10 October 2025

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Planning Secretary's Environmental Assessment Requirements • SSD-83789711 – Built Form • Former Corrimal Coke Works, Railway Street, Corrimal NSW

1. INTRODUCTION

Reditus Consulting Pty Ltd (Reditus) was engaged by LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust (the client) to address the Planning Secretary's Environmental Assessment Requirements (SEAR) for groundwater, contamination and remediation related conditions for a State Significant Development Application (SSDA) at the former Corrimal Coke Works facility located at Railway Street, Corrimal, NSW (the site).

This letter report is intended to meet the requirements of the following SSDA submission for the site:

- SSD-83789711: Corrimal Coke Works – Stage 2A – Built Form

2. ADDRESSING THE SEARS

The SEARs were issued on 12 May 2025. The purpose of the SEARs is to set out the environmental assessment requirements for the SSDA.

Table 1 describes how the requirements under the SEARs have been adequately addressed through the preparation of Reditus environmental reports, including specific text extracted from each report that directly addresses the SEARs requirement/s.

Table 1. Planning Secretary's Environmental Assessment Requirements.

SEAR REQUIREMENT	SUPPORTING DOCUMENTATION	REDITUS COMMENT	REPORT EXTRACT
12. Ground and Groundwater Conditions • Where required provide a Groundwater Impact Assessment in accordance with relevant Groundwater Guidelines. If the proposed development is on land identified as having high salinity or acid sulfate soil potential in an EPI provide a Salinity Management Plan or Acid Sulfate Soil Management Plan that includes appropriate management measures and strategies.	Required: • Acid Sulfate Soils Management Plan (ASSMP).	Reditus has reviewed the ASSMP[1] prepared for the site. The ASSMP was prepared in accordance with the requirements of an ASSMP as detailed in the relevant guidelines and legislation (as listed within Section 11 of the report) for consultants reporting on contaminated land. The ASSMP meets the requirement of the SEAR. Separate Groundwater Impact Assessment have been prepared by Reditus for the Stage 2A built form submission. Review of the eSpade viewer[1] map for *overall salinity hazard* identifies that the site is not located on land classified as having a high salinity potential and therefore does not require a Salinity Management Plan.	Extracted from the Executive Summary: *"This Acid Sulfate Soils Management Plan (ASSMP) has been prepared by Reditus Consulting Pty Ltd (Reditus) to accompany two interrelated State Significant Development Applications (SSDAs) for the redevelopment of the former Corrimal Coke Works site: Stage 2a Built Form SSDA (SSD-83789711)…* *The SSDAs are submitted concurrently to enable coordinated assessment and delivery of the precinct. Together, they will facilitate the transformation of the former industrial site into a vibrant, residential-led renewal precinct, supported by high-quality public domain and infrastructure.* *This ASSMP has been prepared to address the requirements of SEAR 12 - Ground and Groundwater Conditions and SEAR 13 – Contamination and Remediation.* *Both the Stage 2a Built Form SSDA and the Stage 2–4 Civil Works SSDA were declared as State Significant Development in the State Significant Development Declaration Ministerial Order (No. 10) 2025 (dated 30 June 2025) at Clause 5(1)(n) in Schedule 1 (Amendment SSD Declaration Order 2025 (No. 5)).”*

[1] NSW Government Department of Planning, Industry and Environment, *eSPADE,* accessed online on 26 September 2025 at https://espade.environment.nsw.gov.au.

SEAR REQUIREMENT	SUPPORTING DOCUMENTATION	REDITUS COMMENT	REPORT EXTRACT
13. Contamination and Remediation • In accordance with Chapter 4 of the State Environmental Planning Policy (Resilience and Hazards) 2021, assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable (or will be suitable, after remediation) for the development.	Required: • Preliminary Site Investigation Report (PSI). If required: • Detailed Site Investigation (DSI). • Remedial Action Plan (RAP). • Preliminary Long-term Environmental Management Plan (LTEMP).	Reditus has reviewed the Consolidated DSI[2] prepared for the site. The Consolidated DSI meets the requirements of a PSI and DSI in accordance with the NSW EPA (2020) *Contaminated Land Guidelines* and NEPC (2013*) National Environmental Protection (Assessment of Site Contamination) Measure* (the NEPM). The Consolidated DSI meets the requirements of the SEARs for a PSI and DSI. Reditus has reviewed the RAP prepared for the Stage 1 Redevelopment Area[3] and the RAP prepared for the Stage 2-4 Redevelopment Area.[4] A third RAP has been prepared for an onsite berm located within the Stage 2-4 Redevelopment Area.[5] All RAPs prepared for the site meet the requirements of a RAP in accordance the NSW EPA (2020) *Contaminated Land Guidelines* and NEPC (2013*) NEPM*. Combined, the RAPs for the Stage 1 and Stage 2-4 Redevelopment Areas meet the requirement of the SEAR for a site-specific RAP. All RAP documents have been reviewed and endorsed by the Site Auditor Ms Rebeka Hall of Geosyntec Consultants. A Preliminary LTEMP is not required at the site at this stage as the status of contamination requiring long-term management is not known.	Extracted from the Consolidated DSI, Section 12 - Conclusions: *"Based on the findings of the historical investigations and this consolidated DSI the site can be made suitable for the proposed redevelopment, subject to the development and implementation of a RAP, implementation of appropriate remediation and management strategies and subsequent validation."* Extracted from the Consolidated DSI, Section 12.2: *"Based on the findings of this investigation, WCC can be satisfied the considerations to report the findings of a Preliminary and/or Detailed Investigation (as referred to in the contaminated land planning guidelines) has been achieved."* Extracted from the RAP prepared for the Stage 1 Redevelopment Area, Section 15 - Conclusions: *"The proposed remediation is considered appropriate to render the Stage 1 development area site suitable for the proposed development and ongoing mixed high-density residential, commercial (retail) and public open space land use."* Extracted from the RAP prepared for the Stage 2-4 Redevelopment Area, Section 15 - Conclusions: *"The proposed remediation is considered appropriate to render the Stage 2-4 development area site suitable for the proposed development including mixed use low & high-density residential and public open space land use."*

SEAR REQUIREMENT	SUPPORTING DOCUMENTATION	REDITUS COMMENT	REPORT EXTRACT
			Extracted from the RAP prepared for the onsite berm located within the Stage 2-4 Redevelopment Area, Section 15 - Conclusions: *"The proposed characterisation strategy is considered appropriate to render the Landscaped Berm Material suitable for the proposed development including mixed use low & high-density residential and public open space land use."*

Table Notes

[1] Reditus (2025) *Acid Sulfate Soil Management Plan – Stage 2-4 Bulk Eart Works Development Application – Former Corrimal Coke Works – 27 Railway Street, Corrimal NSW 2518,* version 2.1, ref:22158RP06, dated 3 October 2025.

[2] Reditus (2022) *Consolidated Detailed Site Investigation – Former Corrimal Coke Works – Railway Street, Corrimal NSW,* version 1, ref: 22158RP04, dated 22 November 2022.

[3] Reditus (2024) *Remediation Action Plan – Stage 1 Redevelopment – Former Corrimal Coke Works – Railway Street, Corrimal NSW,* version 7, ref: 22158RP01, dated 20 March 2024.

[4] Reditus (2024) *Remediation Action Plan – Bulk Earthworks – Stage 2-4 Redevelopment – Former Corrimal Coke Works – Railway Street, Corrimal NSW*, version 4, ref: 22158RP07, dated 24 September 2024.

[5] Reditus (2023) *Berm Remedial Works Plan – Site Demolition Works – Former Corrimal Coke Works – Railway Street, Corrimal NSW*, version 2, ref: 22158RP09, dated 22 November 2023.

3. CLOSURE

Reditus concludes that the documentation listed in Table 1 successfully addresses the SEARs and that the site can be made suitable for the proposed development upon remediation and validation in accordance with the RAPs and recommendations of the groundwater impact assessments prepared for the site.

We trust that this document meets your immediate requirements. Should you have any queries please feel free to contact the undersigned.

Sincerely,

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4. LIMITATIONS

Reditus performed its services in a manner consistent with the normal level of care and expertise exercised by members of the environmental assessment profession. No warranties expressed or implied are made.

This report does not comment on any regulatory obligations based on the findings. This report relates only to the objectives stated and does not relate to any other work undertaken for the client and the project team, including:

- LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust

Reditus is not engaged in environmental assessment and reporting for the purpose of advertising sales promoting, or endorsement of any client interests, including raising investment capital, recommending investment decisions, or other publicity purposes. The client acknowledges that this report is for the exclusive use of the client.

Appendix A Supporting Attachments

REDITUS

Consolidated Detailed Site Investigation

Former Corrimal Coke Works

Railway Street, Corrimal NSW

Prepared for LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust c/- Legacy Property Pty Ltd

22 November 2022

22158RP04

Version 1

reditusconsulting.com

Consolidated Detailed Site Investigation

Former Corrimal Coke Works - Railway Street, Corrimal NSW

Prepared for LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust c/- Legacy Property Pty Ltd

Document Control

Author:	**Mathew Burcher** Senior Environmental Scientist (CEnvP – General)	
Reviewer & Approver:	**David Jackson** Principal Hydrogeologist (CEnvP SCP: SC40989)	

This report has been prepared for LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust c/- Legacy Property Pty Ltd in accordance with the terms and conditions of appointment for proposal P22158_v2 dated 23 August 2022 and approved variations.

Reditus Consulting Pty Ltd (ABN 34 631 168 502) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

Report No:	22158RP04
Report Date:	22 November 2022
Revision Text:	Version 1
Details:	Client Comment

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Executive Summary

Reditus Consulting Pty Ltd (Reditus) was engaged by LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust care of Legacy Property Pty Ltd (the client) to prepare a consolidated Detailed Site Investigation (DSI) for the proposed redevelopment of the former Corrimal Coke Works site located at Railway Street, Corrimal NSW (herein referred to as 'the site').

The site is situated on Lot 1 of Deposited Plan (DP) 795791, Lot 5 & 11 of DP 749492 and Lot 126 of DP 598190 and occupies an approximate area of 18.1637 hectares (ha).

The site was formerly a Metallurgical Coke Works with an operational lifespan of approximately 100 years and was decommissioned in 2014. There have been numerous environmental investigations conducted by various consultants both during and following decommissioning, including preparation of a Remediation Action Plan (RAP) to support the re-zoning of the site (Arcadis 2019). The site is proposed to be redeveloped into a mixed-use commercial/residential precinct inclusive of roadways, basement carparking (residential buildings), street scape heritage areas and open space zones.

As part of State Environment & Planning Policy (SEPP) Resilience and Hazards, the planning authority (Wollongong City Council ('Council')) need to consider a DSI report based on conclusions and recommendations of historical Preliminary Site Investigation (PSI) reports. The re-zoning application did not include a DSI, as such, Council have requested a DSI as part of the relevant Staged Bulk Earthwork development application submissions. Multiple historical investigations have been completed since the site was decommissioned with not one over-arching site wide report. as such, Reditus have been requested to review and combine the historical investigations and prepare a site-wide consolidated DSI for submission as part of the Staged Bulk Earthwork development application (DA) process.

The overarching objective of the consolidated DSI was to identify the presence, distribution, and extent of Contaminants of Potential Concern (CoPC) at the site to provide an assessment of the suitability of the site for the proposed redevelopment.

To achieve the objectives of the consolidated DSI, Reditus completed; a review of previous contamination reports, planning documentation, surrounding land uses and environmental setting; summarise the site investigation history and conceptual site model (CSM); complete a quality review of the historical investigation and quality assurance & quality control (QA/QC) methods; and document the identified contamination risks to human health and/or the environment requiring remediation and/or management.

Based on a review of the site history, previous field observations, conclusions of historical investigations and the proposed land uses, Reditus made the following conclusions:

Site History & Observations

- The site was used between 1912 until 2013 to produce metallurgical and foundry coke utilising non-regenerative coking ovens. The coke production area including the coke ovens and peripheral activities occupied the

northeast quarter of the site. Coke storage and loading activities occupied the remaining portions of the operational sections of the site.

- North Corrimal Creek flows generally north to south through the middle of the site. There were two dams created on site to capture the water for quenching the coke during production and dust suppression.
- Following review of historical investigation methodologies and procedures, Reditus consider the soil, sediment, surface water, ground gas and groundwater assessment methods and QA/QC measures were generally completed in accordance with relevant industry best practice guidelines. The historical data collected was therefore considered suitable for use in this consolidated DSI to assist with characterising the nature and extent of contamination on site. The methodology and QA/QC results from historical investigations completed prior to 2014 were not available. Given the age of the pre-2014 investigations and the results within those reports is considered suitable for comparison purposes.
- Previous investigations observed the presence of coal, coke, and other carbonaceous materials within fill material across the site. The findings of the combustibility assessment (DP 2019) indicated there was a variable range of combustibles present on site between 11.6% and 87.8%. The average combustibility of samples tested was 49.7%. It was determined that any re-use of the carbonaceous materials that meet the land use criteria would be performed under a site-specific geotechnical specification prepared by a suitably qualified geotechnical engineer to ensure compliance with the WCC Development Control Plan (2009) Chapter E19 Earthworks.
- The perimeter and sediment control berms were investigated across the site and comprised predominantly of silts, silty clay, sands, coal fragments with some locations containing demolition rubble, including asbestos materials at one location.
- The standing water level within the existing wells onsite ranged between 3.03 to 4.69 metres below top of casing (m btoc). The inferred local groundwater flow direction on the site is south to southeast.

Soil

- Based on the presence of the exceedances to adopted ecological guidelines discussed, there is a potential risk under the proposed land use to future ecological receptors. Noting the TRH criteria is low reliability, and the surface filling material will undergo significant blending, burial and compaction work. As such as part of each RAP for the future bulk earthwork Stages the management decisions based on these results should be carefully evaluated. The representativeness and effect these results may have on the chosen remedial strategy will need to be incorporated in the remedial and validation. During the site redevelopment it is important to ensure that these impacts are adequately remediated / managed to render the site suitable for the proposed residential and public open space land use.
- Exceedances of the adopted human health SAC for the respective proposed-land use setting were reported at five (5) sample locations across the site. One exceedance was for benzo(a)pyrene (B(a)P) toxicity

equivalency quotient (utilising half the limit of reporting LOR) with three (3) locations exceeding TRH >C_{16} Fraction criteria and one (1) exceeding lead criteria. The reported exceedances are considered to present a potential risk under the proposed land use to future site users and therefore requires remediation and/or management to render the site suitable for the proposed development. It is noted however only one of the TRH exceedances were based on the more recent investigations performed since 2014.

- Asbestos was identified at two (2) soil sample locations within the Production Area; BH51 at 0.4 mbgl and MW2 at 0.5 mbgl. Asbestos containing material (ACM) were also observed by Arcadis (2017) within berm materials adjacent the Waste Storage Area at sample location TP2. Based on the presence of ACM, there is a potential risk under the proposed land use to future site users and therefore requires further assessment, remediation and/or management to render the site suitable for the proposed development.
- The results of the Reditus (2020) Data Gap Investigation (DGI) reported four (4) soil samples to marginally exceed the ASSMAC (1998) Acid Sulfate Soil (ASS) action criteria. There were no indications of actual ASS and the exceedances of the action criteria were considered to be potential ASS (PASS) only. The positive PASS results ranged between a depth of 2 and 7 metres and were identified within the areas of the site proposed to be cut to form the new creek alignment. PASS appeared to be limited to the northern and southern extents of the creek realignment and were associated with a grey colourisation of the weathered silt/sandstone formation. Vertical characterisation indicated most of the soils proposed to be disturbed are not ASS or PASS. These results are consistent with the ASS mapping which place the site on the edge of a Class 3 ASS zone. It was determined that upon finalisation of the Creek realignment works and prior to those bulk earthworks commencing further characterisation of the potential ASS material should be performed.

Sediment

- Exceedances of the adopted ANZG toxicant default guideline values for sediment quality were reported for zinc and/or lead in up and down-gradient locations of North Corrimal Creek and for the Sum of TRH within the South Dam and Recycle Dam. The redevelopment will dewater the dam and associated sediments, as such, the appropriate re-use criteria will be soil. Appropriate management of the dam sediments will be required to ensure any they are appropriately re-used.

Groundwater

- Concentrations of heavy metals (copper, chromium, cadmium, copper, zinc and nickel) and ammonia were reported to marginally exceed the groundwater assessment criteria (GAC). The most recent round of groundwater sampling, performed in 2020, however reported concentrations generally below the GAC. The previous investigations did not report that the site was likely to be contributing to a net contaminant mass as groundwater flowed through the site. The reported concentrations were concluded to be within expected regional background concentrations ranges for heavy metals and ammonia. This was determined based on the surrounding

urbanised environment and proximity to local Collieries and heavy industry which both date back over 100 years. Remediation or ongoing future management of the site groundwater as not deemed to be required.

Surface Water

- The results of the historical investigations reported marginal exceedances of the surface water assessment criteria (SWAC) for heavy metals in North Corrimal Creek and the on-site dam. The magnitude of the exceedances however were indicative of an urban environment and/or not considered to pose an unacceptable risk to current or future site receptors. Therefore, the remediation and/or management of surface water on site is not required.

Hazardous Ground Gas

- A hazardous ground gas assessment was completed as part of the Arcadis (2017) investigation. The results of which assigned the site as Characteristic Gas Situation (CS) value of '1' and the risk classification for the site was considered 'very low risk'. As such, a quantitative risk analysis or the management of hazardous ground gases was considered not required.
- The former powerhouse building is proposed to remain as a site heritage item. To maintain this heritage item the fill beneath the former powerhouse building will need to remain in-situ. The fill material consists of up to 4 metres of carbonaceous fill materials and will require further assessment and monitoring in relation to ground gas to confirm the previously identified CS value.

The previous investigation summarised above have been reviewed by the previous appointed site auditors. These were Mr Chris Jewel who assessed the Environmental Strategies 2014 investigation and Ms Rebeka Hall who reviewed the subsequent investigations and previous RAP (Arcadis).

The results of the historical investigations of the site suggest that there is no requirement to notify the reported contamination to the NSW EPA under Section 60 of the Contaminated Land Management Act (1997) subject to development of a RAP and successful remediation and validation of the identified contamination.

Based on the findings of the historical investigations and this consolidated DSI **the site can be made suitable for the proposed redevelopment**, subject to the development and implementation of a RAP, implementation of appropriate remediation and management strategies and subsequent validation.

Recommendations

Following review of historical investigations of the site and development of this consolidated DSI, Reditus provide the following recommendations with respect to the proposed development:

- Prepare a RAP for each of the anticipated Stage 1 and Stage 2 bulk earthworks areas. The RAP's should detail the remediation and/or management strategies required to render the site suitable for the proposed development. The RAP is to address the reported exceedances of the adopted human health and ecological SAC, including the presence of ACM in isolated locations.

- The geotechnical works required to rework the carbonaceous materials on site to achieve geotechnical and design considerations will require that a significant portion of fill in which ecological SAC exceedances have been reported will be blended, buried, compacted etc. This should be considered during selection of appropriate site-specific ecological criteria and any the ongoing management strategies.
- As the proposed redevelopment will substantially re-align North Corrimal Creek and include dewatering of onsite dams. The RAP should detail how residual sediments are to be dried, validated (chemically, aesthetically and geotechnically) and either appropriately re-used within the site soils, encapsulated or lawfully disposed of off-site.

As detailed within the existing RAP (Arcadis 2019) the first stage of remedial works assumes a Sampling Analysis and Quality Plan (SAQP) is to be prepared by comparing the proposed land-uses (including cut/fill plan) to the historical investigation results to determine the locations of the sampling works. This is to include a development specific data gap investigation to further inform the finer detail of the civil and urban designs and a Human Health and Ecological Risk Assessment (HHERA) to develop site specific remediation acceptance criteria.

State Environmental Planning Policy (Resilience and Hazards), 2021

Based on the findings of this investigation, WCC can be satisfied the considerations to report the findings of a Preliminary and/or Detailed Investigation (as referred to in the contaminated land planning guidelines) has been achieved.

1. Introduction

Reditus Consulting Pty Ltd (Reditus) was engaged by LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust c/- Legacy Property Pty Ltd (the client) to prepare a consolidated Detailed Site Investigation (DSI) for the proposed redevelopment of the former Corrimal Coke Works site located at Railway Street, Corrimal NSW (herein referred to as 'the site').

The site is situated on Lot 1 of Deposited Plan (DP) 795791, Lot 5 & 11 of DP 749492 and Lot 126 of DP 598190 and occupies an approximate area of 18.1637 hectares (ha).

The site was formerly a Metallurgical Coke Works with an operational lifespan of approximately 100 years and was decommissioned in 2014. There have been numerous environmental investigations conducted by various consultants both during and following decommissioning, including preparation of a RAP. The most recent set of investigations have been completed by Arcadis and Reditus. A summary of the investigation findings is provided in Section 5 of this report and in the Arcadis *Remedial Action Plan, 27 Railway Street, Corrimal NSW,* dated 13 May 2019 (Arcadis 2019) and Reditus Consulting Pty Ltd *Data Gap Investigation, 27 Railway Street, Corrimal NSW*, dated 4 September 2020 (Reditus 2020).

As part of State Environment & Planning Policy (SEPP) Resilience and Hazards, the planning authority (Wollongong City Council ('Council')) need to consider a DSI report based on conclusions and recommendations of historical Preliminary Site Investigation (PSI) reports. A DSI was not submitted as part of the re-zoning process for the site, as such, Council will need to consider a DSI as part of the development application submissions. There is currently no one consolidated DSI for the site, however multiple historical investigations have been completed that, once consolidated would constitute a "DSI". As such, Reditus has been requested to prepare site-wide consolidated DSI for submission as part of the DA process.

The location and layout of the site is presented in **Figure 1** and **Figure 2**, **Appendix A**.

1.1. Proposed Development

Legacy intends to redevelop the site into a mixed-use commercial/residential precinct inclusive of roadways, basement carparking (residential buildings), street scape heritage areas and open space zones. The construction phase of the redevelopment is proposed to occur in various stages with multiple Development Applications planned to facilitate the process. The stages of the development will include two broad stages:

- **Stage 1.** This will involve the construction of between 5-6 high density residential apartment buildings. Each will have a basement. The basements are assumed to be one level and will be only partially buried below the final finished surface level. The heritage streetscape will also be included within this stage. It is understood that the entire "power station" building and part of the eastern coke oven infrastructure will be maintained. Entrance and access roads will also form part of this stage.
- **Stage 2.** This will include the construction of a further 10 high density residential apartment buildings and several blocks of medium to low-density

townhouse and duplex style properties and the major earthworks component of the redevelopment. Further roadways and open space areas will be formed within this stage. Importantly most of the bulk earthworks that include the re-alignment of the creek line is required to be performed as part of this stage.

1.2. Background

Previous investigations have indicated there is no gross contamination across the site. The contamination identified is limited to relatively small areas that require either further investigation, remediation and/or on-going management. A broad strategy to render the site suitable for the proposed land use is detailed within the RAP (Arcadis 2019) that was developed for re-zoning purposes. Following from this Consolidated DSI (Reditus 2022) and to maintain consistency with the staged development application process, Reditus will also submit a RAP specific to each bulk earthwork stage of the development. Given the in-fill nature of the site and significant earthwork proposed, each RAP will require co-ordination between the environmental consultant and the civil and urban design engineers.

