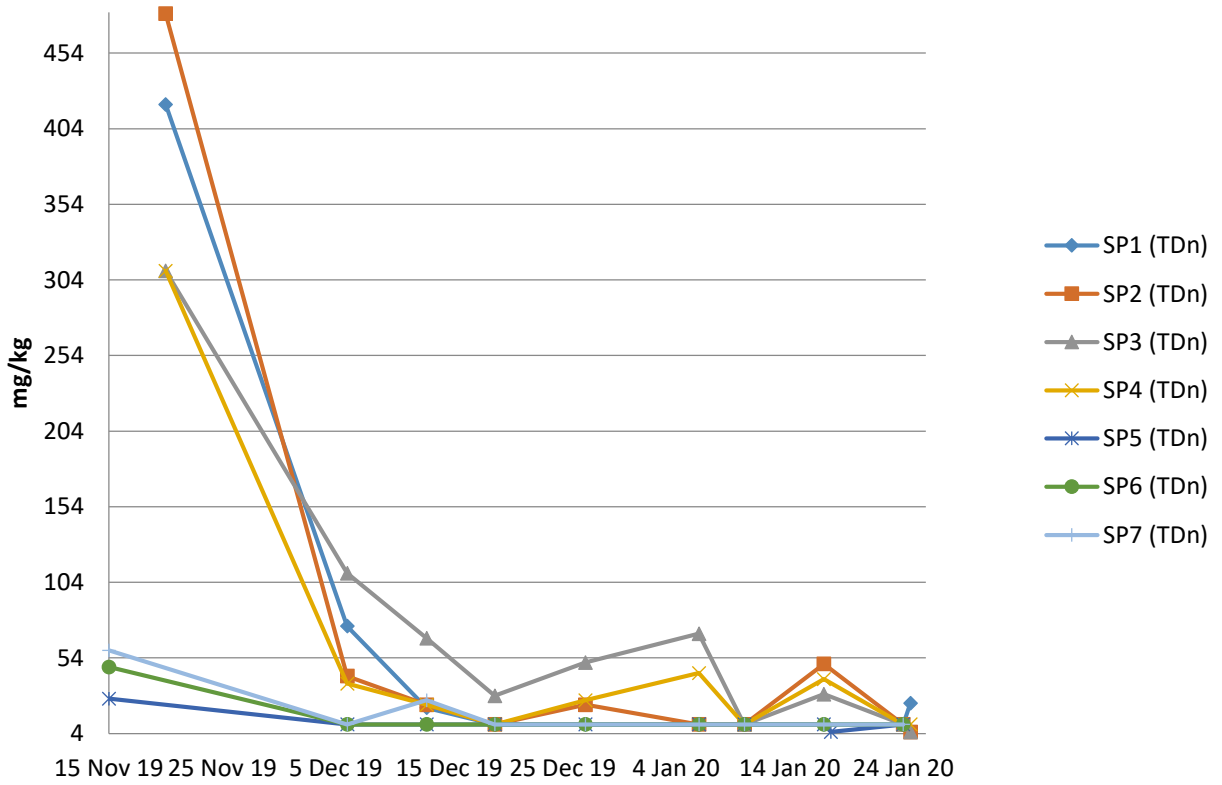
	Inorganics				Metals		pH	PSD							TOC
	Kjeldahl Nitrogen Total	Moisture Content (dried @ 103°C)	Nitrite + Nitrate as N (Sol.)	Nitrogen (Total)	Phosphorus	Potassium	pH (aqueous extract)	<63 Micron	>2000 Micron	1000-2000 Micron	125-250 Micron	250-500 Micron	500-1000 Micron	63-125 Micron	Fraction Organic 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