To adhere to the SEPP Resilience and Hazards, the client has requested Reditus review existing and available historical investigation reports for the site and prepare a retrospective consolidated DSI summarising the nature, extent and degree of identified contamination on site requiring remediation and/or management to render the site suitable for the proposed redevelopment.

Proposed redevelopment concept plans provided in **Appendix C** and proposed land uses outlined in **Appendix A, Figure 3.**

1.3. Objective

The overarching objective of the consolidated DSI was to identify the presence, distribution, and extent of Contaminants of Potential Concern (CoPC) at the site to enable an assessment of the suitability of the site for the proposed redevelopment. The specific objectives are summarised as follows:

- Conduct a desktop investigation of historical investigations to identify and evaluate potential contamination sources based on the historical land uses of the site and surrounding areas to the site.
- Assess the nature, extent and degree of contamination for CoPC in soil, sediments, surface water and groundwater.
- Assess whether any identified contamination presents an unacceptable risk of exposure to human health and/or the environment, in the context of the proposed redevelopment.
- Provide advice on whether the land is currently suitable, from a contamination perspective, for the proposed redevelopment or could be made suitable following further investigation and/or remediation.
- Provide recommendations relevant to the further investigation and/or remediation of the site.

1.4. Scope of Works

The following scope of works was completed by Reditus:

- A review of previous contamination reports, planning documentation, surrounding land uses and environmental setting.
- Summarise the site investigation history and conceptual site model (CSM).
- Complete a quality review of the historical investigation methods and quality assurance & quality control (QA/QC) completed and assessment of suitability of historical data for consolidation into this DSI.
- Document the identified contamination risks to human health and/or the environment requiring remediation and/or management.
- Preparation of a consolidated DSI (this document) in general accordance with the NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Sites and NEPC (2013) *National Environmental Protection (Assessment of Site Contamination) Measure (NEPM)* and other relevant NSW EPA Guidelines.

2. Site Identification

The location of the site is provided in **Figure 1** and the site layout is shown in **Figure 2**, **Appendix A.** A summary of the site identification details is provided in **Table 2-1** below.

Table 2-1: Site Identification Summary

Site Characteristics	Details
Street Address	Railway Street, Corrimal, NSW
Lot & Deposited Plan	Lot 1 of DP 795791, Lot 5 & 11 of DP 749492 and Lot 126 of DP 598190
Site Area	Approximately 18.1637 hectares (ha)
Site Coordinates *Approximate Centre of Site (WGS84)*	Latitude: -34.376 Longitude: 150.903
Local Government Area	Wollongong City Council
Zoning	SP2: Infrastructure (Railway). R3: Medium Density Residential RE1: Public Recreation As specified in the Wollongong Local Environmental Plan (LEP) 2009.
Current Owner	LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
Current Land Use	Vacant – former industrial coke works facility
Proposed Land Use	Mixed-use commercial/residential precinct inclusive of roadways, basement carparking (residential buildings), street scape heritage areas and open space zones. The proposed conceptual redevelopment plans are provided in **Appendix C** and proposed land uses outlined in **Appendix A, Figure 3**
Trigger for Assessment	Development Application (DA)
Surrounding Land Uses	Land uses surrounding the site include: ▪ **North:** Railway Street and low to high density residential properties. ▪ **South:** A riparian corridor associated with Towradgi Creek with low density residential properties and Carr St beyond. ▪ **West:** Memorial Drive, low to medium density residential properties, with Ziems Park, low density residential properties and Corrimal Pool beyond. ▪ **East:** Corrimal railway station, railway line with low density residential properties and Corrimal East Public School beyond.

2.1. Site Conditions and History

The following description of site conditions is based on information summarised within the Arcadis (2019) RAP and Reditus (2020) Data Gap Investigation (DGI).

The site was used between 1912 until 2013 for the production of metallurgical and foundry coke. The coke production area including the coke ovens and peripheral activities occupied the northeast quarter of the site. Coke storage and loading activities occupied the remaining portions of the operational sections of the site.

North Corrimal Creek flows generally north to south through the middle of the site. There were two dams created on site to capture the water for quenching the coke during production and dust suppression. The two dams are described as follows:

- Recycle Dam for collection and recycling of process (mostly quench) water.
- South Dam for provision of make-up water to the Recycle Dam.
- North Corrimal Creek was a tributary of Towradgi Creek which flowed east and was located at the southern boundary. A section of vacant land was located at the southern third of the subject Site.
- The southern sections (south of North Corrimal Creek) of the site were not utilised as part of the Coking operation and were left vacant and sporadically used for Horse agistment.
- Vegetated berms consisting of site fill material were located along the periphery of operational areas and acted as visual screens and noise barriers
- The site was accessed from Railway Street, Corrimal, NSW, and was approximately rectangular in shape and aligned north-south, bound by the main southern railway line to the east and a dual carriageway (Memorial Drive) to the west.

The site boundary conditions are described as follows:

- The entire site perimeter was secured through various types of fencing.
- The northern site boundary off Railway Street is the main site access point.
- The eastern site boundary is formed by the railway corridor and maintained by Sydney Trains.
- Southern site boundary is formed by open spaces and riparian corridor surrounding Towradgi Creek.
- The north-western site boundary is formed by low to medium density residential properties.
- The western site boundary is formed by Memorial Drive.

The site operations ceased in June 2013, and comprised the following operations areas/site uses as illustrated in **Figure 2** and detailed in the ES (2014) Preliminary Site Investigation (PSI):

- (A) Production Facility – This area comprised coal storage, coke oven batteries and ancillary operations including car parking, workshops, plant storage sheds, office spaces, loading areas and a weigh bridge.

- (B) Waste Storage Areas – These areas were used for the stockpiling of redundant machinery and equipment.
- (C) Coke Stockpile Areas – These areas were used for stockpiling of coke. Stockpile areas were fitted with irrigation sprays for dust suppression. The areas were also used to store refractory bricks and as a quench ash stockpile for a period.
- (D) Vacant Land – Comprised areas of vacant land that had no or minimal history of production activity and generally served as screening and vegetated areas.
- (E) Waterways – Comprises the creek line of North Corrimal Creek, including the south dam that flows into Towradgi Creek, immediately beyond the site's southern boundary.

2.1.1. Soil

Previous investigations described the site geology as overburden to 10.3m below ground level (m bgl) overlying inter-bedded natural strata of shale, coal, sandstone and siltstone.

It was reported that the overburden within the production, stockpile and waste storage areas was generally coke and coke fines overlying natural grey-yellow, yellow-brown, brown, orange, orange-grey and grey clays.

Within the southern vacant land, the overburden was described as orange-grey and grey clays, with no coke reported.

The western half of the site was generally logged as coke-like fill of varying depth overlying orange/grey clay. Assessed areas of vacant land in the north were described as brown loamy soil overlying orange/grey clay. Coke was observed in one borehole located near the northern berm.

Arcadis formed thirty-five (35) test pits through the berms across the site. The material within the berms can be described as follows:

- The surface was predominantly made up of silts, coal wash fines and quench ash.
- Fill material consisted of silt, silty clay, medium grained sands, coarse and medium sized coal fragments building rubble fragments and plastic.
- Natural material underlying the berms consisted of non-plastic, dry, light brown silty clay.
- Photoionisation detector (PID) measurements that were recorded did not detect measurable concentrations of volatile organic compounds (VOCs);
- Asbestos containing materials (ACM) were encountered in soil material within the berm at one test pit (TP2) adjacent to waste storage area 'B2'.
- At some locations the height of the berm was up to 5.0m above surface level.

Previous investigations observed the presence of coal, coke and other carbonaceous materials within fill material across the site. Douglas Partners (DP 2018) conducted a preliminary desktop-based assessment of material at the site to

provide guidance on which portions of the site are likely to require blending to allow compliance with the WCC policy for combustibility. Subsequent to the preliminary investigation DP (2018) conducted an intrusive investigation to determine the actual percentage content of combustible materials within fill at the site. The findings of the combustibility assessment (DP 2019) indicated there was a variable range of combustibles present on site between 11.6% and 87.8%. The average combustibility of samples tested was 49.7%. This was in excess of the 30% allowable average and 40% absolute maximum criteria set out in the EPA Resource Recovery Order (2014). Sulfur content was considered to be in compliance of the EPA Resource Recovery Order (2014) for all samples tested.

2.1.2. Groundwater

The standing water level within the existing wells onsite ranged between 3.03 m to 4.69 m below top of casing (m btoc). The inferred local groundwater flow direction on the site is to the south to southeast. This opinion of Arcadis (2019) (and Reditus) is based on a review of the predominant slope of the natural topography to the south, the southerly surface water flow direction of North Corrimal tributary across the Site and the easterly flow direction of Towradgi Creek towards the coastline.

Additional groundwater investigations were completed around the coking production area and reported by Arcadis (January 2018). The results were consistent with those previously reported by ES (2014).

Both groundwater and surface water quality (North Corrimal Creek) at the at site are considered to be typical of an urban environment. The upgradient monitoring wells (ES 2014 and Arcadis January 2018) and upgradient creek samples (ES 2014) indicated the presence of dissolved heavy metals.

Given the location of the site within an urbanised environment and proximity to local Collieries and heavy industry which both date back over 100 years, it is anticipated that mobile contaminants such as dissolved heavy metals and nutrients (ammonia, nitrate and phosphate) is likely to be present within ambient surface and groundwater surrounding the site.

3. Site Setting and Surrounding Environment

The following summary of the condition and environmental setting of the site and surrounding areas is predominantly based on information provided with the Arcadis (2019) RAP as summarised in **Table 3-1** below.

Table 3-1: Site Setting and Surrounding Environment

Item	Detail
Topography	The subject site is generally flat to gently undulating. There is a general incline south towards Towradgi Creek which occurs at the southern boundary. Filling and levelling has occurred in the past and the production and stockpile are flat, though there is local incline towards the creek (North Corrimal Creek) which flows north to south through the site. The majority of the site is between 9 to 15 metres Australian Height Datum (m AHD).
Hydrology	North Corrimal Creek flows north to south through the Site and is steeply incised. Water north to south through the site and discharges into Towradgi Creek which is located immediately beyond the southern site boundary. The standing water level within the existing wells onsite ranged between 3.03 m to 4.69 m btoc. The inferred local groundwater flow direction on the site is to the south to southeast. This opinion of Arcadis (2019) (and Reditus) is based on a review of the predominant slope of the natural topography to the south, the southerly surface water flow direction of North Corrimal tributary across the Site and the easterly flow direction of Towradgi Creek towards the coastline.
Regional Geology	The 1:250,000 Geological Survey of NSW Map for Wollongong (Geological Series Sheet S1 56-9, 2nd Ed. 1966) describes the regional geology at the Site as Quaternary alluvium, gravel, swamp deposits and sand dunes. The Illawarra Coal Measures (shale, sandstone, conglomerate, tuff, chert, coal and torbanite seams) occurs within the Illawarra Escarpment around 2km west of the subject site.
Soil Lithology	Previous investigations described the site geology as overburden to 10.3m bgl overlying inter-bedded natural strata of shale, coal, sandstone and siltstone. Overburden within the production, stockpile and waste storage areas was reported to generally comprise coke and coke fines overlying natural grey-yellow, yellow-brown, brown, orange, orange-grey and grey clays. Within the southern vacant land, the overburden was described as orange-grey and grey clays, with no coke reported.
Acid Sulfate Soils (ASS)	A review of the acid sulfate soil (ASS) risk of the site was completed in the PSI (ES 2014) which should be read in full in conjunction with this report. The Wollongong Local Environmental Plan (2009) maps the majority of the subject Site (approximately 97%) as Acid Sulphate Soils Class 5. Approximately 3% of the subject Site (approximately 6,000 m^2) is mapped as Class 3 land. The results of the Reditus (2020) DGI reported four (4) soil samples to marginally exceed the Acid Sulfate Soil action criteria. There were no indications of actual ASS (AASS) and the exceedances of the action

Item	Detail
	criteria were considered to be potential ASS (PASS) only. The positive PASS results ranged between a depth of 2 and 7 metres and were identified within the areas of the site proposed to be cut to form the new creek alignment. PASS appeared to be limited to the northern and southern extents of the creek realignment and were associated with a grey colourisation of the weathered silt/sandstone formation. Vertical characterisation indicates the majority of the soils to be disturbed are not ASS or PASS. These results are consistent with the ASS mapping which place the site on the edge of a Class 3 ASS zone. ASS Class zones for the site are outlined in **Appendix A, Figure 4** and indicate the Stage 1 works will not require management of ASS materials, however the Stage 2 boundary may require an ASSMP.
Hydrogeology	Groundwater is likely to be present within the deeper bedrock that consists of the Illawarra Coal Measures. The depth to the bedrock has been mapped at greater than 10 m. Groundwater storage within the bedrock sequence would be dominated by fractures. The intensity, connectivity and orientation of the fracture network would determine the groundwater flow direction and velocity. The anticipated regional groundwater flow direction would be east towards the coast. A detailed review of the hydrogeology of the site was provided in ES PSI (2013) and ES DSI (2014) which should be read in full in conjunction with this report. The hydrogeology is summarised below: ▪ The standing water level within the existing wells onsite ranged between 3.03m to 4.69m below top of casing. The inferred local groundwater flow direction on the site is to the south to south east. This opinion is based on a review of the predominant slope of the natural topography to the south, the southerly surface water flow direction of North Corrimal tributary across the Site and the easterly flow direction of Towradgi Creek towards the coastline. Additional groundwater investigations were completed around the coking production area and reported in by Arcadis (January 2018). The results were consistent with those previously reported by ES (2014).
Sensitive Receptors	The nearest sensitive environments are summarised as follows: ▪ North Corrimal Creek and Towradgi Creek. ▪ Surrounding residential properties. ▪ Corrimal East Public School.

4. Historical Site Records

4.1. Contaminated Land Records

There are no records listed on the NSW EPA contaminated land record relating to a notice under the Contaminated Land Management Act 1997 (CLM Act) for the site.

4.2. Contaminating Processes

Following review of the historical investigations detailed in Section 5 there is evidence that the site has formerly operated as a metallurgical and foundry coke production and storage facility.

Hazardous building materials have been identified at the site and in fill material, including asbestos fibre cement sheeting and insulation products and use/storage of polychlorinated biphenyls (PCBs) in electrical capacitors.

Above ground waste oil and diesel storage tanks are known to have been used on site and were located near the Coke screening plant and grinding plant. The exact volumes of historically stored fuels and oils are not known.

There is evidence to suggest past industrial processes resulted in surface water runoff collecting fuel leaks and/or minor oil spills and wash down water from the operational areas of the site which would potentially discharge into on-site dams and North Corrimal Creek which traverses north-south through the site.

4.3. Regulatory Records

A review of regulatory records is provided in **Table 4-1** below.

Table 4-1: Summary of Regulatory Records

Item	Detail
NSW EPA Register of Contaminated Sites	The NSW EPA does not hold records of a notification of a contaminated site under Environment Protection Act (1997) for the site.
NSW EPA Public Registers	A search of the NSW EPA Public Registers identified a license, several licence variations and two (2) penalty notices that have been issued to the site under the Protection of the Environment (Operations) Act 1997. A summary of notable notices is outlined below, all of which were issued to Illawarra Coke Company Pty Ltd: o Licence No.125 – Miscellaneous licensed discharge to waters (any time), 0-20 megalitres. Commenced March-2000, surrendered Sep-2017. o Penalty notice No.3085765183, 29 June 2012, contravene section by emission of odours (corporation). o Penalty notice No.3085772645, 6 August 2013, contravene section by emission of odours (corporation).

Item	Detail
National Pollutant Inventory Map	The National Pollutant Inventory (NPI) does not identify any facilities within 2 km of the site.

4.4. PFAS Assessment

Per- and polyfluoroalkyl substances (PFAS) are a complex group of >4,700 synthetically produced organic compounds. PFAS are highly effective surface-active agents in high temperature environments and are resistant to water and oils. These unique physico-chemical characteristics account for their widespread use in Aqueous Film Forming Foams (AFFF) and a wide range of household and industrial products.

The potential risk to the site presented by PFAS has been evaluated in general accordance with Tables B1 and B2 in Appendix B PFAS National Environmental Management Plan (NEMP) Version 2.0 following a review of site history and observations made during inspections of the site by Reditus and others. A summary of the potential risk to the site presented by PFAS is provided in **Table 4-2**.

Table 4-2: PFAS Screening Assessment

Item	Probability	Detail
Has fire training occurred on-site?	Low	It is unlikely that firefighting training has occurred at the site.
Is an airport or fire station located within close proximity to the Site?	Low	The site is not located within close proximity to an airport. Corrimal Fire & Rescue NSW station is located approximately 500 m north-west of the site.
Have fuel fires ever occurred on-site?	Low	No evidence of fuel fires occurring on site.
Have PFAS been manufactured at the Site, or stored on-site?	Low	The site has no evidence of any manufacturing or storage of PFAS as per a review of historical investigations and site inspections by Reditus and others.

The outcomes of the PFAS assessment summarised in Table 4-2 above indicates there is low potential for the site to be impacted by PFAS generated on- or off-site activities.

5. Previous Investigations & Contamination Status

The following section provides a summary of the following previous investigations conducted at the site as revised within the Arcadis (2019) RAP:

- ADI Limited (1996) – Stage 1 Investigation Report, Station Street, Corrimal (ADI 1996).
- EnviroRisk (2005) – Phase 1 Environmental Assessment (EnviroRisk 2005).
- EnviroRisk (2006) – Phase 2 Environmental Assessment (EnviroRisk 2006).
- Environmental Strategies (March 2014) – Preliminary Site Investigation, 27 Station Street, Corrimal (ES March 2014).
- Environmental Strategies (July 2014) – Detailed Site Investigation, 27 Station Street, Corrimal (ES July 2014).
- Arcadis (2017) – Additional Environmental Assessment Coke Works, 27 Station Street, Corrimal (Arcadis 2017).
- Arcadis (January 2018) – Additional Environmental Assessment, Production Area, 27 Station Street, Corrimal (Arcadis January 2018).
- Arcadis (March 2018) – Flue, Stack and Powerhouse Assessment, 27 Station Steet, Corrimal (Arcadis March 2018).
- Douglas Partners (2018) – Preliminary Combustibility Assessment (DP 2018).
- Douglas Partners (2019) – Combustibility Assessment, Corrimal Coke Works Site, Corrimal (DP 2019).
- Arcadis (2019) – Remediation Action Plan, 27 Railway Street, Corrimal, NSW (Arcadis 2019).
- Reditus Consulting Pty Ltd (2020) – Data Gap Investigation, 27 Railway Street, Corrimal NSW (Reditus 2020).

Not all of the reports listed above were provided to Reditus for review as part of this consolidated DSI, as such the Arcadis (2019) review of these reports will be relied up on. Details of sample exceedances of the adopted site assessment criteria (SAC) are summarised in Section 5.1, noting that soil and sediment samples only from available data have been compared to the current SAC. The reports are summarised in **Table 5-1** below.

Table 5-1: Previous Environmental Assessments

Item	Detail
Stage 1 Site Investigation Report – ADI 1996	
Summary of Works Undertaken	The ADI (1996) investigation comprised: ▪ The site was divided into five (5) areas for the assessment based on current and historical land uses. The investigation was completed while the site was operational and no investigation beneath the former buildings was completed. ▪ The sampling program for the investigation of 70 soil sampling locations, 7 sediment locations, 7 surface water locations and

Item	Detail
	eight groundwater monitoring wells. This included the excavation of 45 test pits using a backhoe, drilling of 12 boreholes and installation of five groundwater monitoring wells.
Summary of Findings	**Soil** ▪ Reported concentrations of metals in all areas investigated by ADI were generally low and did not exceed NEPM (2013) health-based investigation levels (HILs). Zinc was reported exceeding the adopted ecological investigation limit (EIL) at one location within the production area (P26). ▪ Elevated concentrations of petroleum hydrocarbons (>C15 chain length) above the comparable NEPM (2013) TRH fraction ecological screening level (ESL) criteria were reported by ADI at 2 locations within the production area, 4 locations within the waste storage area and 3 locations within the stockpile areas. S11 and W5 also reported $C_{10} – C_{14}$ fraction above the comparable NEPM (2013) ESL criteria and Management Limits (ML). ▪ Concentrations of total polycyclic aromatic hydrocarbons (PAH) were reported at several locations across the site within the waste storage area, stockpile areas and the production area. Reported concentrations did not exceed NEPM (2013) health-based screening levels (HSLs). Concentrations of constituent PAHs were not provided in the report, with only total concentrations are available. ▪ No significant concentrations of BTEX (benzene, toluene, ethylbenzene and xylenes) compounds or total phenols were reported. ▪ No organochlorinated pesticides (OCPs) or polychlorinated biphenyls (PCBs) and 3 minor detections of volatile halogenated compounds (VHCs) were reported in the selected samples assessed. ▪ Assessment for asbestos was limited to a total of five (5) samples (one from the production area, two from the stockpile areas, one from waste storage area and one from the southern vacant land). No asbestos was reported. **Sediment** ▪ Detectable metals, petroleum hydrocarbons and metals were reported by ADI. ▪ Copper, lead and zinc exceeded ANZECC (2000) interim sediment quality guidelines (ISQG) at 1 location (H54 – Creek up-gradient of South Dam at bridge) of 7 sampled. *This data was not available for review*. **Surface Water** ▪ Elevated zinc was reported in 2 surface water samples collected from South Dam but not in samples collected from the Recycle Dam or the creek (up and down gradient). ▪ Elevated PAHs were reported in 2 samples collected from the Recycle Dam, however, it was not clear in the ADI report

Item	Detail
	whether samples were filtered, so the result may be due to entrained particulate (coke). *This data was not available for review*. **Groundwater** ▪ ADI reported elevated metals particularly zinc and copper in several of the 8 wells installed. The subsequent assessment by CES (2006) as subcontractor to EnviroRisk (2006) reported much lower concentrations of metals in groundwater. ▪ No significant concentrations of petroleum hydrocarbons, BTEX compounds, PAHs, or phenols were reported in groundwater. ▪ ADI assessed one surface water and 2 groundwater samples for ammonia. Ammonia was reported at elevated concentrations however no conclusions can be drawn from a limited data set.
Conclusions / Recommendations	ADI (1996) reported coke and coke fines in the sub-surface across identified production, waste storage and coke stockpile areas. Contamination from site activities was limited to long chain length petroleum hydrocarbons at areas of surface staining in the waste storage, stockpile and production areas. There appeared to be minimal impact to surface water and groundwater. Only soil analytical data was available for review, as such the results of the ADI assessment have been incorporated into this consolidated DSI for background context only.

Item	Detail
Phase 1 Environmental Assessment – EnviroRisk 2005	
Summary of Works Undertaken	The EnviroRisk (2005) investigation comprised: ▪ The EnviroRisk assessment focussed on Lot 5 DP 749492 (western and southern parts) which was then leased by Illawarra Coke Company (ICC) from the Corrimal Leagues Club. The assessment included a historical review and site walk over. ▪ EnviroRisk predominantly used the ADI (1996) report as a basis for the review and developed a Phase 2 assessment program.
Summary of Findings/ Conclusions	The key aspects identified by EnviroRisk as requiring further investigation were the waste storage area, which was used for storage of redundant equipment, and rubble/fill stockpiles, the coke stockpile area, and previous filling in those areas.

Item	Detail
Phase 2 Environmental Assessment – EnviroRisk 2006	
Summary of Works Undertaken	The EnviroRisk (2006) investigation comprised: ▪ EnviroRisk undertook two rounds of assessment; comprehensive assessment was completed during December 2005 and an additional sampling round involving limited soil sampling and additional sampling of the waterways was completed during February 2006. ▪ Installation of monitoring wells and groundwater assessment was completed by CES (2006) under subcontract to EnviroRisk. The groundwater assessment report by CES was included as Appendix 1 to EnviroRisk (2006). ▪ EnviroRisk generally maintained the same investigation areas as identified by ADI (1996). ▪ The sampling program for the investigation consisted of 45 soil sampling locations, 3 sediment locations, 9 surface water locations and 4 groundwater monitoring wells and included the excavation of 45 test pits using a backhoe, drilling of 12 boreholes and installation of 5 groundwater monitoring wells.
Summary of Findings	▪ Elevated soil concentrations above the adopted EILs for metals (As, Cu, Pb, Zn), at 1 location in vacant land north of the waste storage area and 8 locations within the waste storage area. ▪ Lead was reported in the Arcadis (2019) summary in BH18 at 2m (4,370mg/kg) (*Note: This data was not available for review)* above the adopted HIL and EILs. Step-out delineation sampling (TP18A-TP18E) reported lead at BH18E-2.5m of 1,580 mg/kg above the adopted HIL and EILs ▪ Elevated soil Benzo(a)pyrene (BaP) was reported above the adopted ESL criteria in 3 locations within vacant land north of the waste storage area. ▪ B(a)P (as toxic equivalency quotient (TEQ Half)) was reported above the adopted HIL criteria in 1 location within vacant land north of the waste storage area. ▪ Concentrations of BTEX compounds, phenols, OCPs, organophosphate pesticides (OPPs), PCBs and VHCs were reported below the adopted SAC in the selected samples assessed. ▪ TRH $C_{10} – C_{14}$ and $C_{15} – C_{28}$ fraction was reported above the comparable NEPM (2013) ESL criteria in 2 locations within vacant land north of the waste storage area. TRH $C_{15} – C_{28}$ fraction was reported above the comparable NEPM (2013) ESL criteria in 5 locations within vacant land north of the waste storage area, 1 location within the waste storage area, 3 locations within the stockpile area and 1 location within the bund wall. ▪ No elevated metals, PAHs, petroleum hydrocarbons or BTEX compounds were reported in sediment samples.

Item	Detail
	▪ Elevated metals (copper and zinc) were reported in selected creek water samples. These more likely reflected the urban/industrial setting of the region rather than specific contribution from the site. ▪ Ammonia was detected in two creek water samples assessed. The concentrations were low and not considered to be significant. ▪ No petroleum hydrocarbons, BTEX compounds, PAHs or phenols were reported in either groundwater or the two creek samples assessed. ▪ Marginally elevated concentrations of copper, zinc and cadmium were reported above the ANZECC guidelines. The concentration were considered reflective of the regional urban/industrial setting rather than contribution from site activities.
Conclusions / Recommendations	▪ EnviroRisk reported a lead exceedance in soil at sample points BH18 and BH18E located south of the Waste Storage Area and within the footprint of the former rail spur. Field logs of EnviroRisk reported "coke-like" fill to a depth of at least 2.4mbgl in this area. ▪ The lead impacted soil at these two locations was considered to be the only substance of concern in the fill based on leachability testing and was remediated (excavated) by Qualified ICC staff with assistance from EnviroRisk by way of provision of written guidance, procedures and directions. ▪ Statistical analysis completed by EnviroRisk of the validation data from walls and base of the excavated area was considered to be satisfactorily remediated. The excavated material was appropriately disposed of as solid waste at an appropriately licensed waste management facility. (EnviroRisk Summary Report, for works conducted October 2005-May 2006, received from ICC, 14 February, 2014.)

Item	Detail
Preliminary Site Investigation – ES March 2014	
Summary of Works Undertaken	ES conducted a preliminary site investigation of the site and identified 5 broad areas of interest (Areas A to E), based on previous and current use and site observations.
Summary of Findings/ Conclusions	ES noted the following aspects during site inspection: ▪ Surface staining around the diesel above ground storage tank near the Coke Screening Plant (Area A). ▪ Surface staining around the waste oil storage tank and dosing pump located near the Grinding Plant (Area A). ▪ Stockpile areas were black from coke storage (Area B). ▪ Build-up of sediment in Recycle Dam (Area E).

Item	Detail
	▪ A stockpile of used refractory bricks and a quench ash stockpile were present in the east most portion of the Stockpile Area (Area C). ▪ Site operations practiced considerable resource recovery, particularly of coke and water. Steam generation during coke quenching resulted in high water consumption. Water accumulating within active areas was recovered, treated (sedimentation) and reused in quenching. ▪ The subject site appeared to be well managed, and employees had a high degree of environmental awareness. ▪ Perimeter areas berms, the creek line and vacant areas were extensively vegetated (Areas D, E).

Item	Detail
Detailed Site Investigation – ES July 2014	
Summary of Works Undertaken	The ES (July 2014) investigation comprised: ▪ Excavation of 63 test pits and/or bores within the open space (i.e., non-paved) areas of the site around identified areas of activity to a maximum depth of 3 mbgl. Collection of 9 sediment samples using a hand auger or sediment sampler to a maximum depth of 0.6m. ▪ Collection of soil samples at the near surface, within the fill material at regular intervals, at locations with obvious signs of contamination (that is staining or odorous soils) and at the interface between soil formations. ▪ Drilling, installation and development of 10 bores and conversion into groundwater monitoring wells to max. 9 mbgl. ▪ Sampling of each of the 10 new groundwater wells in addition to an existing bore (identified between the coke oven batteries during the site visit which has been assumed to be operational. ▪ Collection of surface water samples on the site at 9 locations "up-stream", various "mid-stream" locations and "down-stream" of North Corrimal Creek.
Summary of Findings	A total of 5 major Areas of Environmental Concern (AEC) were assessed on the site (A to E), detailed in Section 2.1 of this report. The findings of the investigation are as follows. **Soil** ▪ Elevated soil concentrations above the adopted EILs for metals Zinc and/or Copper at 4 locations within the production area. ▪ TRH C_{16} – C_{34} fraction was reported above the NEPM (2013) ESL criteria in 4 locations within the production area, 1 location in vacant land north of the waste storage area, 3

Item	Detail
	locations within the waste storage area and 3 locations within the stockpile area. ▪ Benzo(a)pyrene was reported above the NEPM (2013) ESL criteria at 1 location within each of the production, waste storage and stockpile areas. ▪ All the exceedances of the soil SAC were reported in fill material. ▪ Asbestos was also detected in 2 fill samples within the production area out of a total of 53 samples screened for the presence of asbestos. **Groundwater** ▪ A total of 10 samples exceeded the adopted Groundwater Assessment Criteria (GAC) for copper, zinc, nickel and ammonia. ▪ Overall, ES considered that the likely net contribution of contamination in groundwater from site activities is likely to be low. Groundwater concentrations were reported to be within expected regional background concentrations ranges for copper, zinc and nickel. ▪ There were no exceedances of the human health GAC reported at the site. Exceedances of the ecological GAC for copper at 5 locations and zinc at 8 locations in groundwater were reported in the vicinity of Coke Production Area A. ▪ Exceedances of the ecological GAC were also reported for ammonia at 1 location and nickel at 1 location. ▪ Exceedances of the drinking water criteria were reported for sulphate at 4 locations in groundwater at the site. ▪ All of other analytes tested were below the groundwater assessment criteria. **Surface Water** ▪ A total of 8 samples exceeded the adopted Surface Water Assessment Criteria in Corrimal Creek which is a typical urban creek. ▪ Copper and zinc were reported to exceed the ecological surface water assessment criteria at all surface water sample locations across the Site. A comparison of the concentrations of heavy metals at the upgradient and downgradient sample locations indicated that there was no net contribution of copper and zinc in surface water leaving the Site. ▪ Mercury and antimony were reported to exceed the surface water assessment criteria at the Recycle Dam. Mercury and antimony were not detected in surface water at the downgradient site boundary. ▪ All other analytes tested were below the surface water assessment criteria. **Sediment**

Item	Detail
	▪ A total of 2 samples exceeded the adopted ANZG DGV Sediment Assessment Criteria from a total of 6 sediment sample locations in Area E. ▪ Lead and zinc exceeded adopted criteria relevant to immobile aquatic ecological receptors at SED3CR downstream of the culvert at South Dam. The concentration of lead and zinc at SED3CR was considered related to concentrations of heavy metals at the dam wall, which has been anecdotally reported (by site personnel) to have overtopped during heavy rain events. ES considered this indicates the potential presence of other heavy metal hotspots associated with Dam infrastructure, which were not detected by the current investigation. ▪ A negligible risk to onsite ecological receptors was indicated by concentrations of zinc which exceeded the adopted criteria at SED1CR at the upgradient site boundary. ▪ ES considered that concentrations of contaminants of potential concern in onsite sediments did not indicate a risk to offsite ecological receptors.
Conclusions / Recommendations	The Phase 2 assessment findings indicate that contamination impacts to soil were not gross in nature, were localised to specific areas of the former operation and are predominantly isolated to site fill materials. Localised sediment impacts associated with the site's operational use were reported south of the on-site dams. Surface water and groundwater were impacted by low-moderate concentrations of heavy metals which appeared to be related to elevated concentrations in the soils in Coke Production Area A. No reported exceedances of the SAC were reported in AECs D1, D2 or D3 (with the exception of aesthetics in fill). The AECs identified where reported exceedances of Human Health Site Assessment Criteria currently preclude residential and recreational and public open space land uses included Area A only (where asbestos containing material was identified in fill). The AECs identified where exceedances of Ecological Site Assessment Criteria for urban residential and public open space land use included Areas A, B (all areas), C (all areas) and E (all areas). **Recommendations** ES recommended that minor soil and sediment remediation works be undertaken at areas of the site where contamination impacts have been identified to exceed the SAC for the proposed site area use. The purpose of undertaking the remediation and validation program would be to make each area suitable for its proposed use, specifically, Areas A, B, C (2, 3 and 4) and E. Details of the key contamination findings in each AEC, the proposed use and an outline of the recommended works required to remove and/or manage contamination at each AEC are outlined in Table 38 of the ES (2014) report. ES also recommended the following additional assessment work:

Item	Detail
	▪ Additional groundwater and surface monitoring after closure of the coke production facilities in Area A to further assess the elevated concentrations of heavy metals against the groundwater and surface water assessment criteria. ▪ Additional asbestos delineation works where asbestos was identified around the coke production facility to further assess the extent of asbestos fibres in soil and determine requirements for asbestos management during site decommissioning works which are likely to disturb the soil. ▪ Additional investigation would be required to assess the potential for additional impacts from contaminants targeted in this assessment to exist in soil beneath existing site structures following site decommissioning.

Item	Detail
Additional Environmental Assessment – Arcadis 2017	
Summary of Works Undertaken	The Arcadis (2017) investigation comprised: ▪ Collection of soil from 35 test pits through the onsite berm material, 6 sediment samples, 8 surface water locations and 10 ground gas monitoring well locations across the site.
Summary of Findings	▪ ACM were visually identified in soil material at 1 test pit (TP2) within the berm adjacent the waste storage area on the eastern site boundary; however, laboratory analysis reported no ACM within the remaining 34 test pits conducted within the above ground berm materials. ▪ TRH C_{16} – C_{34} fraction was reported above the NEPM (2013) ESL criteria in 1 location within the waste storage area, 1 location adjacent to the waste storage area, 5 locations adjacent the stockpile area, 2 locations within the stockpile area and 1 location within the production area. ▪ There were no other reported analytical exceedances of the SAC in soil samples submitted for analysis, with the exception of test pit TP14 (1.0m) with a reported benzo(a)pyrene concentration of 1.3mg/kg. This sample was also submitted to the laboratory for a toxicity characteristic leaching procedure (TCLP), which indicated all PAHs including benzo(a)pyrene were below detection within the effluent. When assessed statistically, the 95% upper confidence interval is below the SAC for benzo(a)pyrene (which is a PAH compound) at TP14. This suggests that the exceedance is not significant in relation to the overall suitability of the berm material for onsite re-use. ▪ Some surface water samples marginally exceeded the Surface Water Assessment Criteria (SWAC). The concentrations detected however were considered to be indicative of an urban environment. Furthermore, they did not exceed the recreational or Australian Drinking Water

Item	Detail
	Guidelines (ADWG) and therefore not considered to pose an unacceptable risk to human health or an impediment to site redevelopment. ▪ TRH (sum of total) was reported exceeding the adopted sediment ANZG DGV SAC in 3 locations within the Recycle Dam (upstream) and 1 location within the South Dam (downstream). ▪ Based on the assigned gas screening value (GSV) ground gas concentration collected from across the site, indicated that the risks associated with the hazardous ground gasses are very low.
Conclusions / Recommendations	Based on the results of this assessment, Arcadis deemed both the berm material and dam sediments were considered likely to be suitable for re-use onsite with the exception for the soil around TP2. This material will require further validation prior to reuse. The soil around TP2 contained bonded ACM which was visually identified at the time of excavation. This soil should be screened and appropriately validated at the time of removal by a suitably qualified person who is suitably experienced in the identification of potential ACM. The presence of ACM at this one location should not be considered a significant impediment to site redevelopment. It was recommended that the material within the berms should be appropriately screened of deleterious, anthropogenic and oversize materials and re-used appropriately onsite. In addition, a construction environment management plan (CEMP) should be prepared to ensure the material within the berms are re-used appropriately. The CEMP should be developed specific to any future proposed development and also contain an unexpected finds protocol.

Item	Detail
Additional Environmental Assessment, Production Area – Arcadis January 2018	
Summary of Works Undertaken	The Arcadis (January 2018) investigation comprised: ▪ Collection of soil and groundwater data from locations within the former coke oven and production area. This included the soil sampling of ten (10) locations and conversion of four (4) locations into groundwater monitoring bores. Soil samples were collected directly adjacent to the underground flues and former coal storage areas.
Summary of Findings	▪ Fill material consisted of silty clay, dark brown to banded red, medium plasticity with some fine gravel and crushed sandstone, quartz pieces and crushed brick. ▪ Natural material consisted of non-plastic, residual shale described as silty clay of medium stiffness. ▪ No ACM were visually identified in soil material or detected in samples submitted to the laboratory.

Item	Detail
	▪ There were no exceedances of the residential soil acceptance criteria in any samples submitted for analysis of the COPC. ▪ There were no exceedances of the groundwater acceptance criteria in any samples submitted for analysis of the COPC with the exception of the following: o Concentration of dissolved arsenic, cadmium, chromium, copper nickel and zinc in a number of wells within the production area. These are considered to be indicative of background concentrations within the urban environment. o Concentrations of ammonia at MW11 (3.5mg/l) and MW12 (2.6mg/l) located directly adjacent to the western and eastern coke batteries exceeded the ANZECC (2000) fresh water 95% (ANZG 2018 DGV) species protection of 0.9 mg/l. ▪ As detailed within ANZECC (2000) the source of the ammonia is likely to be a mixture of the wider urban environment contributing background concentrations from common sources such as fertilisers, decomposing vegetation and domestic sewerage systems. ▪ The site itself is also likely to have contributed to the concentrations of ammonia. The vapour scrubbing and quenching process can mobilise ammonia within the quench water and any particulates including the quench ash. The overall process of water and ash recycling and re-use however is likely to have limited the impact of ammonia. Monitoring wells MW2 and MW4 located downgradient of the coke ovens and quench stack reported ammonia at concentrations less than the adopted GAC
Conclusions / Recommendations	A summary of the conclusions and recommendations of the Arcadis (January 2018) additional environmental assessment of the Production Area was not provided within the Arcadis (2019) RAP. Reditus was also not provided with the Arcadis (January 2018) report for review.

Item	Detail
Flue, Stack and Powerhouse Assessment – Arcadis March 2018	
Summary of Works Undertaken	The Arcadis (March 2018) investigation comprised: ▪ Collection of soil and building material samples from locations within the former production area. This included locations beneath the former powerhouse; from within the stacks; from the fill above the underground flues; from within the flues; and surface samples down topographic gradient from the powerhouse and quench stacks.

Item	Detail
Summary of Findings	Results of building material samples will not be discussed further within this RAP as they form part of the hazardous material removal program. Samples relevant to this RAP were collected from beneath the former powerhouse, buried Potential ACMs (PACM), fill material above the underground flues and surface soils samples is provided below: ▪ Fill material beneath the powerhouse extends below 2.1 metres and consisted of predominantly coal washery rejects with some crushed coal. ▪ Fill material beneath the former transformers adjacent to the powerhouse extended to 1.6 mbgl and was described as silty clay, mottled orange/brown/grey and slightly plastic. ▪ Fill material above the underground flue locations consisted mainly of crushed bricks. A rubber bituminous material buried at location F3 tested positive for chrysotile and amosite asbestos. ▪ The National Dioxins Program Technical Report No.12 Human Health Risk Assessment of Dioxins in Australia (Revised in July 2005) has determined that the mean concentrations of dioxin-like compounds in south-eastern Australia are unlikely to contribute to adverse health effects. The concentrations detected onsite were two orders of magnitude below the mean concentrations for soils in south-eastern Australia and for urban environments, as published in the Department of Environment Heritage, May 2004, National Dioxins Program, Technical report No.5 Dioxins in Soil in Australia. ▪ No ACM were identified in any targeted soil or building materials submitted for analysis with the exception of the following: o The compressed fibre cement pipe buried adjacent to the powerhouse at PH2 (PH2 ASB- ID) tested positive for chrysotile and amosite. o The compressed fibre cement pipe within the powerhouse service pit (PH – Pipe) tested positive for chrysotile and amosite. o A rubber / bituminous material buried within the fill material above the underground flue at F3 tested positive for chrysotile and amosite. ▪ There were no exceedances of the residential soil acceptance criteria in any samples submitted for analysis of the COPC with the exception of the following: o Arsenic was detected at PH2 at 0.1m above the NEPM HIL A residential assessment criteria. The samples collected and analysed at 0.2, 0.5 and 2.1 metres were reported below the adopted soil screening criteria. During demolition works this soil may need to be appropriately managed. ▪ Concentrations of lead within the particle residue sample collected from within Stack 4 (S4) exceeded the General

Item	Detail
	solid waste guidelines (with Leaching). This material will need to be collected from the surface of base of the stack and lawfully disposed of to an appropriately licenced waste facility. The volume of this solid material within the base of the stack was approximately 100 litres.
Conclusions / Recommendations	A summary of the conclusions and recommendations of the Arcadis (March 2018) assessment was not provided within the Arcadis (2019) RAP. Reditus was also not provided with the Arcadis (March 2018) report for review.

Item	Detail
Preliminary Combustibility Assessment – Douglas Partners 2018	
Summary of Works Undertaken	The DP (2018) investigation comprised a preliminary desktop-based assessment of material at the site to provide guidance on which sections of the site would require blending to allow compliance with WCC development control plan (DCP) policy for combustibility.
Summary of Findings	The DP report concluded that as part of the site civil redevelopment works a significant portion of the site will require blending. DP also state that the blending process to achieve compliance with the WCC combustibility policy would be relatively straightforward

Item	Detail
Combustibility Assessment, Corrimal Coke Works Site – Douglas Partners 2019	
Summary of Works Undertaken	The DP (2019) investigation comprised an intrusive investigation to determine the actual percentage content of combustible materials within fill at the site.
Summary of Findings	The findings of the combustibility assessment indicated there was a variable range of combustibles present on site between 11.6% and 87.8%. The average combustibility of samples tested was 49.7%. This was in excess of the 30% allowable average and 40% absolute maximum criteria set out in the EPA Resource Recovery Order (2014). Sulfur content was considered to be in compliance of the EPA Resource Recovery Order (2014) for all samples tested.
Conclusions / Recommendations	The report confirmed that modification of the potentially combustible materials will be required from a geotechnical viewpoint to reduce combustible content to allowable level prior to re-use. A potential reuse methodology consistent with the EPA Resource Recovery Order and WCC DCP (2009) Chapter E19 was also detailed within the document. The results of the assessment indicated that a preliminary blending rate of 50% inert material and 50% carbonaceous materials should be made.

Item	Detail
Remediation Action Plan – Arcadis 2019	
Summary of Works Undertaken	The Arcadis (2019) RAP was prepared for Legacy Property Pty Ltd prior to the proposed development of the site for mixed residential/commercial/open space land use. The RAP provides a detailed summary of historical investigations of the site, the contamination status and the requirements, conditions and adopted methods for remediation of the site to render it suitable for the proposed land use.
Summary of Findings	Remediation of the TRH, PAH and heavy metals impacts in fill materials is required to render the site suitable for future land use. The RAP also details existing data gaps which require addressing as part of the remediation schedule by means of delineation sampling in soil, sediments, hazardous ground gases and groundwater based upon the final land use layout, proposed finished levels and cut-to-fill design.
Assessment of Historical Results Against Ecological Assessment Criteria	The Arcadis RAP provides an assessment of historical results against ecological assessment criteria and identifed the following: There are several areas on site where soils exceed the NEPM (2013) ecological acceptance criteria. EILs were calculated for the site based on added contaminant limits (ACLs) and ambient background concentrations (ABCs). Details and calculations are provided in Appendix I of ES (July 2014). Based on the calculated EILs and adopted ESLs (collectively referred to as Ecological Acceptance Criteria, EAC) the following was noted by Arcadis: ▪ The concentrations of arsenic reported at the following locations exceeded the residential EIL of 436 mg/kg: o EnviroRisk (2006) TP18A at 1.0m, TP18B at 1.0m BH17 at 4.0m and TP18E at 1.0m. o Arcadis (March 2018) PH2 at 0.1. ▪ The concentrations of copper reported at the following locations exceeded the residential EIL of 210 mg/kg: o EnviroRisk (2006) BH6 at 2.0, TP18A at 1.0m, TP18D at 2.0m, TP18E at 1.0m. o ES (July 2014) BH41 at 0.2m, MW5 at 0.2m. ▪ The concentrations of lead reported at the following locations exceeded the residential EIL of 1,116 mg/kg: o EnviroRisk (2006) TP18E at 1.0m and 2.5m. ▪ The concentrations of zinc reported at the following locations exceeded the residential EIL of 436 mg/kg: o ADI (1996) P26 at 0.55m o EnviroRisk (2006) BH14 at 1.5, BH17 at 4.0m, BH18 at 2.0m, BW2 (bund wall), TP18E at 1.0m and 2.5m. o ES (July 2014) BH41 at 0.2m, BH42 at 0.2m, MW5 at 0.2m. o Arcadis (March 2018) PH2 at 0.1.