SP5	T01_20200117	17/01/2020	Interlab_D	-	10.1	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5A	24/01/2020	Normal	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-
SP5	SP5B	24/01/2020	Normal	130	13	<5	130	720	1000	7.4	-	-	-	-	-	-	-	1
SP6	SP6B	15/11/2019	Normal	-	5.2	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6D	15/11/2019	Normal	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6		6/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6A	6/12/2019	Normal	-	6.3	<5	-	620	1200	7.8	-	-	-	-	-	-	-	0.9
SP6	SP6B	6/12/2019	Normal	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6	13/12/2019	Normal	-	8.4	-	-	-	-	-	12	29	10	10	22	13	3.8	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6A	6/01/2020	Normal	-	5.2 - 5.7	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6B	6/01/2020	Normal	92	5.7 - 5.9	<5	92	550	1100	7.8	-	-	-	-	-	-	-	1.9
SP6	SP6A	10/01/2020	Normal	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6B	10/01/2020	Normal	-	9.8 - 11	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6		17/01/2020	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6A	17/01/2020	Normal	-	11 - 12	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6B	17/01/2020	Normal	350	17	<5	-	560	1200	7.7	-	-	-	-	-	-	-	1.9
SP6	SP6A	24/01/2020	Normal	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-
SP6	SP6B	24/01/2020	Normal	330	14	<5	330	710	970	8	-	-	-	-	-	-	-	1.1