Item	Detail
	▪ The concentrations of BaP reported at the following locations exceeded the residential ESL of 0.7 mg/kg: o EnviroRisk (2006) BH6 at 1.0, BH8 at 0.5m, BH12 at 0.1m. o ES (July 2014) MW5 at 0.2m, TP34 at 0.2m, TP32 at 1.2. o Arcadis (January 2018) TP14 at 1m. o Arcadis (March 2018) PH2 at 0.1. Numerous exceedances of TRH fractions F2, F3 and F4 were reported across the site. The majority of the exceedances were reported within the TRH F3 fraction where 79 out of 115 samples analysed exceeded the low reliability coarse grained ESL (300 mg/kg) for urban residential and public open space. Furthermore, 14 out of the 115 samples analysed for TRH F3 exceeded the low reliability fine grained ESL (1,300 mg/kg) for urban residential and public open space. The majority of the 79 samples that exceeded the coarse-grained criteria were collected from the initial 1.0m of fill material, indicating the likely source at most locations is coal, coke and coke by-products. It is noted that the TRH ESL for F3 is only a low reliability guideline and therefore site management decisions based on these results should be carefully evaluated. The representativeness and effect these results may have on the chosen remedial strategy have been incorporated into both the remedial and validation methods. The final extent to which the EAC exceed the relevant land use will depend on where the soil is re-used and what the final land use is. This can currently be estimated through comparison of the bulk earthworks cut-to-fill design and the current architectural footprint. Given there will be significant blending of material collected from the initial 1.5m of the site (due to combustibility reasons) the current data set of EAC exceedances may not be representative of the final 1.5m of landform. Furthermore, the adoption of EILs and ESLs to blended coal/coke and site won soils may not be an appropriate use of these guidelines. The blending process will alter the soil matrix properties and therefore an alternative set of site specific EILs may need to be developed based upon the new soil properties, degree of the blending required and the location (including depth) of the final blended material relative to the proposed development land use. *Note: The above SAC exceedances may differ to that determined as part of this consolidated DSI following amendments to proposed development/land use layout and thus appropriate selection of SAC.*
Conclusions / Recommendations	Based upon the assessment of available remedial options, the recommended remedial strategy proposed included: ▪ Excavation of areas where contaminants have the potential to pose an unacceptable risk to human health and ecological receptors. ▪ Validation of the resulting excavations through the collection of soil validation samples and where necessary groundwater samples. ▪ Either: o Reuse of the site sourced material that has been appropriately characterized and meets relevant NEPC

Item	Detail
	(2013) NEPM criteria for the proposed development land use areas and in relation to CWR the re-use must be in accordance with the WCC DCP Chapter E19: Earthworks (Land Reshaping Work). o Formation of dedicated cell (burial) areas to re-use and encapsulate contaminated soils. ▪ Creation of a long-term site management plan to appropriately manage encapsulated soils into the future; and ▪ If required, classification of unsuitable or excess material for lawful off-site disposal or treatment if required. The remedial strategy was considered appropriate as once the material is excavated, it could remain on-site and be encapsulated within a specially designed cell or re-used within appropriate end-use areas of the site. This would require sufficient space, appropriate detailed engineering design, council approval, detailed material tracking and ongoing management. The ongoing management would be enforced through an institutional Site Management Plan (SMP) that would be legally enforceable. CWR will be blended with inert material and re-engineered in accordance with the WCC DCP (2009) Chapter E19 section 4.4. Advantages of this option were considered to include the reduced cost involved with offsite disposal and re-use of waste that would otherwise have been disposed to landfill. Disadvantages of this option included the notation of the SMP on title certificate and the ongoing inspections involved in long-term management. Given the large scale of earthwork required to facilitate site redevelopment this was considered the preferred option as it will reduce offsite truck movements and road safety concerns whilst reducing the quantity of waste generation and is preferred in relation to the NSW EPA Waste Hierarchy and the WARR Act (2001).

Item	Detail
Data Gap Investigation – Reditus 2020	
Summary of Works Undertaken	The Reditus (2020) investigation comprised: ▪ A first pass data gap assessment in areas of the site that were currently accessible prior to demolition works commencing. ▪ The data gaps addressed/investigated included: o **DGI Zone 1**. Soil and groundwater assessment of the coal store footprint. o **DGI Zone 2**. Soil and groundwater assessment of the maintenance shed footprint. o **DGI Zone 3**. The presence or otherwise of Acid Sulfate Soils and background soil quality within the areas of deep cut along the proposed Creek line within the western portion of the site. This material is proposed to used as fill across the site.

Item	Detail
	○ **DGI Zone 4**. Area of known filling and redundant machinery storage areas adjacent to the creek crossing.
Summary of Findings	▪ Filling depths, groundwater depths and soil quality were observed to be consistent with previous investigations. ▪ Fill material within the former coal store was proven to be present at a maximum depth of 4.3 mbgl. The description of the fill was consistent with previous investigations and consisted mostly of CWR. ▪ Fill material within the vicinity of the former redundant machinery storage area and existing creek crossing was proven to a maximum depth of 4.7 mbgl. Most of the filling layer within this section of the site was described as CWR underlain by a re-worked silty clay with some evidence of minor anthropogenic inclusions. ▪ Fill material within the background (non-operational) areas of the site ranged between 0.1 and 0.6 mbgl. CWR were noted within the northern portions of the site while CWR were not observed within locations formed within the southern sections of the site. ▪ Groundwater was identified at varying depths across the site, standing water levels were measured within the three newly installed boreholes between a depth of 5.1 and 5.4 mbtoc. ▪ Groundwater within background areas of the site ranged at depths between 3.1m and 7.2m. Most water strikes along the creek alignment were observed between 4.5 and 5.5 m bgl. ▪ TRH C_{16} – C_{34} fraction was reported above the NEPM (2013) ESL criteria in 1 location within the waste storage area and 2 locations within the production area. ▪ Elevated soil concentrations above the adopted EILs for zinc at 1 location within the production area. ▪ All concentrations of contaminants of potential concern within groundwater were below the GAC or the laboratory limit of reporting except for minor exceedances of copper, nickel and zinc. The exceedances were considered marginal and typical of shallow urban groundwater conditions. ▪ No visual or olfactory indications of gross contamination within soils or groundwater were observed during the investigation. ▪ No asbestos or asbestos containing materials were identified at any of the sampling locations, including the 10L gravimetric samples analysed from the fill material within the test pits. It is noted based on the gravimetric analysis and only a limited number of soil samples were tested for the presence of asbestos fibres by polarised light microscopy at a NATA accredited laboratory. All samples that were analysed at the laboratory reported concentrations below the limits of reporting.

Item	Detail
	▪ Four samples were identified to marginally exceed the Acid Sulfate Soil action criteria. There was no indication of AASS and the exceedances of the action criteria are considered to be PASS only. The positive PASS results ranged between a depth of 2 and 7 m bgl and were identified within the areas of the site proposed to be cut to form the new creek alignment. ▪ PASS appeared to be limited to the northern and southern extents of the creek realignment and were associated with a grey colourisation of the weathered silt/sandstone formation. Vertical characterisation indicates most of the soils to be disturbed are not ASS or PASS. These results are consistent with the ASS mapping which place the site on the edge of a Class 3 ASS zone.
Conclusions / Recommendations	Reditus (2020) concluded there is no requirement to alter the current Arcadis (2019) RAP and the current remedial strategy is considered adequate to render the site suitable for the intended use. Whilst the majority of excavation and soil disturbance depths are unlikely to disturb significant volumes of PASS, there is potential that localised portions of the deeper excavations may extend into or below the PASS layers, particularly within the areas of new creek alignment (outside the current Stage 1 development footprint). The following approach to the management of PASS was recommended to be included as a condition of consent: ▪ A detailed review of the civil earthworks design to confirm if the soils identified as PASS will be disturbed and therefore require further assessment and/ or management. Noting with the exception of one location the PASS was identified at depths greater than 4.0m bgl. ▪ If the proposed earthworks will disturb PASS soils, given the exceedances of the action criteria were only marginal and there were no obvious signs of reducible inorganic sulfur, further targeted soil characterisation should be considered. The purpose of the additional characterisation would be to better understand the origins of the potential acidity. This may include soil incubation tests to corroborate the Acid Neutralising Capacity of the material and mineral characterisation to confirm or otherwise if the source of the acid trail is from oxidised sulphides. ▪ Preparation of an ASSMP. The ASSMP should include details of the additional soil assessment works and outline the management procedures required to be followed during earthworks that may disturb PASS or ASS materials as well as potential long-term effects such as fluctuating water table. The ASSMP and additional testing should also account for the proposed CWR blending process, noting that any PASS may be blended with CWR on a 50/50 weight for weight basis which may have the effect of buffering or effectively diluting the PASS.

A summary of historical soil data collected on site with comparison to applicable SAC for the intended land-use setting (i.e., low-density residential, high-density residential or recreational and public open space) is provided in **Appendix B**, **Table 1** to **Table 3**. A compiled set of all available historical bore logs can be found in **Appendix D.**

It is noted that the proposed redevelopment will substantially re-align North Corrimal Creek and include dewatering of onsite dams. The residual sediments will be dried, validated (chemically, aesthetically and geotechnically) and either appropriately re-used within the site soils, encapsulated or lawfully disposed of off-site.

A summary of historical soil and sediment sample exceedances is provided in Table 5-2 below and is based the applicable SAC for the current proposed land use site layout.

The previous investigation summarised above have been reviewed by the previous appointed site auditors. These were Mr Chris Jewel who assessed the Environmental Strategies 2014 investigation and Ms Rebeka Hall who reviewed the subsequent investigations and previous RAP (Arcadis).

Table 5-2: Historical Soil & Sediment Sample Exceedances

Investigation	Sample I.D.	Location	Depth (m)	Analyte	Concentration (mg/kg)	Criteria Value (mg/kg)	Criteria Type
ADI (1996)*	P26	Production Area	0.55	Zinc	490	400	EIL
	P10	Production Area	0.3	TRH C_{15}-C_{28}	1,359	300	ESL
	P57	Production Area	0.3	TRH C_{15}-C_{28}	940	300	ESL
	S6	Stockpile Area	0.2	TRH C_{15}-C_{28}	1,400	300	ESL
	S8	Stockpile Area	0.1	TRH C_{15}-C_{28}	1,300	300	ESL
	S11	Stockpile Area	0.2	TRH C_{10}-C_{14}	180	120	ESL
			0.2	TRH C_{15}-C_{28}	2,950	300 & 2,500	ESL & ML
			1.5	TRH C_{10}-C_{14}	170	120	ESL
			1.5	TRHC_{15}-C_{28}	1,950	300	ESL
	W1	Waste Storage Area	0.3	TRH C_{15}-C_{28}	940	300	ESL
	W3	Waste Storage Area	0.6	TRH C_{15}-C_{28}	640	300	ESL
	W4	Waste Storage Area	0.4	TRH C_{15}-C_{28}	2,300	300	ESL
	W5	Waste Storage Area	0.1	TRH C_{10}-C_{14}	280	120	ESL
				TRH C_{15}-C_{28}	44,000	300 & 2,500	ESL & ML
				TRH C_{29}-C_{36}	38,000	2,800 & 10,000	ESL & ML
EnviroRisk (2006)	BH6	Vacant Land North of Waste Storage Area	1	TRH C_{15}-C_{28}	800	300	ESL
				B(a)P	4.5	0.7	ESL
				B(a)P TEQ Half	9	3	HIL-C
			2	Copper	314	210	EIL
	BH8	Vacant Land North of Waste Storage Area	0.1	TRH C_{15}-C_{28}	400	300	ESL
			0.5	TRH C_{10}-C_{14}	340	120	ESL
				TRH C_{15}-C_{28}	2,130	300	ESL
				B(a)P	1.1	0.7	ESL

Investigation	Sample I.D.	Location	Depth (m)	Analyte	Concentration (mg/kg)	Criteria Value (mg/kg)	Criteria Type
	BH9	Vacant Land North of Waste Storage Area	0.1	TRH C_{15}-C_{28}	800	300	ESL
	BH10	Vacant Land North of Waste Storage Area	1	TRH C_{15}-C_{28}	370	300	ESL
	BH11	Vacant Land North of Waste Storage Area	0.5	TRH C_{15}-C_{28}	430	300	ESL
	BH12	Vacant Land North of Waste Storage Area	0.1	TRH C_{10}-C_{14}	220	120	ESL
				TRH C_{15}-C_{28}	1,590	300	ESL
				B(a)P	1.2	0.7	ESL
			1	TRH C_{15}-C_{28}	480	300	ESL
	BH13	Vacant Land North of Waste Storage Area	1	TRH C_{15}-C_{28}	1,070	300	ESL
	BH14	Waste Storage Area	1.5	Zinc	742	400	EIL
	BH15	Waste Storage Area	0.1	TRH C_{15}-C_{28}	460	300	ESL
	BH17	Waste Storage Area	4	Zinc	1,020	400	EIL
	BH18**	Waste Storage Area	2	Zinc	1,980	400	EIL
	TP18A	BH18 Step-Out	1	Arsenic	166	104	EIL
				Copper	495	210	EIL
	TP18B	BH18 Step-Out	1	Arsenic	222	104	EIL
	TP18C	BH18 Step-Out	2	Copper	211	210	EIL
	TP18D	BH18 Step-Out	2	Copper	2,020	210	EIL
				Zinc	748	400	EIL
	TP18E	BH18 Step-Out	1	Arsenic	284	104	EIL
				Copper	239	210	EIL
				Zinc	4,970	400	EIL
			2.5	Lead	1,580	1,116 & 1,200	EIL & HIL-B
				Zinc	2,310	400	EIL

Investigation	Sample I.D.	Location	Depth (m)	Analyte	Concentration (mg/kg)	Criteria Value (mg/kg)	Criteria Type
	BH24	Stockpile Area	0.5	TRH C_{15}-C_{28}	650	300	ESL
	RB1	Stockpile Area	0.1	TRH C_{15}-C_{28}	660	300	ESL
	RB2	Stockpile Area	0.1	TRH C_{15}-C_{28}	500	300	ESL
	BW2	Bund Wall	-	Zinc	540	400	EIL
	BW5	Bund Wall	-	TRH C_{15}-C_{28}	330	300	ESL
ES (2014)	**BH41**	Production Area	0.2	Zinc	850	400	EIL
	BH42	Production Area	0.2	Copper	500	210	EIL
				Zinc	580	400	EIL
				TRH C_{16}-C_{34}	410	300	ESL
	BH44	Production Area	0.2	TRH C_{16}-C_{34}	390	300	ESL
	BH47	Production Area	0.2	Zinc	420	400	EIL
	BH51	Production Area	0.4	ACM	Detect	-	N/A
	MW2	Production Area	0.5	ACM	Detect	-	N/A
	MW4	Production Area	0.5	TRH C_{16}-C_{34}	940	300	ESL
	MW5	Production Area	0.2	Copper	2,400	210	EIL
				Zinc	3,800	400	EIL
				TRH C_{16}-C_{34}	4,000	300 & 2,500	ESL & ML
				B(a)P	1	0.7	ESL
	TP05	Vacant Land North of Waste Storage Area	0.2	TRH C_{16}-C_{34}	820	300	ESL
	TP07	Waste Storage Area	0.2	TRH C_{16}-C_{34}	790	300	ESL
	TP08	Waste Storage Area	0.2	TRH C_{16}-C_{34}	660	300	ESL
	TP34	Waste Storage Area	0.2	B(a)P	1	0.7	ESL
	TP37	Waste Storage Area	0.85	TRH C_{16}-C_{34}	610	300	ESL
	TP18	Stockpile Area	0.2	TRH C_{16}-C_{34}	530	300	ESL
	TP19	Stockpile Area	0.2	TRH C_{16}-C_{34}	890	300	ESL

Investigation	Sample I.D.	Location	Depth (m)	Analyte	Concentration (mg/kg)	Criteria Value (mg/kg)	Criteria Type
	TP31	Stockpile Area	1.1	TRH C_{16}-C_{34}	630	300	ESL
	TP32	Stockpile Area	1.2	B(a)P	1	0.7	ESL
	SED1CR	Sediment	0.2-0.4	Zinc	350	200	ANZG DGV
	SED3CR	Sediment	0.2-0.4	Lead	650	50	ANZG DGV
				Zinc	310	200	ANZG DGV
Arcadis (2017)	**TP10**	Waste Storage Area	0.5	TRH C_{16}-C_{34}	340	300	ESL
	TP31	Adjacent Waste Storage Area	1	TRH C_{16}-C_{34}	390	300	ESL
	TP8	Adjacent Stockpile Area	1	TRH C_{16}-C_{34}	480	300	ESL
	TP9	Adjacent Stockpile Area	1	TRH C_{16}-C_{34}	330	300	ESL
	TP14* **	Adjacent Stockpile Area	1	TRH C_{16}-C_{34}	810	300	ESL
				B(a)P	1.3	0.7	ESL
				B(a)P TCLP	<LOR		
	TP15	Adjacent Stockpile Area	0.5	TRH C_{16}-C_{34}	380	300	ESL
	TP16	Adjacent Stockpile Area	0.5	TRH C_{16}-C_{34}	380	300	ESL
			1	TRH C_{16}-C_{34}	430	300	ESL
	TP12	Stockpile Area	1	TRH C_{16}-C_{34}	340	300	ESL
	TP21	Stockpile Area	1	TRH C_{16}-C_{34}	530	300	ESL
	TP19	Production Area	0.5	TRH C_{16}-C_{34}	570	300	ESL
			1	TRH C_{16}-C_{34}	350	300	ESL
	TP20	Vacant Land South of Production Area	1	TRH C_{16}-C_{34}	950	300	ESL
	TP2	Berm Adjacent Waste Storage Area	-	ACM	observed	-	-
	SED D1L2	Sediment - South Dam	-	Sum TRH	210	0.28	ANZG DGV
	SED D2L1	Sediment - Recycle Dam	-	Sum TRH	870	0.28	ANZG DGV
	SED D2L2	Sediment - Recycle Dam	-	Sum TRH	2,000	0.28	ANZG DGV

Investigation	Sample I.D.	Location	Depth (m)	Analyte	Concentration (mg/kg)	Criteria Value (mg/kg)	Criteria Type
	SED D2L3	Sediment - Recycle Dam	-	Sum TRH	320	0.28	ANZG DGV
Arcadis (March 2018)	**PH1**	Production Area	0.1	TRH C_{16}-C_{34}	490	300	ESL
	PH2	Production Area	0.1	Arsenic	370	104	EIL
				Zinc	1,800	400	EIL
	SS3	Adjacent Production Area	-	TRH C_{16}-C_{34}	1,300	300	ESL
Reditus (2020)	**RCTP2**	Production Area	1	TRH C_{16}-C_{34}	700	300	ESL
	RCTP10	Production Area	1	TRH C_{16}-C_{34}	760	300	ESL
	RCMW2	Production Area	0.5	Zinc	970	400	EIL
			1	Zinc	590	400	EIL
	RCTP9	Waste Storage Area	0.5	TRH C_{16}-C_{34}	700	300	ESL

* TRH fractions reported by ADI (1996) differ from fractions adopted within NEPM (2013). Reported TRH fractions have been assessed against comparable (similar) NEPM (2013) fractions for semi-quantitative comparison purposes only.

** Reported zinc exceedance at BH18 likely removed during lead in soil remediation works at BH18 completed by EnviroRisk in 2005-06.

*** Benzo(a)pyrene TCLP concentration of sample TP14 reported less than laboratory LOR.

5.1. Qualitative Assessment of Risk

Based on the presence of the exceedances to the human health and ecological guidelines discussed in Table 5-1 above, there is likely to be a potential risk under the proposed land use to both human health and ecological receptors. During the site redevelopment it is important to ensure that these impacts are adequately remediated / managed to render the site suitable for the proposed mixed purpose land use.

The reworking of the CWR will require that a significant portion of soils are compacted to the requirements within the DCP (2009) Chapter E19. This may prove to be a concern when re-establishing deep rooted trees, this is being considered by the landscape architect in the establishment of the proposed re-vegetation plan.

6. Conceptual Site Model

Schedule B(2) of the NEPM (NEPC, 2013) describes a conceptual site model as:

> *"A conceptual site model (CSM) is a representation of site-related information regarding contamination sources, receptors and exposure pathways between those sources and receptors. The development of a CSM is an essential part of all site assessments and provides the framework for identifying how the site became contaminated and how potential receptors may be exposed to contamination either in the present or the future".*

Based on the site history, site setting, and contamination identified above, the following CSM has been developed based on the Arcadis (2019) RAP and results of the recent Reditus (2020) data gap assessment.

6.1. Contamination Sources

Known and potential sources of contamination at the site, the associated CoPC and potentially affected media refined from the results of the historical investigations of the site are listed in **Table 6-1** below.

Table 6-1: Know & Potential Contamination Sources and Associated CoPC

Source	CoPC
Imported fill	Hydrocarbons, PAHs, heavy metals, ammonia, asbestos
Wind-blown coal/coke dust	PAHs, hydrocarbons, ammonia, heavy metals
Leaks/spills associated with mineral oil used in coke production	Hydrocarbons, ammonia, phenols, PAH
Demolition of historical site buildings	Asbestos, synthetic mineral fibres (SMF) and lead
Leaks/spills associated with equipment maintenance/storage areas, including waste oil and diesel storage	Hydrocarbons, PAHs, heavy metals, ammonia, asbestos, phenols, VOCs
Sediment run-off from operational areas and coke stockpiles	Hydrocarbons, PAHs, heavy metals, ammonia, asbestos, phenols, VOCs

6.2. Review of Potential and Complete Exposure Pathways

6.2.1. Human Health – Direct Contact and Inhalation Pathway

The results of the investigations suggest in its current site condition a potential complete direct contact and inhalation (of fugitive dust) pathway exists for current and future intrusive site users, visitors, surrounding sensitive receptors and maintenance/construction workers on-site from contaminated shallow fill material.

Based on the investigations completed to date, the following potential exposure pathways are not considered to be complete at the Site:

- Leaching – groundwater impacts related to the source areas have not been identified, with the exception of ammonia in selected groundwater samples.
- Ingestion of groundwater – groundwater impacts have not been identified above human health screening criteria and shallow site groundwater is not expected to be beneficially re-used.
- Off-site exposure – all soil exceedances appear to be limited within the site boundary.

6.2.2. Ecological – Terrestrial Ecosystems

The results of the investigations suggest in its current site condition a potential complete direct contact/ingestion pathway exists for current and future terrestrial ecological receptors from contaminated shallow fill material.

6.3. Receptors

Potentially on-site and off-site receptors which have the potential to be exposed to known and potential contamination sources include:

- Future site users, inclusive of residence, general public, visitors and commercial workers. This may include recreational users of the creek corridor.
- Site construction workers.
- Offsite residence and general public (inhalation of dust during remedial works).
- Maintenance workers (utility trench).

6.4. Potential Exposure Pathway Assessment

A refined tabular CSM has been prepared for the site based on the outcomes of the historical investigations of the site, known and potential contaminants listed in **Table 6-1**. The tabular CSM shown in **Table 6-2** describes potential linkages and assesses each of the linkages as probably, possible, or unlikely based on the likelihood of occurrence prior to, during and post construction and availability of data.

Table 6-2: Potential Exposure Pathway Assessment

Source	Pathway	Receptor	Exposure Assessment
Imported Fill	Direct contact, inhalation/vapour intrusion & ingestion	Current intrusive maintenance workers, future construction workers, future site users Current and future terrestrial ecological receptors in	**Current Use: Possible** **Construction Phase: Possible** Risks to be managed by implementation of construction safety management plans.

Source	Pathway	Receptor	Exposure Assessment
		grassed/vegetated areas. Off-site residents and general public	**Future Use: Unlikely / Controlled** Soils potentially impacted by CoPC to be removed or assessed for site suitability and contained through implementation of a RAP.
Wind-blown coal/coke dust	Direct contact, inhalation & ingestion	Current and future construction workers, current site users and current/future offsite users. Current and future terrestrial and aquatic ecological receptors in surrounding surface water bodies and grassed/vegetated areas. Surrounding residential and public open space land, on-site and off-site surface water drainage systems.	**Current Use: Possible** **Construction Phase: Possible** Risks to be managed by implementation of construction safety management plans. **Future Use: Unlikely / Controlled** Stockpiles and surface materials containing coal/coke to be removed or assessed for site suitability (i.e., contained at depth).
Leaks/spills associated with mineral oil used in coke production	Direct contact, inhalation & ingestion	Current site users and intrusive maintenance workers, future construction workers and future site users. Current and future terrestrial ecological receptors in grassed/vegetated areas. Off-site residents and general public.	**Current Use: Possible** **Construction Phase: Possible** Risks to be managed by implementation of construction safety management plans. **Future Use: Unlikely / Controlled** Soils potentially impacted by contamination to be removed or assessed for site suitability.
Demolition of historical site buildings	Inhalation of respirable fibres.	Future maintenance and construction workers, future site users	**Current Use: Unlikely** ACM building materials currently in good condition and minimal

Source	Pathway	Receptor	Exposure Assessment
			ACM identified in near surface fill in isolated areas to date. **Construction Phase: Possible** Managed by implementing appropriate demolition practices as per SafeWork NSW code of practices on removal of asbestos. Risks to be managed by implementation of construction safety management plans. **Future Use: Unlikely** Asbestos containing building materials to be removed/demolished prior to intrusive excavation/construction works and asbestos impacted fill to be removed or assessed for site suitability to be contained within designated areas on site.
Leaks/spills associated with equipment maintenance/ storage areas, including waste oil and diesel storage	Direct contact, inhalation & ingestion	Current site users and intrusive maintenance workers, future construction workers and future site users. Current and future terrestrial ecological receptors in grassed/vegetated areas. Off-site residents and general public.	**Current Use: Possible** **Construction Phase: Possible** Risks to be managed by implementation of construction safety management plans. **Future Use: Unlikely / Controlled** Soils potentially impacted by contamination to be removed or assessed for site suitability.

Source	Pathway	Receptor	Exposure Assessment
Sediment run-off from operational areas and coke stockpiles and during remedial and blending activities	Overland flow and erosion	Current and future terrestrial and aquatic ecological receptors in surrounding surface water bodies and grassed/vegetated areas. Surrounding residential and public open space land, on-site and off-site surface water drainage systems.	**Current Use: Possible** **Construction Phase: Possible** Risks to be managed by implementation of construction safety management plans. **Future Use: Unlikely / Controlled** Stockpiles and surface materials containing coal/coke to be removed or assessed for site suitability (i.e., contained at depth).

Arcadis (2019) noted that demolition of the brick structures on the site are likely to liberate respirable crystalline silica fibres (RCS). These will be most prevalent within the refractory bricks that have a high mineral silica content. Management of these fibres will be the responsibility of the site demolition contractor and form part of the demolition management plan and other relevant Work Health and Safety Regulations and Code of Practice documents. It is noted however that during future remediation works, buried silica bricks may be uncovered and could pose an inhalation risk to site workers and offsite residents. The remediation works will be conducted under controlled conditions and a site-specific construction environmental management plan (CEMP) therefore, assuming the relevant controls are actioned, it is unlikely there would be unacceptable risks from crystalline silica dust to either site workers or the public during redevelopment works.

The most up to date information regards RCS from NSW Government can be found online at https://www.nsw.gov.au/customer-service/publications-and-reports/silica-dashboard while SafeWork NSW also have resources available online at https://www.safework.nsw.gov.au/hazards-a-z/hazardous-chemical/priority-chemicals/crystalline-silica

6.5. Duty to Report Contamination

The results of the historical investigations of the site suggest that there is no requirement to notify the reported contamination to the NSW EPA under Section 60 of the Contaminated Land Management Act (1997) subject to development of a RAP and successful remediation and validation of identified contamination.

7. Data Quality Objectives

The Data Quality Objective (DQO) process is a systematic planning tool based on the scientific method for establishing criteria for data quality and for developing data collection designs. The DQO defines the experimental process required to test a hypothesis. The DQO process has been developed to ensure that efforts relating to data collection are cost effective, by eliminating unnecessary, duplicative or overly precise data whilst at the same time, ensuring the data collected is of sufficient quality and quantity to support defensible decision making.

It is recognised that the most efficient way to accomplish these goals is to establish criteria for defensible decision making before data collection begins and develop a data collection design based on these criteria. By using the DQO process to plan the investigation effort, the relevant parties can improve the effectiveness, efficiency and defensibility of a decision in a resource and cost-effective manner.

The DQO process consists of seven steps, which are designed to clarify the study objectives, define the appropriate type of data and specify tolerable levels of potential decision errors. The seven-step DQO process adopted for this data gap assessment can be summarised as:

Step 1: State the Problem – concisely describe the problem to be studied. Review prior studies and existing information to gain a sufficient understanding to define the problem;

Step 2: Identify the Decision – identify what questions the study will attempt to resolve, and what actions may result;

Step 3: Identify the Inputs to the Decision – identify the information that needs to be obtained and the measurements that need to be taken to resolve the decision statement;

Step 4: Define the Study Boundaries – specify the time periods and spatial area to which decisions will apply. Determine when and where data should be collected;

Step 5: Develop a Decision Rule – define the statistical parameter of interest, specify the action level, and integrate the previous DQO outputs into a single statement that describes the logical basis for choosing among alternative actions;

Step 6: Specify Tolerable Limits on Decision Errors – define the decision maker's tolerable decision error rates based on a consideration of the consequences of making an incorrect decision; and

Step 7: Optimise the Design –evaluate information from the previous steps and generate alternative data collection designs. Choose the most resource-effective design that meets all DQOs.

The DQOs are provided in **Table 7-1** below and were derived in accordance with Australian Standard 4482.1-2005 'Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds' (AS 4482.1-1997).

Table 7-1: Data Quality Objectives

Step	Discussion
Step 1. State the problem	Potential sources of contamination have been identified at the site, specifically, filling of unknown origin, storage/spills of hydrocarbons and use of the site as a coke production facility. Based on the findings of historical investigations of the site, the identified contamination is considered to present an unacceptable risk to current and future potential on-site and/or off-site receptors. The contamination identified is limited to relatively small areas fill materials that require either further investigation, remediation and/or on-going management. A broad strategy to render the site suitable for the proposed land use is detailed within an existing RAP (Arcadis 2019) and subsequent revisions completed by Reditus specific to each stage of the development (currently in draft format). To adhere to the SEPP Resilience and Hazards, the client has requested Reditus review existing and available historical investigation reports for the site and prepare a retrospective consolidated DSI summarising the nature, extent and degree of identified contamination on site requiring remediation and/or management to render the site suitable for the proposed redevelopment.
Step 2: Identify the decision/goal	The goal of this investigation was to consolidate historically available information pertaining to the nature and extent of identified contamination on site and assess if it presents an unacceptable risk to human health or the environment with respect to the proposed development. If elevated concentrations of CoPCs are identified at the site exceeding the adopted SAC: ▪ What is the extent of the impact? ▪ Does any CoPC at the site occur at concentrations that pose or may pose an unacceptable liability or risk to the environment and/or human health to persons who will utilise the future development? ▪ Is the site suitable for the proposed development?
Step 3: Identify the information inputs	Key data required to resolve the project problem includes: ▪ Site history and analytical data. ▪ Physical observations, including visual, olfactory and PID screening results during site activities. ▪ Aesthetic make-up of the materials. ▪ Results from the geotechnical and civil engineer to confirm compliance with WCC combustibility policy. ▪ Concentrations of CoPC in the soil collected in the study area. ▪ The CoPC selected were based on the historical assessments and are listed within Section 6. Given proposed development includes mixed low-density residential, high-density residential, commercial (retail) and public open space land use with accessible soil, the tier 1 soil assessment criteria (SAC) has been sourced from the NEPC (2013) NEPM as follows.

Step	Discussion
	Soil Assessment Criteria: NEPM ASC (2013) Health Screening Levels (HSLs) for Vapour Intrusion A&B – Low-High Density Residential. NEPM ASC (2013) HSLs for Vapour Intrusion C – Recreation & Public Open Space. NEPM ASC (2013) HIL A – Low-Density Residential. NEPM ASC (2013) HIL B – Medium-High Density Residential. NEPM ASC (2013) HIL C – Recreational & Public Open Space. NEPM ASC (2013) Management Limits (ML) – Residential, parkland and public open space – coarse & fine soils. NEPM ASC (2013) Environmental Investigation Levels (EIL) – Urban Residential and Public Open Space NEPM ASC (2013) Ecological Screening Levels (ESLs) – Urban Residential and Public Open Space – coarse & fine soils. NEPM ASC (2013) HSLs for asbestos contamination in soil – Residential A, Residential B and Public Open Space C land use setting (where applicable). **Sediment Assessment Criteria**: Australian & New Zealand Guidelines for Fresh & Marine Water Quality (ANZG) - Toxicant default guideline values for sediment quality (Table 1). Noting these were only used for initial screening and once the dams are dewatered and sediments dried, they will be assessed as "soil" materials. Tier 1 SAC listed above is to be selected appropriately for areas on site based on the localised soil type (i.e., silt, sand or clay) and the final (refined) proposed development layout, i.e., public open space land use criteria (HIL-C) will only apply to areas in which the proposed development features meet the definition of "public open space" in accordance with NEPM ASC (2013). No historical investigations to date have identified contamination in surface water or groundwater which warrants remedial actions, management or presents an unacceptable risk to current and potential future receptors on-site and off-site (both ecological and human). Furthermore, the RAP (Arcadis, 2019) developed for the site has been previously endorsed by a NSW EPA accredited Site Auditor, in which remediation of surface waters and groundwater was not deemed a requirement for the proposed residential and public open space land use. For the purposes of this consolidated DSI, a review of the methods, QA/QC procedures and findings of historical investigations with regards to surface water and groundwater is deemed sufficient to assess the suitability of the site for the proposed redevelopment. The adopted site assessment criteria is presented in **Appendix B**, **Table 4**.

Step	Discussion
Step 4: Define the boundaries	The investigations were restricted to the extent of the proposed development site boundary. The vertical extent of the study boundaries were limited to a maximum depth of approximately 10.5 mbgl. The temporal boundaries of the studies were limited to the date that the investigations were completed.
Step 5: Develop the analytical approach/ decision rule	If the concentrations of CoPCs in the sample media are reported to be below the relevant adopted guidelines, then the media will be deemed suitable for the proposed development and no further management/remediation options will be proposed for the proposed development at the site. If, however, the concentration of one or more CoPCs are greater than the guidelines, then further investigation will be required to laterally and vertically delineate the extent of the impact and/or recommendations made for the remediation/management of contamination to render the site suitable for the proposed use.
Step 6: Specify performance or acceptance criteria	The acceptable limits for samples are as follows: ▪ % RPD for laboratory duplicates for TPH and BTEX analysis is less than 60%; and ▪ Recovery of matrix spikes and surrogate spikes is as per the laboratory's Quality Assurance targets accepted under their National Association of Testing Authorities (NATA) accreditation. Precision is measured using the standard deviation 'SD' or Relative Percent Difference '%RPD'. Replicate data for field duplicates of organics is expected to be as follows: ▪ RPD criteria of 50% or less, for concentrations > or = 10 times practical quantitation limits (PQL); ▪ RPD criteria of 75% or less, for concentrations between 5 and 10 times the EQL; and ▪ RPD criteria of 100% or less, for concentrations < 5 times PQL. Replicate data for field duplicates for inorganics, including metals is expected to be as follows: ▪ RPD criteria of 30% or less, for concentrations > or = 10 times PQL; ▪ RPD criteria of 75% or less, for concentrations between 5 and 10 times the EQL; and ▪ RPD criteria of 100% or less, for concentrations < 5 times PQL. Where acceptable limits for field duplicates were not met, a discussion on low biased error will be provided. For this investigation, a decision error of 5% will be considered acceptable This error rate is in accordance with Appendix B of Schedule B(2) of the NEPC (2013) NEPM. In order to achieve this level of confidence, the investigation has been designed as described below.
Step 7: Optimise the design	Review of the methodologies utilised during historical investigations will be assessed against the following industry best practice guidelines:

Step	Discussion
	▪ Sampling Design Part 1 – Application, Contaminated Land Guidelines, NSW EPA 2022 (EPA 2022). ▪ Guidelines for the NSW Site Auditor Scheme 3rd Edition, October 2017 (NSW EPA 2017). ▪ National Environment Protection (Assessment of Site Contamination) Measure, National Environment Protection Council, revised 2013 (NEPM 2013). ▪ Environmental Guidelines, Solid Waste Landfills, second edition, NSW EPA April 2016 (EPA 2016). ▪ WCC (DCP) 2009 Chapter E19: Earthworks (Land Reshaping) Section 4.4 (updated 12 January 2018). ▪ NSW EPA Resource Recovery Order, The coal washery rejects order 2014

8. Tier 1 Site Assessment Criteria

Tier 1 assessment involves the comparison of monitoring data to published guideline criteria (typically presented as screening levels). Relevant criteria are selected based on the identified viable exposure routes and the available data.

In Australia, appropriate HILs (including interim HILs for vapour and, where applicable, HSLs for petroleum hydrocarbons and assessment criteria for asbestos) and GILs are used for Tier 1 screening to provide a rapid assessment of whether the site contamination may be of concern with respect to human health. Should contaminant concentrations at a site occur at levels that are below the Tier 1 levels, this implies that for the majority of the people in the population there is no significant health risk from contamination and that remedial action may not be required to protect human health.

Exceedances of the tier 1 HILs should be identified and considered. Tier 1 HIL exceedances do not imply that a risk is necessarily present, but that further assessment may be justified. Tier 1 HILs are not intended to indicate a clear demarcation between acceptable and unacceptable. Marginal exceedances may not require quantitative Tier 2 risk assessment to conclude that further assessment is not necessary. The magnitude of the exceedance should be considered in the context of the CSM (that is, whether the exposure pathways are plausible and whether exposure will result in harm).

Tier 1 screening criteria (including HILs and HSLs) should only be used where there has been adequate characterisation of a site (that is, appropriate representative sampling has been carried out). For this investigation the maximum reported concentrations for each sample and analyte will be compared against the tier 1 criteria. Should any individual sample exceedance of the tier 1 criteria exist, the 95% Upper Confidence Limit (UCL) of the analyte for the site data set was calculated and compared to relevant Tier 1 screening criteria. However, the implications of localised elevated values should also be considered. In order to adopt the 95% UCL result, the analyte data set must also meet the following criteria:

- The standard deviation (SD) of the results should be less than 50% of the Tier 1 screening criteria.
- No single value exceeds 250% of the relevant Tier 1 screening criteria (characterised as a 'hot-spot').

Where site data exceeds the screening levels or suitable screening levels cannot be identified, further consideration (Tier 2 assessment) is required.

8.1. Soil Assessment Criteria

The tier-1 site assessment criteria (SAC) are adopted from the Arcadis (2019) RAP and the National Environment Protection Council (NEPC) 1999, 'Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM), as amended in 2013'.

The tier-1 criteria adopted for assessment of historical soil and sediment analytical data have been derived from the NEPC and site-specific remedial criteria EIL

detailed in the Arcadis (2019) RAP and are based on the proposed mixed low-high density residential and public open space land use in designated areas of the proposed redevelopment, as follows:

- The site is to be redeveloped and will include some concrete/paved/asphalt hard stand cover and areas with accessible soils and landscaped gardens therefore the EILs and ESLs will be considered applicable for the future use.
- Historical detected soil concentrations will be assessed against the NEPC (2013) NEPM HIL-A, HIL-B and HIL-C as the proposed future use of the site includes low-density & high-density residential and public open space land use with accessible soil.
- NEPC (2013) NEPM HSL-A&B and HSL-C for sand, silt and clay have been adopted to evaluate the risk posed from vapour intrusion. The soil HSLs are based on depth of impacts, overlying soil type and land use. The selection of HSL-A & B and HSL-C was based the proposed ground floor land use as either low to high-density residential or recreational & public open space, the potential receptor/s onsite and the exposure that may be experienced.
- Management Limits (MLs – Residential, parkland and public open space) have been adopted and are used to consider the potential formation of light non-aqueous phase liquids, fire and explosion risks and damage to buried infrastructure. Sub-surface materials during previous investigations is widely variable and thus MLs for both coarse and fine soils have been adopted.
- The assessment criteria for asbestos will be adopted from NEPC (2013) NEPM, which provides health screening levels for asbestos contamination in soil, which are based on specific land use exposure scenarios, for three forms of asbestos: bonded asbestos containing material (ACM), friable asbestos (FA) and asbestos fines (AF). The laboratory method for analysis of asbestos in bulk materials is based on AS 4964&2004. Consequently, a practical quantification limit (PQL) equal to or less than 0.001% by weight is not adopted and the limit is 0.1g/kg (equivalent to 0.01% w/w). by weight is not possible and the limit is 0.1g/kg (equivalent to 0.01% w/w). The laboratory however will report asbestos results to both the NATA accredited PQL and lower 0.001% by weight NEPM (2013) quantification.

8.2. Guideline Selection

Tier 1 SAC listed above is to be selected appropriately for areas on site based on the localised soil type (i.e., silt, sand or clay) and the final (refined) proposed development layout, i.e., public open space land use criteria (HIL-C) will only apply to areas in which the proposed development features meet the definition of "public open space" in accordance with NEPM ASC (2013).

For the purposes of this DSI, historical sample locations were plotted on map in which the proposed development layout boundaries were overlain. Sample locations were subsequently sorted spatially based on their position within either proposed low-density residential, high-density residential or public open space areas in order to select applicable land use guidelines for each locality.

8.3. Aesthetics

Aesthetics relates to the generation of odours from the site, discolouration of the soil because of contamination and building and demolition wastes. Aesthetic issues will need to be considered as part of the site's final construction surface. The surface and initial 300mm of material should be free from:

- Coal Washery Rejects (CWR).
- Demolition rubble.
- Discoloured and odorous soils that would create a health or nuisance to site users.
- No visible ACM in the top 100 mm of the soil/surface profile.

8.4. Sediment Assessment Criteria

The selection of sediment assessment criteria was based on surface waters being present on site. The sediment analytical data will be compared against the following adopted Tier 1 screening criteria:

- ANZG 2018 – DGV toxicant values for Sediments. As revised September 2019.

The ANZG (2018) is a revision of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC & ARMCANZ 2000) presented as an online platform, to improve usability and facilitate updates as new information becomes available.

Revisions to DGVs since the ANZECC & ARMCANZ (2000) guidelines have been provided for the 'aquatic ecosystem' community value. DGVs have been revised for physical and chemical (PC) stressors based on increased understanding, broader monitoring data collected since 2000.

The NEPM ASC (2013) GILs were derived using the ANZECC & ARMCANZ (2000), which were subsequently revised (superseded) in ANZG (2018). As such, the ANZG (2018) DGVs will be used as an initial screening in place of the NEPM ASC (2013) GILs as they provide concentrations which once exceeded require further investigation into receptors and points of extraction and use.

The sediment guidelines were only used for initial screening and once the dams are dewatered and sediments dried, they will be assessed as "soil" materials.

8.5. Groundwater & Surface Water Assessment Criteria

No historical investigations to date have identified contamination in surface water or groundwater which warrants remedial actions, management or presents an unacceptable risk to current and potential future receptors on-site and off-site (both ecological and human). Furthermore, the RAP (Arcadis, 2019) developed for the site has been previously endorsed by a NSW EPA accredited Site Auditor, in which remediation of surface waters and groundwater was not deemed a requirement for the proposed residential and public open space land use.

For the purposes of this consolidated DSI, a review of the methods, QA/QC procedures and findings of historical investigations with regards to surface water and

groundwater is deemed sufficient to assess the suitability of the site for the proposed redevelopment.

Tier-1 SAC for historical soil and sediment analytical results (where available) are presented in **Appendix B, Table 4.**

9. Historical Investigations Methodology Appraisal

To inform the suitability of the historically collected data to address whether the site is suitable for the proposed development, Reditus conducted an appraisal of investigation methodologies completed in accordance with the industry best-practice guidelines listed in Table 7-1. A summary of the appraisal is provided in **Table 9-1** below.

Table 9-1: Historical Investigations Methodology Appraisal

Investigation	Methods	Quality Review	Acceptable for DSI
ADI (1996) - Stage 1 Site Investigation	▪ Excavation of 45 test pits using a backhoe and collection 70 soil samples. ▪ Drilling of 12 boreholes and installation of 5 groundwater monitoring wells. ▪ Sampling of 8 groundwater monitoring wells. ▪ Collection of 7 sediment and 7 surface water samples.	▪ ADI (1996) report was not provided for review. Only historical soil analytical data available for review. ▪ Review of the ADI (1996) investigation as detailed within the Arcadis (2019) RAP is limited to a description of the number and type of samples collected. ▪ TRH fractions reported by ADI (1996) differ from fractions adopted within NEPM (2013). Reported TRH fractions have been assessed against comparable (similar) NEPM (2013) fractions in this DSI for semi-quantitative comparison purposes only.	**Limited** Data and methodology reliability unknown and given age of the investigation it is deemed suitable for comparison / semi-quantitative trend purposes only.
EnviroRisk (2005) - Phase 1 Environmental Assessment	▪ Historical review of existing investigations and a site walkover.	▪ EnviroRisk (2005) report was not provided for review. ▪ Review of the EnviroRisk (2005) investigation as detailed within the Arcadis (2019) RAP is limited to a description of potentially contaminating features observed by EnviroRisk on site.	**Yes** However, investigation has limited implications for this DSI.
EnviroRisk (2006) – Phase 2 Environmental Assessment	▪ EnviroRisk undertook two rounds of assessment; comprehensive assessment was completed during December 2005 and an additional sampling round involving limited soil sampling and additional sampling	▪ EnviroRisk (2006) report was not provided for review. Only historical soil and sediment analytical data available for review.	**Limited.** Data and methodology reliability unknown and given

Investigation	Methods	Quality Review	Acceptable for DSI
	of the waterways was completed during February 2006. ▪ Installation of monitoring wells and groundwater assessment was completed by CES (2006) under subcontract to EnviroRisk. The groundwater assessment report by CES was included as Appendix 1 to EnviroRisk (2006). ▪ EnviroRisk generally maintained the same investigation areas as identified by ADI (1996). ▪ The sampling program for the investigation consisted of 45 soil sampling locations, 3 sediment locations, 9 surface water locations and 4 groundwater monitoring wells and included the excavation of 45 test pits using a backhoe, drilling of 12 boreholes and installation of 5 groundwater monitoring wells.	▪ Review of the EnviroRisk (2006) investigation as detailed within the Arcadis (2019) RAP is limited to a description of the number and type of samples collected and areas of concern.	age of the investigation it is deemed suitable for comparison / semi-quantitative trends purposes only.
ES (March 2014) – Preliminary Site Investigation	▪ Unknown, presumed to include a site inspection and walkover.	▪ ES (March 2014) report was not provided for review. ▪ Review of the ES (March 2014) investigation as detailed within the Arcadis (2019) RAP is limited to a description of potentially contaminating features observed by ES on site.	**Yes** However, investigation has limited implications for this DSI.
ES (July 2014) – Detailed Site Investigation	▪ A sampling, analytical and quality plan (SAQP) was developed by ES as part of the investigation. ES stated the SAQP was subsequently approved in-principle by NSW EPA accredited Site Auditor Mr Chris Jewell of C.M. Jewell and Associates in an email dated 29 January 2014 (*Reditus was not provided with this correspondence for review*). **Sample Location Rationale** ▪ ES utilised a combination of grid-based sampling and targeted sampling to characterise the site. ▪ Sample locations were based on the site history review completed as part of the ES (March 2014) PSI.	▪ ES state that the adopted sampling density across the site does not meet the NSW EPA (1995) Sampling Design Guidelines (current at the time of the investigation). However, the sampling strategy was based on advice provided by the NSW EPA accredited Site Auditor Mr C.M. Jewell within Interim Advice email from 29 January 2014 (*Reditus was not provided with this correspondence for review*). ▪ The investigation methodologies utilised as part of the assessment were	**Yes**

Investigation	Methods	Quality Review	Acceptable for DSI
	▪ A proposed sampling density of 97 locations was endorsed by the NSW EPA Accredited Auditor (Mr Chris Jewell). A total of 91 locations were progressed based on area restrictions at six locations prior to assessment. 6 soil bore/soil test pit locations were confirmed by ICC to be inaccessible in Area C - 'Coke Stockpiles' due to the presence of large coke stockpiles and additional client access restrictions (potential safety risks in truck accessed areas). ▪ ES did not strictly apply the NSW EPA (1995) sampling design guidelines, since extrapolating the guidelines to the size of the site (18.16ha) would result in an unreasonable number of sampling locations (1,297) for the Site investigation. A modified systematic sampling pattern was selected to (a) systematically sample coke stockpile areas for contamination related to the stockpile material which is expected to be homogeneous; (b) target areas near the boundaries of buildings and structures; and (c) conform to the boundaries of the Areas of Environmental Interest. Sampling in locations with structures was denser than in areas with large areas of stockpile material. ▪ The sampling frequencies were adjusted during the field works in response to site conditions that were encountered during the intrusive works. This resulted in a total of 71 sampling locations in the areas of environmental interest (AEI) and 2 sampling locations in offsite water courses. The adjusted sampling frequencies for each AEI were outlined and explained in tabulated form within the report. ES considered that the overall adjustments to the sampling frequency across the site did not compromise the integrity of the results. The auditor was informed of modifications to the sampling plan during the field works. **Soil Sampling** ▪ Excavation of 63 test pits and/or bores within the open space (i.e., non-paved) areas of the site around	conducted in accordance with relevant industry best practice guidelines and endorsed by a NSW EPA accredited Site Auditor. ▪ The data collected as part of the investigation is therefore suitable for use in this consolidated DSI to assist with characterising the nature and extent of contamination on site.	