SP7	SP7B	15/11/2019	Normal	-	6.6	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7D	15/11/2019	Normal	-	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7		6/12/2019	Normal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7A	6/12/2019	Normal	-	6.1	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7B	6/12/2019	Normal	-	5.8	<5	-	550	970	7.8	-	-	-	-	-	-	-	1.4
SP7	SP7	13/12/2019	Normal	-	14	-	-	-	-	-	8.8	24	9.7	17	21	15	4.8	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7A	24/01/2020	Normal	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-
SP7	SP7B	24/01/2020	Normal	400	14	<5	400	570	1300	7.1	-	-	-	-	-	-	-	1.3

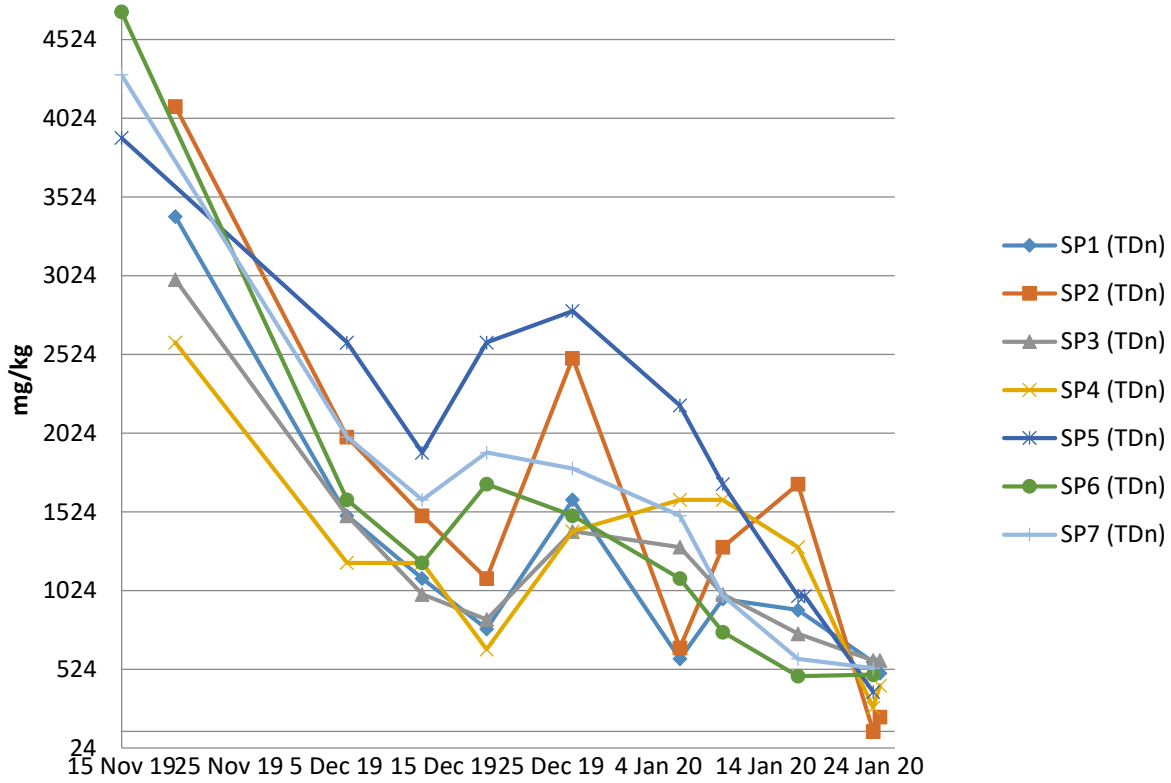
Statistical Summary

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

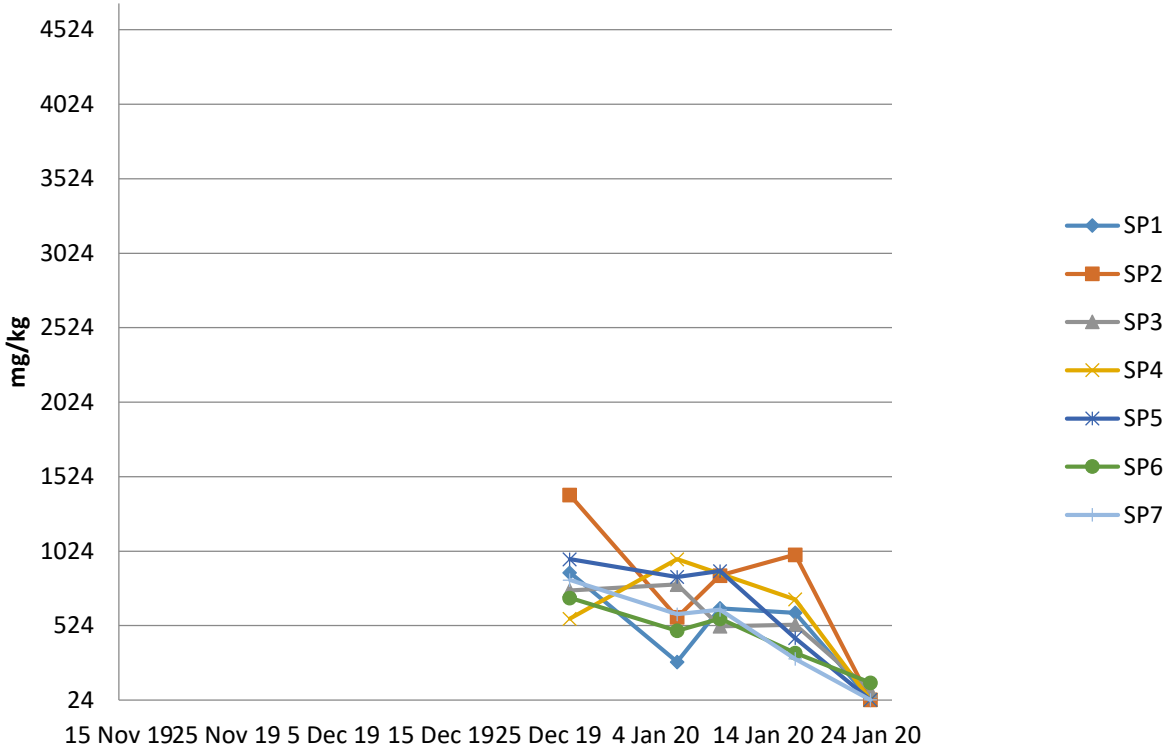
TRH C6-C10 Fraction



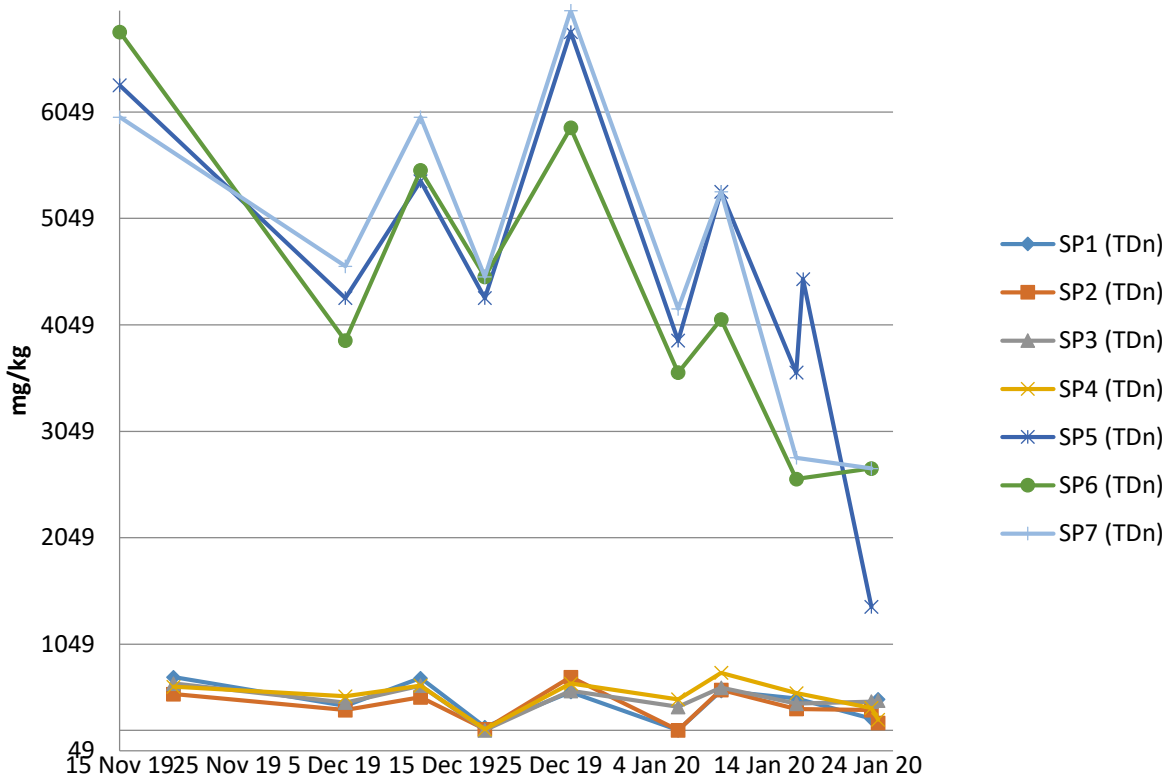