Investigation	Methods	Quality Review	Acceptable for DSI
	identified areas of activity to a maximum depth of 3 mbgl. ▪ Collection of soil samples at the near surface, within the fill material at regular intervals, at locations with obvious signs of contamination (that is staining or odorous soils) and at the interface between soil formations. Soil samples were collected preferentially from test pits, unless site access limitations were encountered, in which case samples were collected from boreholes drilled using solid flight augers. **Sediment Sampling** ▪ Collection of 9 sediment samples using a hand auger or sediment sampler to a maximum depth of 0.6m. ▪ Where access permitted, sediment sampling on the site included a maximum of 9 samples collected at locations along North Corrimal Creek, at Recycle Dam and South Dam on the site and where possible near the junction of Towradgi Creek on the southeast boundary of the site. At a minimum, sampling aimed to include one grab sample "up-stream", one grab sample "down-stream" of North Corrimal Creek and samples from the 2 dams to assess for the potential net contribution of contamination from the site. ▪ Samples were collected using a sediment bucket or handheld sediment auger at locations with little or no flow from the banks of the water bodies. Sampling was undertaken in accordance with the Sediment Sampling Monitoring Guidelines (ANZECC & ARMCANZ 2000). **Groundwater Sampling** ▪ Drilling, installation and development of 10 bores and conversion into groundwater monitoring wells to max. 9 mbgl. ▪ Boreholes were drilled using a 300mm Solid Flight Auger bit and well construction material included 50mm-ID, Class 18, threaded, flush-jointed uPVC screens with		

Investigation	Methods	Quality Review	Acceptable for DSI
	machined slots of 0.5mm to 1.0 mm width and 50mm-ID, Class 18, threaded, flush jointed uPVC well casing joined with Viton™ O-rings which are chemically resistant to petroleum hydrocarbons and chlorinated solvents. Where a saturated horizon was encountered, the screened interval was installed to approximately 2m below the top of the saturated horizon, leaving 1m of screen above the saturated horizon. ▪ At each well, the void was gravel packed with 1-2mm washed graded gravel from the base of the borehole to 0.5m above the top of the well screen. Bentonite seals of 0.5m were installed above the gravel pack and the remaining void was backfilled with cement bentonite slurry. The well casing was extended above the ground surface as a standpipe and capped with a watertight lockable end cap. ▪ Monitoring wells installed by ES were developed using low flow sampling equipment. ▪ All monitoring wells were gauged using an interface probe prior to purging and sampling. ▪ Sampling of each of the 10 new groundwater wells in addition to an existing bore (identified between the coke oven batteries during the site visit which has been assumed to be operational. **Surface Water Sampling** ▪ Collection of surface water samples on the site at 9 locations "up-stream", various "mid-stream" locations and "down-stream" of North Corrimal Creek using a bucket or bailer at locations with little or no flow. ▪ Sampling was undertaken in accordance with the Surface Water Sampling Monitoring Guidelines (ANZECC & ARMCANZ 2000).		
Arcadis 2017 – Additional	▪ The Arcadis (2017) investigation comprised collection of soil samples from 35 test pits through the onsite berm material, 6 sediment samples, 8 surface water	▪ The investigation methodologies utilised as part of the assessment were	**Yes**

Investigation	Methods	Quality Review	Acceptable for DSI
Environmental Investigation	locations and 10 ground gas monitoring well locations across the site. ▪ A strategic and systematic sampling pattern was utilised for the assessment of soil, sediment, surface water and ground gas samples. ▪ Soil samples were collected directly from the excavator bucket advanced within the berm material. ▪ Sediment samples were collected from the periphery of the water body using sludge sampling equipment designed to capture an undisturbed sample from non-cohesive materials. ▪ Surface water samples were collected from the periphery of the water body using an extension pole with a Teflon ® cup (i.e., dip sampler) attached to the end. Samples were collected at a nominal depth of approximately 300 mm below the water surface before being transferred to laboratory preserved sample containers. ▪ Ground gas was screened (sampled) using the existing groundwater monitoring well network by first replacing the well caps with push-fit gas tight caps. ▪ Ground gas screening was then completed with a calibrated GA5000 landfill gas monitor. The following procedure was used for measuring ground gas concentrations: - General ground conditions at the site were recorded (e.g., dry, desiccated, waterlogged, physical evidence of contamination and / or waste materials) as the degree or presence of these conditions may affect the results. - General weather conditions at the site were recorded as the prevailing conditions may affect the results. - Atmospheric pressure and time of commencement of the monitoring visit was recorded.	conducted in accordance with relevant industry best practice guidelines. ▪ The data collected is deemed suitable for the purposes of assessing targeted areas (i.e., berm material) which were identified as data gaps to the previous ES (July 2014) DSI. ▪ Limited detail is provided to justify the berm material, sediment and surface water sampling density or locations. ▪ Limited detail is provided to justify the selection of the 9 groundwater monitoring wells sampled for ground gas monitoring.	

Investigation	Methods	Quality Review	Acceptable for DSI
	- Prior to sampling background oxygen concentrations in the vicinity of the monitoring point were recorded to ensure that the instrument was zeroed. Between each sampling location, the monitor was purged, clean air was passed through the analyser. - The inlet tube was attached to the analyser port. The quick connect on the inlet tube was then connected to the quick connect on the well cap. The pump was then activated, and bulk gas measurements recorded. - Initial concentrations of methane (% v/v), carbon dioxide (% v/v), hydrogen sulfide (ppm) and oxygen (% v/v) were recorded 30 seconds after the gas monitoring. Concentrations of all three gases were recorded after 60 and 90 seconds and the most elevated concentration in each time interval were recorded for each of the three gases. - If gas concentrations reached a steady state within 90 seconds no further monitoring was carried out. If gas concentrations showed an increase over time, then monitoring continued at the discretion of the ES field representative, until a stable measurement was recorded.		
Arcadis (January 2018) – Additional Environmental Assessment, Production Area	▪ The Arcadis (January 2018) investigation comprised collection of soil and groundwater data from locations within the former coke oven and production area. This included the soil sampling of ten (10) locations and conversion of four (4) locations into groundwater monitoring bores. Soil samples were collected directly adjacent to the underground flues and former coal storage areas.	▪ Arcadis (January 2018) report was not provided for review. Only historical soil analytical data available for review. ▪ Review of the Arcadis (January 2018) investigation as detailed within the Arcadis (2019) RAP is limited to a description of the key findings of the investigation.	**Yes** Although the data and methodology reliability is unknown, a detailed review of the investigation was completed as part of the Arcadis (2019) RAP, (which was subsequently endorsed by a NSW EPA

Investigation	Methods	Quality Review	Acceptable for DSI
			accredited Site Auditor) which is considered a reliable source.
Arcadis (March 2018) – Flue, Stack and Powerhouse Assessment	▪ The Arcadis (March 2018) investigation comprised collection of soil and building material samples from locations within the former production area. This included locations beneath the former powerhouse; from within the stacks; from the fill above the underground flues; from within the flues; and surface samples down topographic gradient from the powerhouse and quench stacks. ▪ Targeted soil sampling was completed to further characterise the soil around the coke ovens, underground flue, powerhouse and surface soil topographically downgradient of the quench towers. ▪ Soil samples were collected from excavated test pits at relevant intervals, changes in lithology or in zones of gross contamination while sampling density and locations were selected based on access constraints and to minimise data gaps. ▪ Building materials and residues were collected from locations and materials suspected of containing hazardous substances. This was based on visual observations, experience and anecdotal evidence. ▪ Arcadis stated that all media sampled was conducted in accordance with Arcadis standard operating procedures and relevant industry guidelines.	▪ The investigation methodologies utilised as part of the assessment were conducted in accordance with relevant industry best practice guidelines. ▪ The data collected is deemed suitable for the purposes of assessing targeted areas within the production area which were identified as data gaps to the previous assessments of the site.	**Yes**
Douglas Partners (2018) – Preliminary Combustibility Assessment	▪ The DP (2018) investigation comprised a preliminary desktop-based assessment of material at the site to provide guidance on which sections of the site would require blending to allow compliance with WCC development control plan (DCP) policy for combustibility.	▪ DP (2018) report was not provided for review. ▪ Review of the DP (2018) investigation as detailed within the Arcadis (2019) RAP is limited to a brief outline of the conclusions of the assessment.	**Yes** However, investigation has limited implications for this DSI.

Investigation	Methods	Quality Review	Acceptable for DSI
Douglas Partners (2019) – Combustibility Assessment, Corrimal Coke Works Site	▪ The DP (2019) investigation comprised an intrusive investigation to determine the actual percentage content of combustible materials within fill at the site. ▪ The investigation included excavation of 15 test pits across the site using an excavator and collection of samples at regular intervals.	▪ Limited detail is provided to outline the methods used during the assessment or to justify the sampling density or locations. ▪ The data collected is deemed suitable for the purposes of assessing aesthetic combustibility (geotechnical) considerations at the site.	**Yes** However, investigation has limited implications for this DSI.
Reditus (2020) – Data Gap Investigation	▪ The Reditus (2020) investigation included an assessment of 4 data gaps investigation zone. ▪ Targeted soil bores, groundwater monitoring wells and excavated test pits were advanced in each DGI zone. ▪ Sample location rationale was detailed in Table 8-1 of the DGI report. ▪ Soil samples were collected from the near surface, at changes in lithology or zones with any visual (staining or discolouration) or olfactory signs of contamination. ▪ The soil samples were collected directly from the push tube liner shallow boreholes/SPT tube for deep boreholes or directly from the centre of excavator bucket (for test pits). In some circumstances samples were required to be collected directly from the auger stem. ▪ Acid sulphate soils samples were placed into a separate 500mL zip lock sample bag for laboratory analysis. Field peroxide testing and reporting occurred at 1 metre intervals at the ten ASS borehole locations, using the methods outlined in Appendix 1 of the ASSMAC (1998). ▪ All three (3) groundwater monitoring wells (RMW01, RMW02 to RMW03) were drilled with solid flight auger drilling techniques. ▪ Well construction, including screened intervals, were based on observations made during the drilling at each location. The well screens comprised of 50mm ID,	▪ The investigation methodologies utilised as part of the assessment were conducted in accordance with relevant industry best practice guidelines. ▪ The data collected is deemed suitable for the purposes of assessing targeted areas on site which were identified as data gaps to the previous assessments of the site.	**Yes**

Investigation	Methods	Quality Review	Acceptable for DSI
	Class 18, threaded, flush jointed uPVC with machine slots of 0.5mm to 1.0mm width and casing comprised of 50mm ID, Class 18, threaded, flush jointed uPVC. Each groundwater monitoring well was gravel packed with 1-2mm of washed graded gravel to the top of the screen interval with a minimum 1.0m thick bentonite seal installed above the gravel pack. All wells were grouted with a mixture of bentonite and cement to the top of the ground surface. All wells were finished as stick-ups to the ground surface and capped with lockable cap. Monitoring wells were installed to a maximum depth of 7.5 m bgl. The screened interval was targeted at the saturated zone has been penetrated by a depth of at least 1.5m ensuring a screened interval of at least 0.5. remains above the water bearing zone to increase the potential for detection of any light non aqueous phase liquids (LNAPL). ▪ The three newly installed monitoring wells were developed using a stainless-steel bailer. The bailer was used to disturb the water column within the well annulus to remove any groundwater and well debris that may have been introduced during the installation and drilling. Where practicable, a minimum quantity of three casing volumes of water was removed. The well was then left to stabilise prior to purging and sampling. ▪ All three (3) wells were gauged using an oil/water interface probe prior to purging and sampling. ▪ The wells were then purged using a low flow peristaltic pump with dedicated LDPE tubing until groundwater quality parameters stabilised to within 10% of the previous reading.		

9.1. Historical Methodologies Evaluation

Following review of historical investigation methodologies and procedures, Reditus consider the soil, sediment, surface water, ground gas and groundwater assessment methods adopted were generally completed in accordance with relevant industry best practice guidelines. The historical data collected is therefore considered suitable for use in this consolidated DSI to assist with characterising the nature and extent of contamination on site.

It is noted that data and methodology reliability from historical investigations completed prior to 2014 is unknown (reports were not provided for review), however given the age of the investigations the data collected is considered suitable for comparison / semi-quantitative trends purposes to inform future investigative and remedial works.

10. Historical Investigations Quality Assurance & Quality Controls Appraisal

To inform the suitability of the historically collected data to address whether the site is suitable for the proposed development, Reditus conducted an appraisal of investigation quality assurance and quality control measures completed in accordance with the industry best-practice guidelines listed in Table 7-1. A summary of the appraisal is provided in **Table 10-1** below.

Table 10-1: Historical Investigations QA/QC Appraisal

Investigation	QA/QC Measures & Methods	Quality Review	Acceptable for DSI
ADI (1996) - Stage 1 Site Investigation	Unknown	▪ ADI (1996) report was not provided for review. Only historical soil analytical data available for review.	**Limited** QA/QC measures unknown and given age of the investigation it is deemed suitable for comparison / semi-quantitative trends purposes only
EnviroRisk (2005) - Phase 1 Environmental Assessment	Unknown	▪ EnviroRisk (2005) report was not provided for review. ▪ Review of the EnviroRisk (2005) investigation as detailed within the Arcadis (2019) RAP is limited to a description of potentially contaminating features observed by EnviroRisk on site. ▪ Phase 1 site investigations generally do not include nor require significant QA/QC measures to collect suitable data.	**Yes** However, investigation has limited implications for this DSI.
EnviroRisk (2006) – Phase 2 Environmental Assessment	Unknown	▪ EnviroRisk (2006) report was not provided for review. Only historical soil and sediment analytical data available for review. ▪ Review of the EnviroRisk (2006) investigation as detailed within the	**Limited.** QA/QC measures unknown and given age of the investigation it is

Investigation	QA/QC Measures & Methods	Quality Review	Acceptable for DSI
		Arcadis (2019) RAP is limited to a description of the number and type of samples collected and areas of concern.	deemed suitable for comparison / semi-quantitative trends purposes only.
ES (March 2014) – Preliminary Site Investigation	Unknown	▪ ES (March 2014) report was not provided for review. ▪ Review of the ES (March 2014) investigation as detailed within the Arcadis (2019) RAP is limited to a description of potentially contaminating features observed by ES on site. ▪ Preliminary site investigations generally do not include nor require significant QA/QC measures to collect suitable data.	**Yes** However, investigation has limited implications for this DSI.
ES (July 2014) – Detailed Site Investigation	▪ Samples retrieved with a backhoe-mounted solid flight auger were collected directly from the auger bit using disposable nitrile gloves which were changed between sampling events. The interior and exterior surfaces of cohesive soil samples were cleaned from the sample using a trowel to minimise cross contamination between sampling intervals and sampling locations. ▪ Samples retrieved by test pitting were collected from above the teeth at the centre of the excavator bucket to minimise cross contamination by scraping at the sides of the test pit. In many locations, coal wash or coke fines was present in a shallow fill horizon and contaminated the exterior surface of the sample retrieved from by the excavator bucket. If there was visual evidence of contamination by coal wash or fines from the side of test pits, the exterior surface was cleaned using a trowel prior to sample collection.	▪ The investigation QA/QC measures utilised as part of the assessment were conducted in accordance with relevant industry best practice guidelines. ▪ The data collected as part of the investigation is therefore suitable for use in this consolidated DSI to assist with characterising the nature and extent of contamination on site.	**Yes**

Investigation	QA/QC Measures & Methods	Quality Review	Acceptable for DSI
	▪ Samples were collected in laboratory supplied 250mL glass jars with Teflon seals or appropriately preserved laboratory supplied bottles. ▪ Samples were collected with clean new nitrile gloves to prevent cross-contamination. ▪ Samples were placed in an ice-filled esky to keep them below 4oC in accordance with US EPA SW 846. ▪ Samples were transferred to the laboratory under a completed chain-of-custody. ▪ QA/QC field samples were collected at a rate of at least 1:20 for duplicates and 1:20 for triplicates. ES did not allow for the testing of trip spikes, trip blanks or rinsate samples during field work but adhered to stringent sampling, decontamination and sample shipment under chain of custody protocols in accordance with the NSW EPA Guidelines. ▪ Samples were submitted to NATA accredited laboratory Envirolab for analysis. ▪ Groundwater sampling equipment was decontaminated using Decon-90 Wash mixture and rinsed with water between each well.		
Arcadis 2017 – Additional Environmental Investigation	▪ Soil samples were collected directly from the centre of the excavator bucket using a stainless-steel trowel and disposable nitrile gloves which were changed between each sampling event. ▪ Sample preservation was undertaken in accordance with NEPM (2013); samples were immediately transferred to an ice filled Esky to chill them below 4°C, and subsequently couriered to the laboratory. ▪ The sediment sampler and/or hand tools were thoroughly decontaminated between sampling events with a phosphate-free detergent (Decon 90) and rinsed with potable water. Single-use, disposable nitrile gloves were used by ES personnel during, and were replaced between, each sampling location.	▪ The investigation QA/QC measures utilised as part of the assessment were conducted in accordance with relevant industry best practice guidelines. ▪ The data collected is deemed suitable for the purposes of assessing targeted areas (i.e., berm material) which were identified as data gaps to the previous ES (July 2014) DSI.	**Yes**

Investigation	QA/QC Measures & Methods	Quality Review	Acceptable for DSI
	▪ The surface water dip sampler cup was thoroughly decontaminated between sampling location with a phosphate-free detergent (Decon 90) and rinsed with potable water. For additional sample integrity, single-use, disposable nitrile gloves were used by ES personnel during sampling, and were replaced between, each sampling location. ▪ Soil and groundwater samples were transported to the appointed NATA accredited laboratory under a chain of custody (CoC). Information on the CoC included the sampler, sample identifier, sample matrix, collection date, analyses to be performed, sample preservation method, sample release date and sample received date. ▪ Due to the potential for loss of volatiles, soil replicate samples were not mixed and separated to obtain sample splits; instead replicate samples were obtained by collecting multiple samples from the same location and depth interval. Groundwater duplicate and triplicate samples were collected by filling the required number of sample bottles concurrently with the primary samples to ensure that the same representative water was being collected in each sample container. Surface water duplicate samples were collected by filling the required number of sample bottles concurrently with the primary samples to ensure that the same water was being collected in each sample container. ▪ Four (4) sets of field duplicates for intra-laboratory and inter-laboratory QA/QC samples were collected which was equivalent to a QA/QC rate of 1:20 samples in accordance with the Australian Standard 4482.1-2005 'Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1:Non-volatile and semi-volatile compounds'. ▪ One water rinsate sample was collected as part of the field works. The sample, Rinsate, was analysed for TRH		

Investigation	QA/QC Measures & Methods	Quality Review	Acceptable for DSI
	by Envirolab. Envirolab reported concentrations of COPC in the sample below the laboratory LOR for all analytes.		
Arcadis (January 2018) – Additional Environmental Assessment, Production Area	Unknown	▪ Arcadis (January 2018) report was not provided for review. Only historical soil analytical data available for review. ▪ Review of the Arcadis (January 2018) investigation as detailed within the Arcadis (2019) RAP is limited to a description of the key findings of the investigation.	**Yes** Although the QA/QC measures are unknown, a detailed review of the investigation was completed as part of the Arcadis (2019) RAP, (which was subsequently endorsed by a NSW EPA accredited Site Auditor) which is considered a reliable source.
Arcadis (March 2018) – Flue, Stack and Powerhouse Assessment	▪ Soil samples were collected directly from the centre of the excavator bucket using disposable nitrile gloves which were changed between each sampling event. ▪ Sample preservation was undertaken in accordance with NEPM (2013); samples were immediately transferred to an ice filled Esky to chill them below 4°C, and subsequently couriered to the NATA accredited laboratory under a COC. ▪ New disposable nitrile gloves were used between each sample location while re-usable equipment was washed with a solution of Decon 90 and rinsed with potable water. ▪ Due to the potential for loss of volatiles, soil replicate samples were not mixed and separated to obtain sample splits; instead replicate samples were obtained	▪ The investigation QA/QC measures utilised as part of the assessment were conducted in accordance with relevant industry best practice guidelines. ▪ The data collected is deemed suitable for the purposes of assessing targeted areas within the production area which were identified as data gaps to the previous assessments of the site.	**Yes**

Investigation	QA/QC Measures & Methods	Quality Review	Acceptable for DSI
	by collecting multiple samples from the same location and depth interval. ▪ Three (3) sets of field duplicates for intra-laboratory and inter-laboratory QA/QC samples were collected which was equivalent to a QA/QC rate of 1:20 samples in accordance with the Australian Standard 4482.1-2005 'Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1:Non-volatile and semi-volatile compounds'		
Douglas Partners (2018) – Preliminary Combustibility Assessment	Unknown however deemed not applicable to this DSI.	▪ DP (2018) report was not provided for review. ▪ Review of the DP (2018) investigation as detailed within the Arcadis (2019) RAP is limited to a brief outline of the conclusions of the assessment.	**Limited** However, investigation has limited implications for this DSI.
Douglas Partners (2019) – Combustibility Assessment, Corrimal Coke Works Site	Not defined	▪ No detail is provided to outline the QA/QC measures (if any) used during the assessment. ▪ The data collected is deemed suitable for the purposes of assessing aesthetic combustibility (geotechnical) considerations at the site.	**Yes** However, investigation has limited implications for this DSI.
Reditus (2020) – Data Gap Investigation	▪ Samples were collected with clean new nitrile gloves to prevent cross contamination. ▪ Samples were placed in an ice-filled esky to keep them below 4°C in accordance with US EPA SW 846. Samples collected for ASS were couriered daily to the laboratory. ▪ All sample containers were labelled with the details of the sample, including the sample name, the job number, the date of sample and the sample depth. ▪ Samples were transferred to the laboratory under a completed chain-of custody.	▪ The investigation QA/QC measures utilised as part of the assessment were conducted in accordance with relevant industry best practice guidelines. ▪ The lack of soil Intra-laboratory and inter-laboratory duplicates is not considered to significantly reduce the integrity of the data set. All samples were collected using industry accepted techniques, stored, and transported appropriately. Furthermore, this data set forms part of a wider historical data set	**Yes**

Investigation	QA/QC Measures & Methods	Quality Review	Acceptable for DSI
	▪ Between sampling events, re-usable sampling equipment was brushed down rinsed in phosphate free detergent and rinsed twice in potable water. ▪ Soil samples were collected in accordance with Reditus standard operating procedures which are based on the NEPC (2013) NEPM, Australian Standard AS4482.1-2005 and AS4482.2-1999 and OEH requirements. ▪ There were no reusable sampling tools used between events with the exception of the auger that was brushed clean with a wire brush if found to still have excess soil present between sampling events, excavator bucket where samples were collected directly from the centre of soil and oil/water interface probe that was rinsed in phosphate free detergent and then deionised water between wells. Reditus considered this to be a suitable method of decontamination. ▪ A rinsate sample was not collected as part of these works. Given the decontamination procedures discussed above and the majority of soil samples were collected from test pits and from non-reusable equipment Reditus is of the opinion this does not jeopardise integrity of the results. ▪ A trip blank sample was not completed during soil sampling however one was collected during groundwater sampling (FBLANK 30/03/2020) event. The trip blank sample reported concentrations of TRH F1 and BTEX below the laboratory LOR. This suggests that sampling storage and transportation procedures were adequate, with potential for cross-contamination considered minimal. The absence of a Trip blank during soil sampling was deemed not to effect the integrity of the results as there were no volatile COPC detected any soil sample analysed during the works. ▪ Soil and groundwater samples were transported to the NATA accredited laboratory under a COC. Information	and will form part of a wider site wide validation program. ▪ The data collected is deemed suitable for the purposes of assessing targeted areas on site which were identified as data gaps to the previous assessments of the site.	