TRH >C10-C16 Fraction



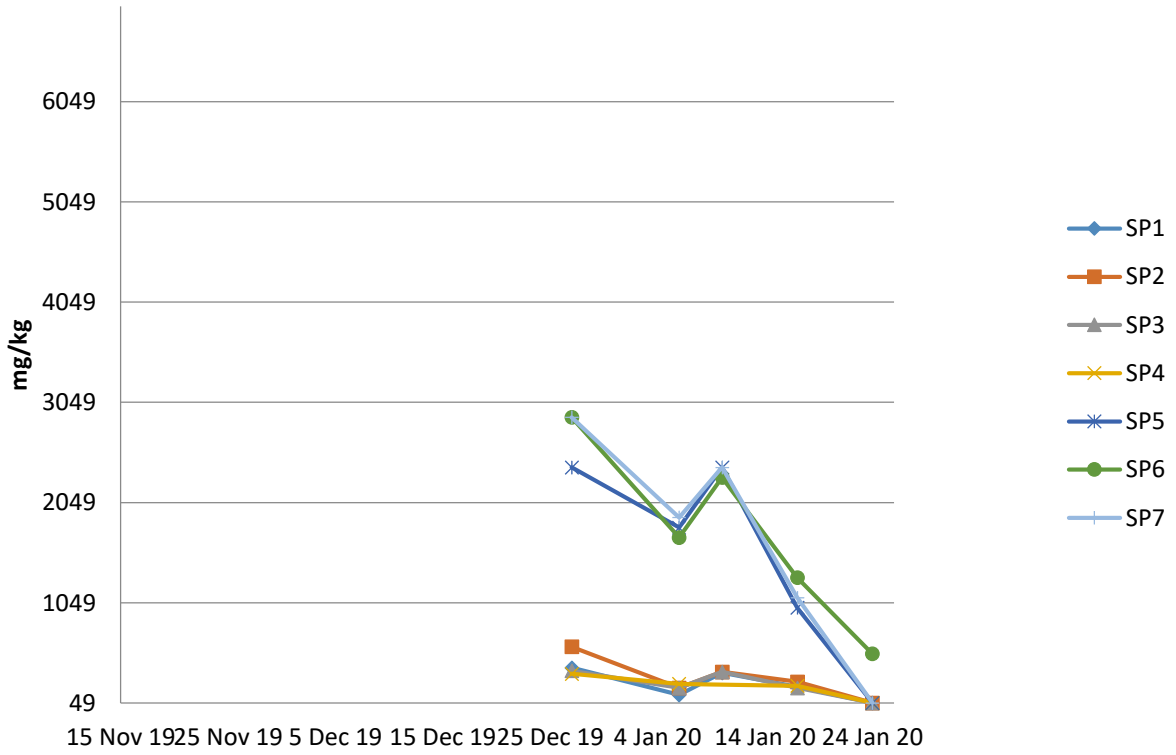
TRH >C10-C16 Silica Gel Cleanup



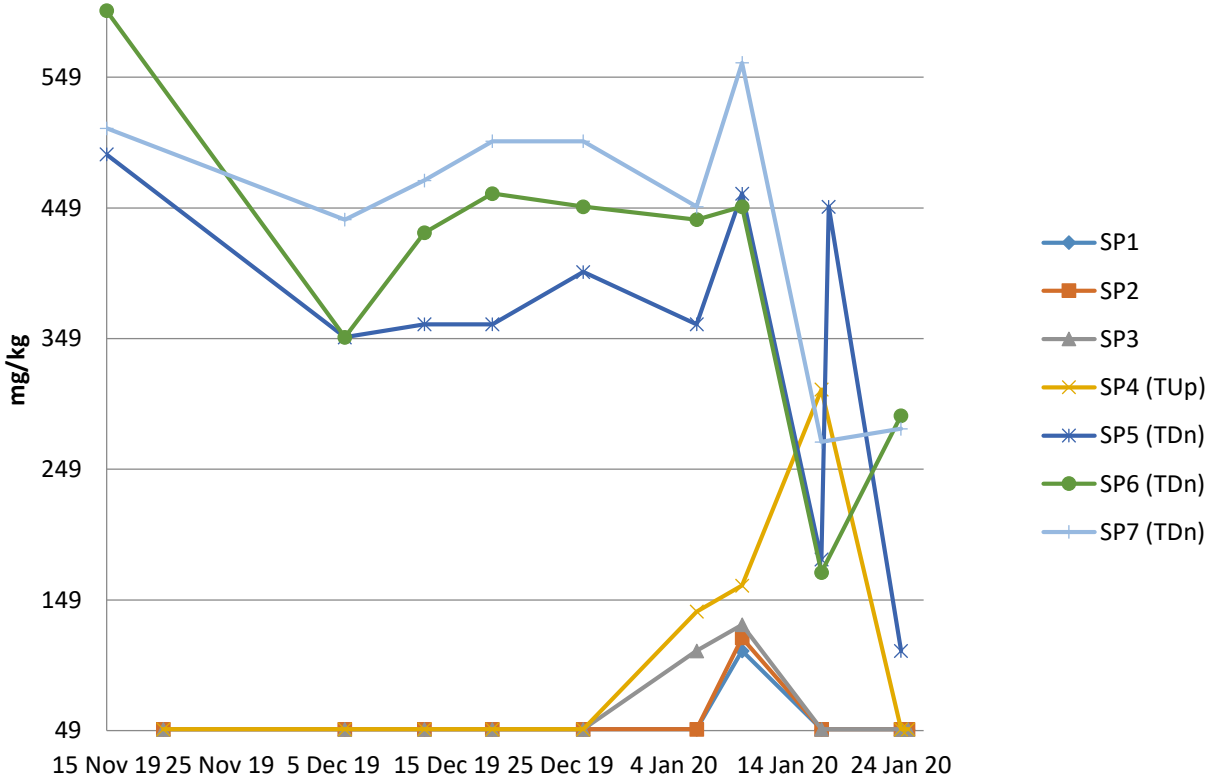
TRH >C16-C34 Fraction



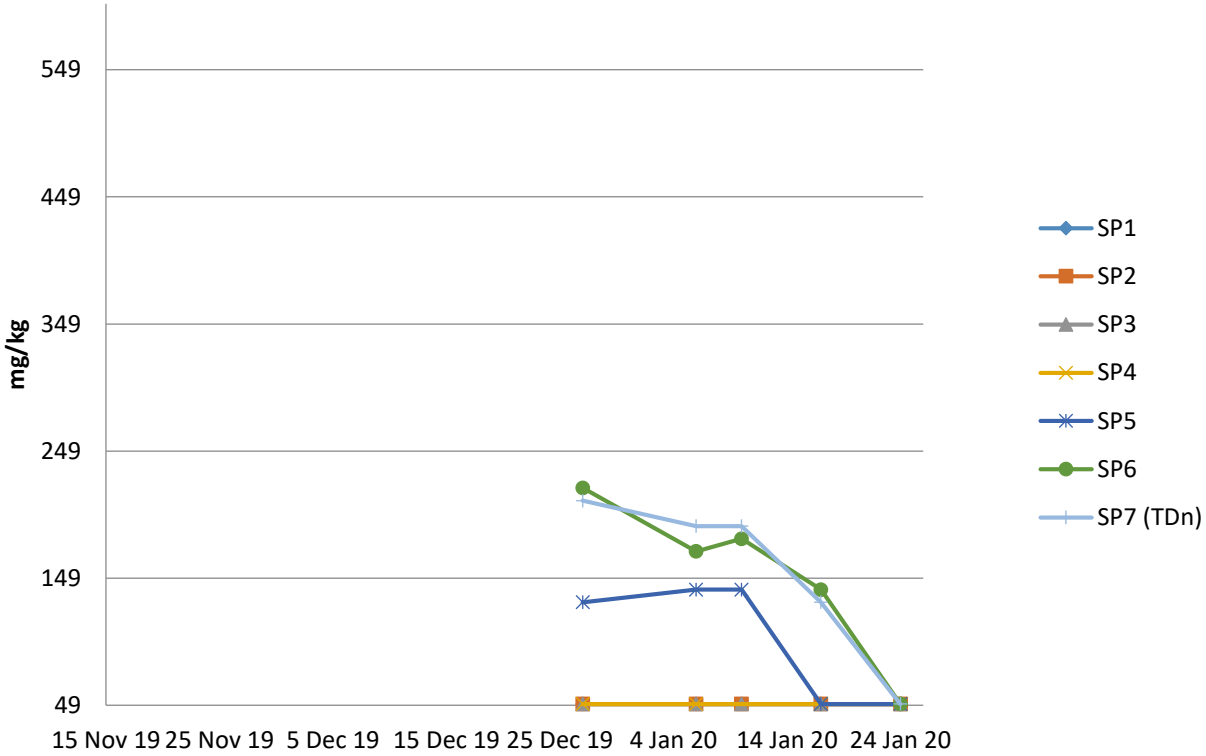
TRH >C16-C34 Silica Gel Cleanup



TRH >C34-C40 Fraction



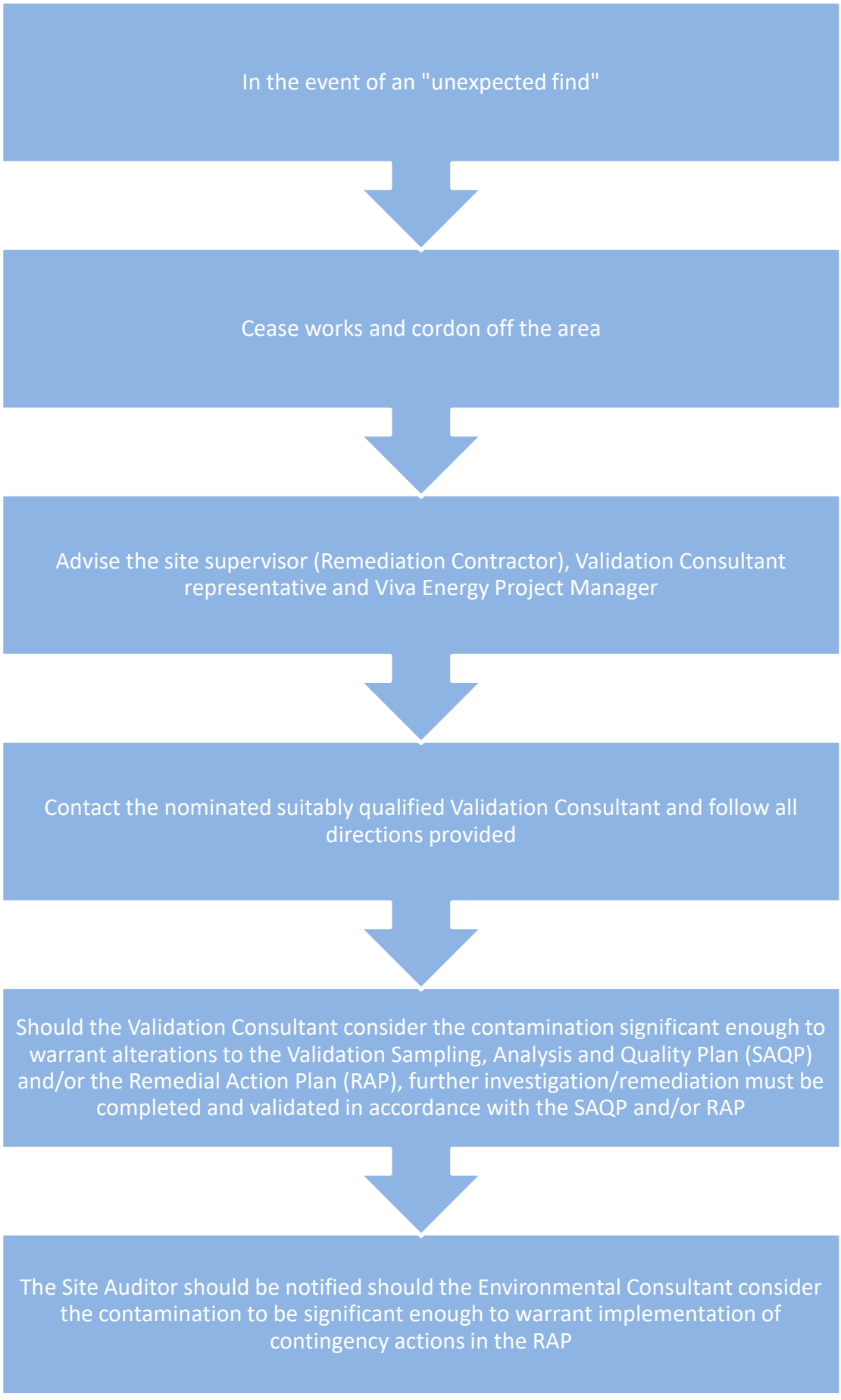
TRH >C34-C40 Silica Gel Cleanup



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

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