Investigation	QA/QC Measures & Methods	Quality Review	Acceptable for DSI
	on the CoC included the sampler, sample identifier, sample matrix, collection date, analyses to be performed, sample preservation method, sample release date and sample received date. ▪ Field intra-laboratory duplicates and inter-laboratory duplicates were collected at a rate of 1:3 for groundwater samples. These rates are within the Australian Standard 4482.1-2005 'Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds and Reditus' QA frequency ranges that recommend 1:20. ▪ Due to an error with the sampling process and laboratory sample receipt there were no soil intra-laboratory duplicates and inter-laboratory duplicates collected during this phase of the project. Reditus noted there will be sufficient opportunity within future investigation and validation processes to ensure there are sufficient field duplicate and triplicate samples collected for the project. Since no duplicates or triplicates were collected onsite, Eurofins (primary laboratory) proceeded to subsampling the existing samples they had received from Reditus. Instead of the subsample being split the laboratory misinterpreted the instruction and sent the entire sample for analysis at the secondary laboratory. and the split sample (RCBH1) which was forwarded to Envirolab for Inter-Lab Analysis.		

10.1. Historical Quality Assurance & Quality Controls Evaluation

Following review of historical investigation QA/QC measures, Reditus consider the measures utilised as part of the assessments were generally completed in accordance with relevant industry best practice guidelines. The historical data collected is therefore considered suitable for use in this consolidated DSI to assist with characterising the nature and extent of contamination on site.

It is noted that data and QA/QC measures utilised in historical investigations completed prior to 2014 is unknown (reports were not provided for review), however given the age of the investigations the data collected is considered suitable for comparison / semi-quantitative trends purposes to inform future investigative and remedial works.

11. Results

The below provides a summary of historical results of investigations completed at the site. Where appropriate (plausible), soil and sediment results have been compared against the adopted SAC with respect to the proposed development land-use layout. Historical sample locations are presented in **Appendix A, Figure 5**.

11.1. Historical Field Observations

11.1.1. Soil

Previous investigations described the site geology as overburden to 10.3 mbgl overlying inter-bedded natural strata of shale, coal, sandstone and siltstone.

It was reported that the overburden within the production, stockpile and waste storage areas was generally coke and coke fines overlying natural grey-yellow, yellow-brown, brown, orange, orange-grey and grey clays.

Within the southern vacant land, the overburden was described as orange-grey and grey clays, with no coke reported.

The western half of the site was generally logged as coke-like fill of varying depth overlying orange/grey clay. Assessed areas of vacant land in the north were described as brown loamy soil overlying orange/grey clay. Coke was observed in one borehole located near the northern berm.

Arcadis formed thirty-five (35) test pits through the berms across the site. The material within the berms can be described as follows:

- The surface was predominantly made up of silts, coal wash fines and quench ash.
- Fill material within the berms consisted of silt, silty clay, medium grained sands, coarse and medium sized coal fragments building rubble fragments and plastic.
- Natural material underlying the berms consisted of non-plastic, dry, light brown silty clay.
- PID measurements that were recorded did not detect measurable concentrations of VOCs.
- ACM were encountered in soil material within the berm at one test pit (TP2) adjacent to waste storage area 'B2'.
- At some locations the height of the berm was up to 5.0m above surface level.

Previous investigations observed the presence of carbonaceous materials within fill material across the site. The findings of the combustibility assessment (DP 2019) indicated there was a variable range of combustibles present on site between 11.6% and 87.8%. The average combustibility of samples tested was 49.7%. This was in excess of the 30% allowable average and 40% absolute maximum criteria set-out in Chapter E19 of the WCC DCP (2009). As such if the material is to be re-used a site

specific geotechnical specification prepared by a suitably qualified geotechnical engineer to ensure compliance with the WCC Development Control Plan (2009) Chapter E19 Earthworks.

11.1.2. Groundwater

The standing water level within the existing wells onsite ranged between 3.03 m to 4.69 m btoc. The inferred local groundwater flow direction on the site is to the south to southeast. This opinion of Arcadis (2019) (and Reditus) is based on a review of the predominant slope of the natural topography to the south, the southerly surface water flow direction of North Corrimal tributary across the Site and the easterly flow direction of Towradgi Creek towards the coastline.

Additional groundwater investigations were completed around the coking production area and reported by Arcadis (January 2018). The results were consistent with those previously reported by ES (2014).

11.2. Soil Analytical Results

A summary of historical soil data collected on site with comparison to applicable SAC for the intended land-use setting (i.e., low-density residential, high-density residential or recreational and public open space) is provided in **Appendix B**, **Table 1** to **Table 3** and summarised in Section 5, Table 5-2.

11.2.1. Ecological SAC

Exceedances of the adopted ecological SAC were reported across much of the site within fill at depths of up to 4 mbgl (predominantly <1 mbgl). A majority of these comprised concentrations of TRH >C_{10} – C_{14} fraction, heavy metals and benzo(a)pyrene exceeding the EIL or ESL criteria for urban, residential and public open space land use.

Based on the presence of the exceedances to adopted ecological guidelines discussed, there is a potential risk under the proposed land use to future ecological receptors. Noting the TRH criteria is low reliability, and the surface filling material will undergo significant blending, burial and compaction work. As such as part of each RAP for the future bulk earthwork Stages the management decisions based on these results should be carefully evaluated. The representativeness and effect these results may have on the chosen remedial strategy will need to be incorporated in the remedial and validation. During the site redevelopment it is important to ensure that these impacts are adequately remediated / managed to render the site suitable for the proposed residential and public open space land use.

11.2.2. Human Health SAC

Exceedances of the adopted human health SAC for the respective proposed land-use setting were reported at the following sample locations:

- **S11 (ADI, 1996)** at 0.2 mbgl – TRH (C_{15} – C_{28}) 2,950 mg/kg exceeded the comparable NEPM (2013) TRH Fraction Management Limit criteria.

- **W5 (ADI, 1996)** at 0.1 mbgl - TRH (C_{15} – C_{28}) 44,000 mg/kg and TRH (C_{29} – C_{36}) 38,000 mg/kg exceeded the comparable NEPM (2013) TRH Fraction Management Limit criteria.
- **BH6 (EnviroRisk, 2006)** at 1 mbgl – B(a)P (TEQ LOR) 9 mg/kg exceeded the HIL-C criteria.
- **TP18E (EnviroRisk, 2006)** at 2.5 mbgl – Lead 1,580 mg/kg exceeded the HIL-B criteria.
- **MW5 (ES, 2014)** at 0.2 mbgl - TRH (C_{16} – C_{34}) 4,000 mg/kg exceeded the Management Limit criteria.

Based on the presence of the exceedances to adopted human health SAC, there may be a potential risk under the proposed land use to future site users. During the site redevelopment it is important to ensure that these impacts are adequately remediated / managed to render the site suitable for the proposed residential and public open space land use.

Sample locations which exceed the adopted human health SAC are presented in **Appendix A, Figure 6a**.

11.2.3. Asbestos Results

Asbestos was identified during the ES (2014) investigation at two (2) soil sample locations within the Production Area; BH51 at 0.4 mbgl and MW2 at 0.5 mbgl. ACM was also observed by Arcadis (2017) within berm materials adjacent to the Waste Storage Area at sample location TP2.

Based on the presence of ACM in soils it may pose a risk to future site future site users. During the site redevelopment it is important to ensure that these impacts are adequately remediated / managed to render the site suitable for the proposed residential and public open space land use.

Locations in which ACM were identified or observed are presented in **Appendix A, Figure 6b**.

11.3. Acid Sulfate Soils

The results of the Reditus (2020) DGI reported four (4) soil samples to marginally exceed the ASSMAC (1998) Acid Sulfate Soil action criteria. There were no indications of actual ASS and the exceedances of the action criteria were considered to be PASS only. The positive PASS results ranged between a depth of 2 and 7 metres and were identified within the areas of the site proposed to be cut to form the new creek alignment.

PASS appeared to be limited to the northern and southern extents of the creek realignment and were associated with a grey colourisation of the weathered silt/sandstone formation. Vertical characterisation indicated most of the soils proposed to be disturbed are not ASS or PASS. These results are consistent with the ASS mapping which place the site on the edge of a Class 3 ASS zone. It was determined that upon finalisation of the Creek realignment works and prior to the Stage 2 bulk earthworks commencing further characterisation of the potential ASS material should be performed.

11.4. Sediment Analytical Results

Exceedances of the adopted ANZG toxicant default guideline values for sediment quality were reported at the following locations:

- **SED1CR (ES, 2014)** upgradient in North Corrimal Creek – Zinc 350 mg/kg exceeding the ANZG criteria of 200 mg/kg.
- **SED3CR (ES, 2014)** downgradient in North Corrimal Creek – Zinc 310 mg/kg exceeding the ANZG criteria of 200 mg/kg and lead 650 mg/kg exceeding the ANZG criteria of 50 mg/kg.
- **SED D1L2 (Arcadis, 2017)** South Dam – Sum of TRH 210 mg/kg exceeding the ANZG criteria of 0.28 mg/kg.
- **SED D2L1 (Arcadis, 2017)** Recycle Dam – Sum of TRH 870 mg/kg exceeding the ANZG criteria of 0.28 mg/kg.
- **SED D2L2 (Arcadis, 2017)** Recycle Dam – Sum of TRH 2,000 mg/kg exceeding the ANZG criteria of 0.28 mg/kg.
- **SED D2L3 (Arcadis, 2017)** Recycle Dam – Sum of TRH 320 mg/kg exceeding the ANZG criteria of 0.28 mg/kg.

It is noted that the proposed redevelopment will substantially re-align North Corrimal Creek and include dewatering of onsite dams. The residual sediments will be dried, validated (chemically, aesthetically and geotechnically) and either appropriately re-used within the site soils, encapsulated or lawfully disposed of off-site. The appropriate guidelines to use at the time of re-use assessment will be the land-use guideline relevant to the planned land use within the footprint of the re-instatement area.

Sample locations which exceed the adopted ANZG DGV are presented in **Appendix A**, **Figure 6c**.

11.5. Groundwater Results

Concentrations of heavy metals (copper, chromium, cadmium, copper, zinc and nickel) and ammonia were reported in excess of the GAC in the ADI (1996), ES (2014), Arcadis (January 2018) and Reditus (2020) investigations. Overall, the consensus for each of the investigations has been that the likely net contribution of contamination in groundwater from site activities is likely to be low. Groundwater concentrations were reported to be within expected regional background concentrations ranges for heavy metals.

Arcadis (January 2018) indicated the source of the ammonia is likely to be a mixture of the wider urban environment contributing background concentrations from common sources such as fertilisers, decomposing vegetation and domestic sewerage systems. The site itself is also likely to have contributed to the concentrations of ammonia. The vapour scrubbing and quenching process can mobilise ammonia within the quench water and any particulates including the quench ash. The overall process of water and ash recycling and re-use however is likely to have limited the impact of ammonia. Monitoring wells MW2 and MW4 located downgradient of the coke ovens and quench stack reported ammonia at

concentrations less than the adopted GAC during the Arcadis (January 2018) investigation.

All concentrations of contaminants of potential concern within groundwater during the most recent Reditus (2020) investigation were below the GAC or the laboratory limit of reporting except for minor exceedances of copper, nickel and zinc. The exceedances were considered marginal and typical of shallow urban groundwater conditions.

Given the location of the site within an urbanised environment and proximity to local Collieries and heavy industry which both date back over 100 years, it is anticipated that mobile contaminants such as dissolved heavy metals and nutrients (ammonia, nitrate and phosphate) is likely to be present within background surface and groundwater surrounding the site. As such, Reditus and others considered the remediation and/or manage groundwater on site is not required.

11.6. Surface Water Results

ADI (1996) reported elevated zinc concentrations in two (2) surface water samples collected from the South Dam but not in samples collected from the Recycle Dam or North Corrimal Creek (up and down gradient). Elevated PAHs were reported in two (2) samples collected from the Recycle Dam, however, it was not clear in the ADI report whether samples were filtered, so the result may be due to entrained particulate (coke).

EnviroRisk (2006) reported elevated metals (copper and zinc) in selected creek water samples. These were considered likely a reflection of the urban/industrial setting of the region rather than specific contribution from the site. Ammonia was also reported in two (2) creek water samples assessed. The concentrations were low and not considered to be significant.

ES (2014) reported a total of eight (8) samples exceeding the adopted SWAC in North Corrimal Creek which is a typical urban creek. Copper and zinc were reported to exceed the ecological SWAC at all surface water sample locations across the site. A comparison of the concentrations of heavy metals at the upgradient and downgradient sample locations indicated that there was no net contribution of copper and zinc in surface water leaving the site. Mercury and antimony were reported to exceed the SWAC at the Recycle Dam. Mercury and antimony were not detected in surface water at the downgradient site boundary. Surface water was impacted by low-moderate concentrations of heavy metals which appeared to be related to elevated concentrations in the soils in Coke Production Area A.

Arcadis (2017) reported some surface water samples marginally exceeding the SWAC. The concentrations detected however were considered to be indicative of an urban environment. Furthermore, they did not exceed the recreational or Australian Drinking Water Guidelines (ADWG) and therefore were not considered to pose an unacceptable risk to human health or an impediment to site redevelopment.

The results of the historical investigations consider the remediation and/or management of surface water on site is not required.

11.7. Hazardous Ground Gas Results

A hazardous ground gas assessment was completed as part of the Arcadis (2017) investigation. The results of the assessment reported the following:

- A maximum flow rate of 0.1 L/hr.
- Maximum methane concentrations of between 0 and 4.7 % (v/v).
- Maximum carbon dioxide of between 0.3 and 12.5 % (v/v).

A gas screening value (GSV) for methane and carbon dioxide was calculated for each monitoring location with GSV ranging from 0.0032 to 0.0125 L/hr which corresponded to a Characteristic Gas Situation (CS) value of "1" for the site, based on Table 6 of the NSW EPA (2012) 'Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases'. Reditus have reviewed the results with respect to the updated NSW EPA (2020) guidance and the outcomes of the assessment remain unchanged.

Based on the assigned CS value of '1' the risk classification for the site was considered 'very low risk' and as such a quantitative risk analysis was considered not required.

The former powerhouse building is proposed to remain as a site heritage item. To maintain this heritage item the fill beneath the former powerhouse building will need to remain in-situ. The fill material consists of up to 4 metres of carbonaceous fill materials and will require further assessment and monitoring in relation to ground gas to confirm the previously identified CS value.

12. Conclusions

Based on a review of the site history, observations made during fieldwork, results of historical investigations of the site and the proposed land uses, Reditus concludes the following:

Site History & Observations

- The site was used between 1912 until 2013 to produce metallurgical and foundry coke utilising non-regenerative coking ovens. The coke production area including the coke ovens and peripheral activities occupied the northeast quarter of the site. Coke storage and loading activities occupied the remaining portions of the operational sections of the site.
- North Corrimal Creek flows generally north to south through the middle of the site. There were two dams created on site to capture the water for quenching the coke during production and dust suppression.
- Following review of historical investigation methodologies and procedures, Reditus consider the soil, sediment, surface water, ground gas and groundwater assessment methods and QA/QC measures were generally completed in accordance with relevant industry best practice guidelines. The historical data collected was therefore considered suitable for use in this consolidated DSI to assist with characterising the nature and extent of contamination on site. The methodology and QA/QC results from historical investigations completed prior to 2014 were not available. Given the age of the pre 2014 investigations and the results within those reports is considered suitable for comparison purposes.
- Previous investigations observed the presence of coal, coke and other carbonaceous materials within fill material across the site. The findings of the combustibility assessment (DP 2019) indicated there was a variable range of combustibles present on site between 11.6% and 87.8%. The average combustibility of samples tested was 49.7%. It was determined that any re-use of the carbonaceous materials that meet the land use criteria would be performed under as site-specific geotechnical specification prepared by a suitably qualified geotechnical engineer to ensure compliance with the WCC Development Control Plan (2009) Chapter E19 Earthworks.
- The perimeter and sediment control berms were investigated across the site and comprised predominantly of silts, silty clay, sands, coal fragments with some locations containing demolition rubble, including asbestos materials at one location.
- The standing water level within the existing wells onsite ranged between 3.03 to 4.69 metres below top of casing (m btoc). The inferred local groundwater flow direction on the site is south to southeast.

Soil

- Based on the presence of the exceedances to adopted ecological guidelines discussed, there is a potential risk under the proposed land use to future ecological receptors. Noting the TRH criteria is low reliability, and the surface filling material will undergo significant blending, burial and

compaction work. As such as part of each RAP for the future bulk earthwork Stages the management decisions based on these results should be carefully evaluated. The representativeness and effect these results may have on the chosen remedial strategy will need to be incorporated in the remedial and validation. During the site redevelopment it is important to ensure that these impacts are adequately remediated / managed to render the site suitable for the proposed residential and public open space land use.

- Exceedances of the adopted human health SAC for the respective proposed-land use setting were reported at five (5) sample locations across the site. One exceedance was for benzo(a)pyrene (B(a)P) toxicity equivalency quotient (utilising half the limit of reporting LOR) with three (3) locations exceeding TRH >C_{16} Fraction criteria and one (1) exceeding lead criteria. The reported exceedances are considered to present a potential risk under the proposed land use to future site users and therefore requires remediation and/or management to render the site suitable for the proposed development. It is noted however only one of the TRH exceedances were based on the more recent investigations performed since 2014.
- Asbestos was identified at two (2) soil sample locations within the Production Area; BH51 at 0.4 mbgl and MW2 at 0.5 mbgl. Asbestos containing material (ACM) were also observed by Arcadis (2017) within berm materials adjacent the Waste Storage Area at sample location TP2. Based on the presence of ACM, there is a potential risk under the proposed land use to future site users and therefore requires further assessment, remediation and/or management to render the site suitable for the proposed development.
- The results of the Reditus (2020) Data Gap Investigation (DGI) reported four (4) soil samples to marginally exceed the ASSMAC (1998) Acid Sulfate Soil (ASS) action criteria. There were no indications of actual ASS and the exceedances of the action criteria were considered to be potential ASS (PASS) only. The positive PASS results ranged between a depth of 2 and 7 metres and were identified within the areas of the site proposed to be cut to form the new creek alignment. PASS appeared to be limited to the northern and southern extents of the creek realignment and were associated with a grey colourisation of the weathered silt/sandstone formation. Vertical characterisation indicated most of the soils proposed to be disturbed are not ASS or PASS. These results are consistent with the ASS mapping which place the site on the edge of a Class 3 ASS zone. It was determined that upon finalisation of the Creek realignment works and prior to those bulk earthworks commencing further characterisation of the potential ASS material should be performed.

Sediment

- Exceedances of the adopted ANZG toxicant default guideline values for sediment quality were reported for zinc and/or lead in up and down-gradient locations of North Corrimal Creek and for the Sum of TRH within the South Dam and Recycle Dam. The redevelopment will dewater the dam and associated sediments, as such, the appropriate re-use criteria will be soil. Appropriate management of the dam sediments will be required to ensure any they are appropriately re-used.

Groundwater

- Concentrations of heavy metals (copper, chromium, cadmium, copper, zinc and nickel) and ammonia were reported to marginally exceed the groundwater assessment criteria (GAC). The most recent round of groundwater sampling, performed in 2020, however reported concentrations generally below the GAC. The previous investigations did not report that the site was likely to be contributing to a net contaminant mass as groundwater flowed through the site. The reported concentrations were concluded to be within expected regional background concentrations ranges for heavy metals and ammonia. This was determined based on the surrounding urbanised environment and proximity to local Collieries and heavy industry which both date back over 100 years. Remediation or ongoing future management of the site groundwater as not deemed to be required.

Surface Water

- The results of the historical investigations reported marginal exceedances of the surface water assessment criteria (SWAC) for heavy metals in North Corrimal Creek and the on-site dam. The magnitude of the exceedances however were indicative of an urban environment and/or not considered to pose an unacceptable risk to current or future site receptors. Therefore, the remediation and/or management of surface water on site is not required.

Hazardous Ground Gas

- A hazardous ground gas assessment was completed as part of the Arcadis (2017) investigation. The results of which assigned the site as Characteristic Gas Situation (CS) value of '1' and the risk classification for the site was considered 'very low risk'. As such, a quantitative risk analysis or the management of hazardous ground gases was considered not required.
- The former powerhouse building is proposed to remain as a site heritage item. The fill beneath the former powerhouse building will need to remain in-situ, to maintain this heritage item. The fill material consists of up to 4 metres of carbonaceous fill materials and will require further assessment and monitoring in relation to ground gas to confirm the previously identified CS value.

The previous investigation summarised above have been reviewed by the previous appointed site auditors. These were Mr Chris Jewel who assessed the 2014 investigation and Ms Rebeka Hall who reviewed the subsequent investigations and previous RAP (Arcadis)

The results of the historical investigations of the site suggest that there is no requirement to notify the reported contamination to the NSW EPA under Section 60 of the Contaminated Land Management Act (1997) subject to development of a RAP and successful remediation and validation of the identified contamination.

Based on the findings of the historical investigations and this consolidated DSI **the site can be made suitable for the proposed redevelopment**, subject to the development and implementation of a RAP, implementation of appropriate remediation and management strategies and subsequent validation.

12.1. Recommendations

Following review of historical investigations of the site and development of this consolidated DSI, Reditus provide the following recommendations with respect to the proposed development:

- Prepare a RAP for each of the anticipated Stage 1 and Stage 2 bulk earthworks areas. The RAP's should detail the remediation and/or management strategies required to render the site suitable for the proposed development. The RAP is to address the reported exceedances of the adopted human health and ecological SAC, including the presence of ACM in isolated locations.
- The geotechnical works required to rework the carbonaceous materials on site to achieve geotechnical and design considerations will require that a significant portion of fill in which ecological SAC exceedances have been reported to be blended, buried, compacted etc. This should be considered during selection of appropriate site-specific ecological criteria and any the ongoing management strategies.
- As the proposed redevelopment will substantially re-align North Corrimal Creek and include dewatering of onsite dams. The RAP should detail how residual sediments are to be dried, validated (chemically, aesthetically and geotechnically) and either appropriately re-used within the site soils, encapsulated or lawfully disposed of off-site.

As detailed within the existing RAP (Arcadis 2019) the first stage of remedial works assumes a Sampling Analysis and Quality Plan (SAQP) is to be prepared by comparing the proposed land-uses (including cut/fill plan) to the historical investigation results to determine the locations of the sampling works. This is to include a development specific data gap investigation to further inform the finer detail of the civil and urban designs and a Human Health and Ecological Risk Assessment (HHERA) to develop site specific remediation acceptance criteria.

12.2. State Environmental Planning Policy (Resilience and Hazards), 2021

Based on the findings of this investigation, WCC can be satisfied the considerations to report the findings of a Preliminary and/or Detailed Investigation (as referred to in the contaminated land planning guidelines) has been achieved.

Limitations

This report has been prepared in accordance with the scope of services described in the Section 1.3. The report has been prepared for the sole use of the client and has been prepared in accordance with a scope of work agreed by the client.

The report or document does not purport to provide legal advice and any conclusions or recommendations made should not be relied upon as a substitute for such advice.

The report does not constitute a recommendation by Reditus for the client or any other party to engage in any commercial or financial transaction and any decision by the client or other party to engage in such activities is strictly a matter for the client.

The report relies upon data, surveys, measurements and results taken at or under the site at particular times and conditions specified herein. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by the client. Furthermore, the report has been prepared solely for use by the client and Reditus accepts no responsibility for its use by other parties. The client agrees that Reditus' report or associated correspondence will not be used or reproduced in full or in part for promotional purposes and cannot be used or relied upon by any other individual, party, group or company in any prospectus or offering. Any individual, party, group or company seeking to rely this report cannot do so and should seek their own independent advice.

No warranties, express or implied, are made. Subject to the scope of work undertaken, Reditus assessment is limited strictly to identifying typical environmental conditions associated with the subject property based on the scope of work and testing undertaken and does not include and evaluation of the structural conditions of any buildings on the subject property or any other issues that relate to the operation of the site and operational compliance of the site with state or federal laws, guidelines, standards or other industry recommendations or best practice. Scope of work undertaken for assessments are agreed in advance with the client and may not necessarily comply with state or federal laws or industry guidelines for the type of assessment conducted.

Additionally, unless otherwise stated Reditus did not conduct soil, air or wastewater analyses including asbestos or perform contaminated sampling of any kind. Nor did Reditus investigate any waste material from the property that may have been disposed offsite or undertake and assessment or review of related site waste management practices.

The results of this assessment are based upon (if undertaken as part of the scope work) a site inspection conducted by Reditus personnel and/or information from interviews with people who have knowledge of site conditions and/or information provided by regulatory agencies. All conclusions and recommendations regarding the property are the professional opinions of the Reditus personnel involved with the project, subject to the qualifications made above.

While normal assessments of data reliability have been made, Reditus assumes no responsibility or liability for errors in any data obtained from regulatory agencies,

statements from sources outside of Reditus, or developments resulting from situations outside the scope of this project/assessment.

Reditus is not engaged in environmental auditing and/or reporting of any kind for the purpose of advertising sales promoting, or endorsement of any client's interests, including raising investment capital, recommending investment decisions, or other publicity purposes. Reditus assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of Reditus, or developments resulting from situations outside the scope of this project.

In relation the conduct of Asbestos inspections or the preparation of hazardous materials reports Reditus has conducted inspections and the identification of hazardous material within the constraints presented by the property. Whist efforts are made to access areas not normally accessed during normal use of the site to identify the presence of asbestos or other hazardous material, unless explicitly tested no guarantee can be provided that such material is or is not present.

Reditus' professional opinions are based upon its professional judgment, experience, and training. These opinions are also based upon data derived from the limited testing and analysis described in this report or reports reviewed. It is possible that additional testing and analysis might produce different results and/or different opinions or other opinions. Reditus has limited its investigation(s) to the scope agreed upon with its client. Reditus believes that its opinions are reasonably supported by the testing and analysis that has been undertaken (if any), and that those opinions have been developed according to the professional standard of care for the environmental consulting profession in this area at this time. Other opinions and interpretations may be possible. That standard of care may change, and new methods and practices of exploration, testing and analysis may develop in the future, which might produce different results.

Appendix A - Figures

REDITUS



Map	22158_rp04_f01_siteloc_v01
Date of Export	19/10/2022
Author	MB
Approver	DJ
Data Source	Metromap, Google Maps, Open Street Map, NSW Government

Legend

- Site Boundary
- Surface Water
- Major Roads
- Railways
- Rivers
- Streams
- Minor Channels

Figure 1 - Site Location

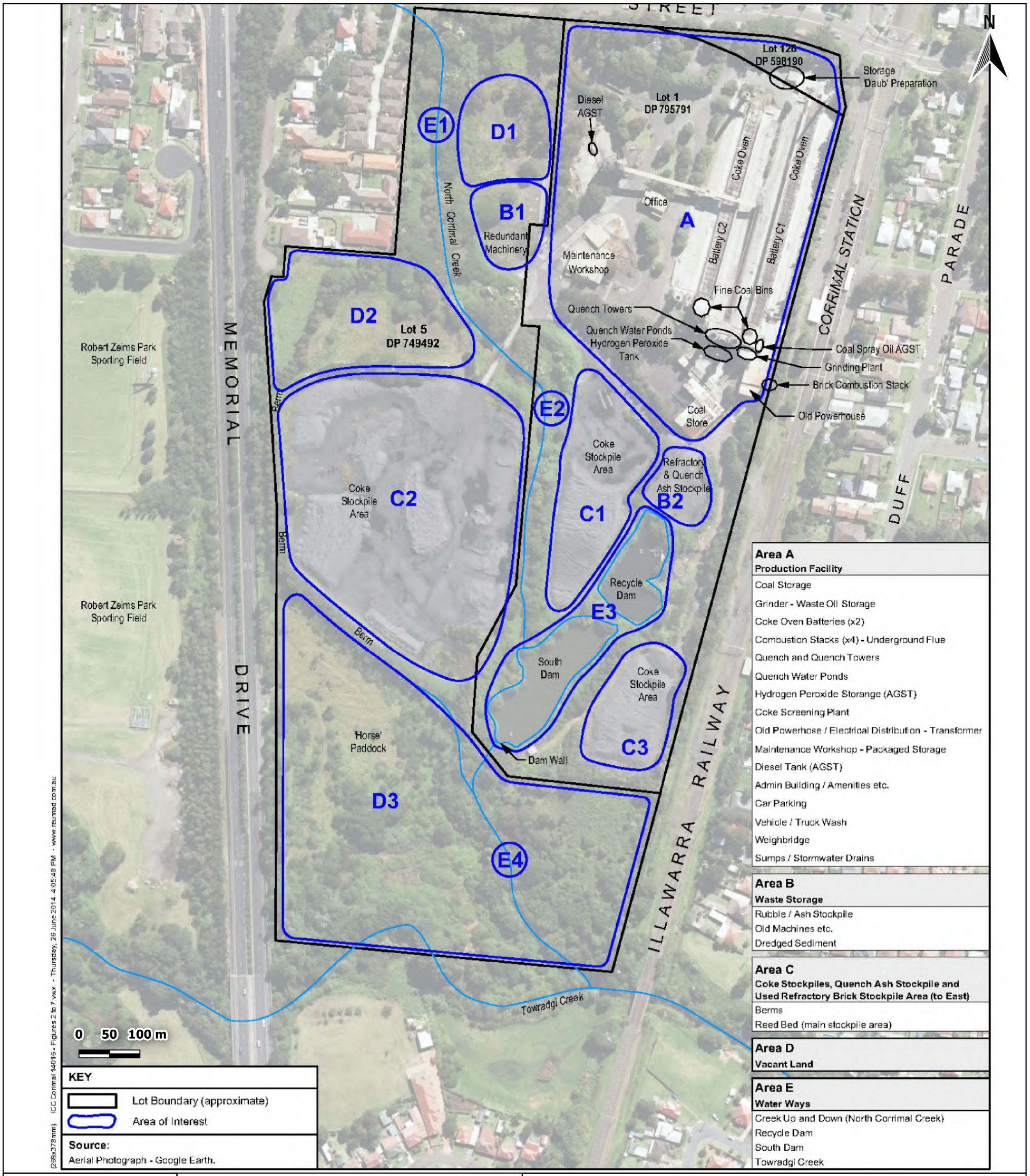
Former Corrimal Coke Works, Railway Street, Corrimal NSW

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Author	**Approver**
MB	DJ
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Figure 2a - Site Layout & Features

Former Corrimal Coke Works, Railway Street, Corrimal, NSW

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Author	**Approver**
MB	DJ
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

- Site Boundary
- Low-Density Residential Land Use Area
- High-Density Residential Land Use Area

*Unshaded areas outside low- and high-density residential land use classified as "Recreational and Public Open Space" land

Figure 3 - Proposed Development Land Uses

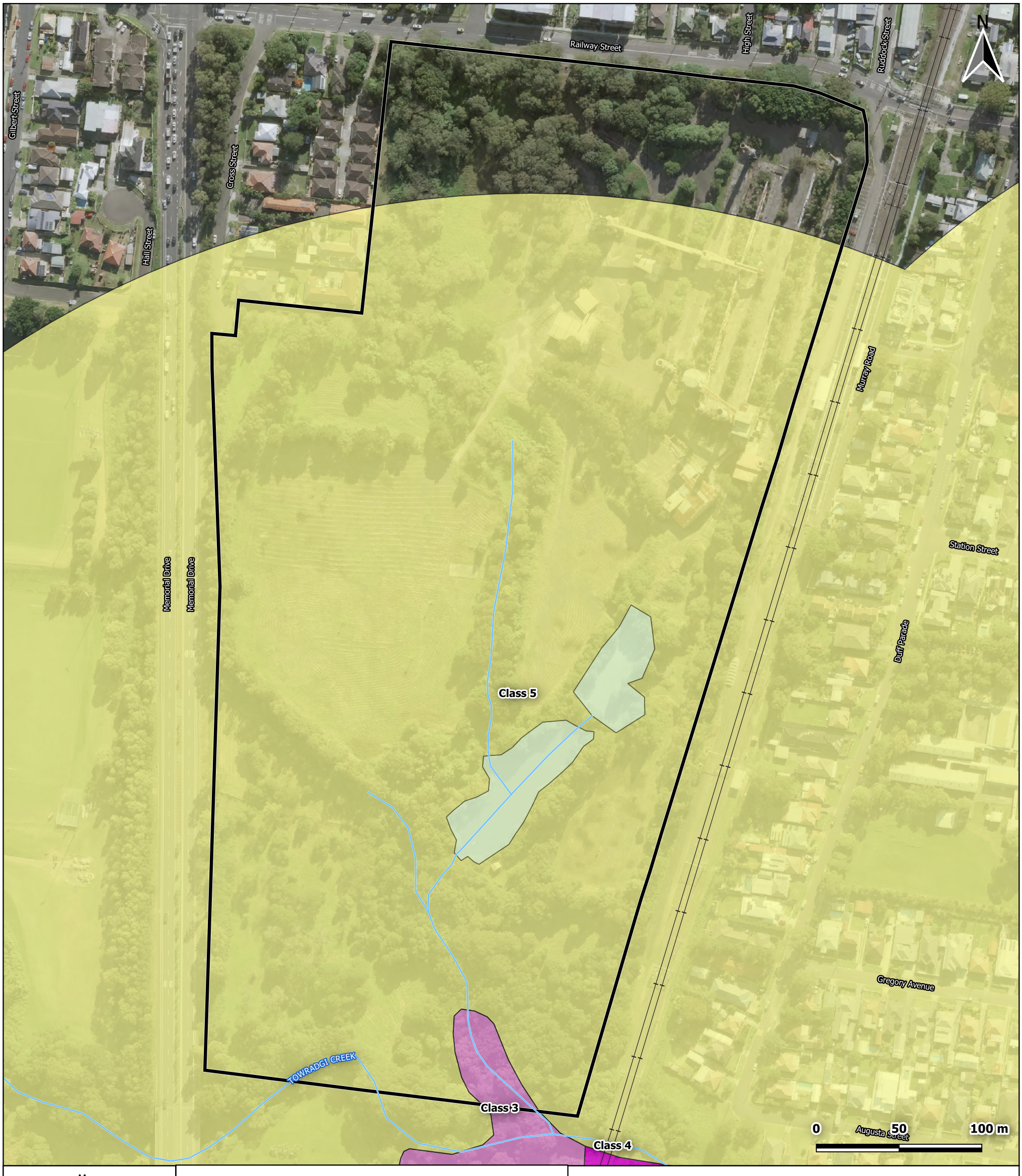
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Author	**Approver**
MB	DJ
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

Site Boundary

NSW EPI Acid Sulfate Soils

Class 3

Class 5

Figure 4 - Acid Sulfate Soil Class Zones

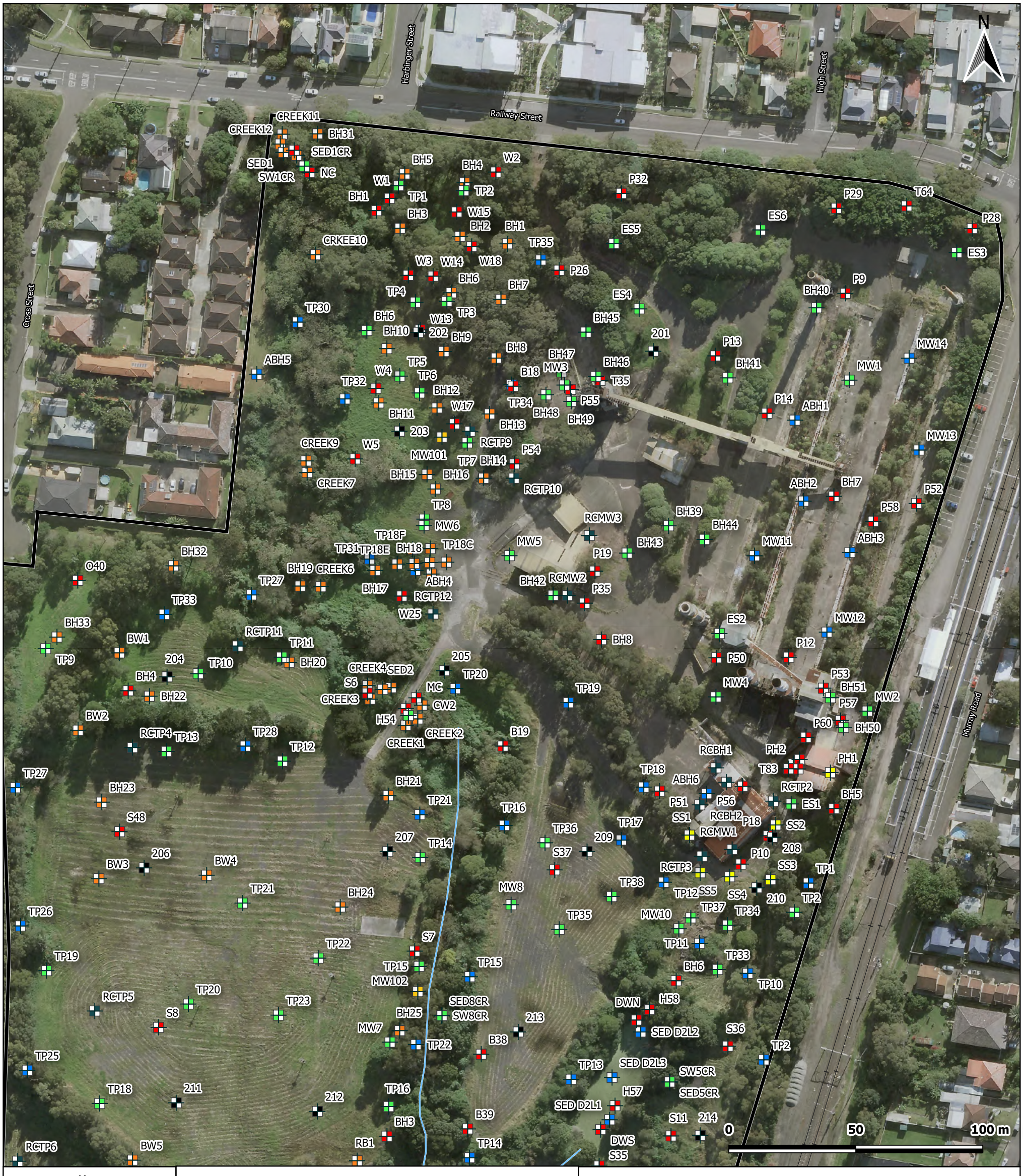
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Author	**Approver**
MB	DJ
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

- Site Boundary
- ADI 1996 Locations
- EnviroRisk 2006 Locations
- EnviroRisk (CES) 2006 Locations
- ES 2014 Locations
- Arcadis 2017 Locations
- Arcadis 2018 Locations
- DP 2019 Locations
- Reditus 2020 Locations

Figure 5a - Historical Sample Locations (North)

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Author	**Approver**
MB	DJ
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

- Site Boundary
- ADI 1996 Locations
- EnviroRisk 2006 Locations
- EnviroRisk (CES) 2006 Locations
- ES 2014 Locations
- Arcadis 2017 Locations
- Arcadis 2018 Locations
- DP 2019 Locations
- Reditus 2020 Locations

Figure 5b - Historical Sample Locations (South)

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Author	**Approver**
MB	DJ
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

- Site Boundary
- ADI 1996 Locations
- EnviroRisk 2006 Locations

Figure 6a - ADI (1996) & EnviroRisk (2006) Soil Exceedances

Former Corrimal Coke Works, Railway Street, Corrimal, NSW

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Map	
22158_rp04_f06b_sampleexc_v01	
Date of Export	**Map Scale (approx. at A3)**
21/10/2022	1:1,900
Author	**Approver**
MB	DJ
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

- Site Boundary
- ES 2014 Locations
- Arcadis 2017 Locations

Figure 6b - ES (2014) & Arcadis (2017) Exceedances

Former Corrimal Coke Works, Railway Street, Corrimal, NSW

22158 -Consolidated Detailed Site Investigation

LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust c/- Legacy Property Pty Ltd

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Appendix B – Tables

Consolidated DSI
Former Corrimal Coke Works, Railway St, Corrimal NSW
22158RP04

Table 1 - Historical Soil Results, Low-Density Residential Land Use Sample Locations

REDITUS

			Asbestos		Metals												BTEX							Historical compound grouping				TPH			
			Asbestos fibres	Asbestos Trace Analysis	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Phosphorus	Cyanide	Sulfate	Tin	Zinc	Benzene	Toluene	Ethylbenzene	meta & para Xylene	ortho Xylene	Xylene Total	Naphthalene	Total PAH	Total OCP	Total PCB	Total VHC	C6-C9	C10-C14	C15-C28	C29-C36
			Comment	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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			Detect	Detect	4	-	-	-	-	0.1	-	10	-	2	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(1) HILs Residential A Soil					100[#2]	20	500**	6,000	300[#3]	40[#4]	400					7,400								300		1					
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*					104		408	210	1116		175					400							170								
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																	50	85	70			105						180[#7]	120[#8]	300	2,800
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																	65	105	125			45						180[#10]	120[#8]	1,300	5,600
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																												700[#11]	1,000[#11]	2,500	10,000
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																												800[#11]	1,000[#11]	3,500	10,000
ANZG 2018 DGV Toxicant values for Sediments (Table 1)					20	1.5	80	65	50	0.15	21					200								10							
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																															
>=0m, <1m																	0.7	480	NL			110	5								
>=1m, <2m																	1	NL	NL			310	NL								
>=2m, <4m																	2	NL	NL			NL	NL								
>=4m																	3	NL	NL			NL	NL								
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																															
>=0m, <1m																	0.5	160	55			40	3								
>=1m, <2m																	0.5	220	NL			60	NL								
>=2m, <4m																	0.5	310	NL			95	NL								
>=4m																	0.5	540	NL			170	NL								
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																															
>=0m, <1m																	0.6	390	NL			95	4								
>=1m, <2m																	0.7	NL	NL			210	NL								
>=2m, <4m																	1	NL	NL			NL	NL								
>=4m																	2	NL	NL			NL	NL								

Field ID	Location Code	Description	Sampled Date	Sample Depth (m)																												
ADI Limited (1996), Stage 1 Site Investigation Report																																
S7	1996_ADI_S7	-	ADI February 1996	0.2	-	-	4	<0.5	10	6	9	0.055	6	-	<0.1	130	<1	9	<0.05	<0.05	<0.05	-	-	<0.15	-	ND	-	-	-	<20	<20	<50	<50
S7	1996_ADI_S7	-	ADI February 1996	0.7	-	-	5.5	<0.5	5	13	12	0.02	6.5	-	<0.1	110	<1	25	<0.05	0.14	0.09	-	-	0.2	-	5.3	-	-	-	<20	<20	<50	<50
B39	1996_ADI_B39	-	ADI February 1996	1.5	-	-	6.5	<0.5	13	10	20	0.02	6	-	-	-	<1	24	<0.05	<0.05	<0.05	-	-	<0.15	-	0.31	-	-	-	<20	<20	<50	<50
Envirorisk (2006), Phase 2 Environmental (Site Contamination) Assessment																																
BH25	2006_ENVR_BH25	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	<5	<1	6	11	7	<0.1	3	-	-	-	<5	66	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	<2	<50	<100	<100
BH25	2006_ENVR_BH25	Judgemental Samples	Envirorisk Dec 2005	1	-	-	7	<1	18	22	7	<0.1	9	-	-	-	<5	42	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	<2	<50	<100	<100
Environmental Strategies (2014), Phase 2 Detailed Site Investigation																																
TP15	2014_ES_TP15	Area C	2014	1.1	-	-	<4	<0.4	23	14	15	<0.1	7	-	-	-	-	20	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-	<25	<50	<100	<100
Acadis (2017a), Additional Environmental Assessment																																
TP13	2017_ARC_TP13	-	10-Jan-17	0.5	ND	-	<4	<0.4	17	15	15	<0.1	6	-	-	-	-	43	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	<25	<50	<100	<100
TP13	2017_ARC_TP13	-	10-Jan-17	4.5	ND	-	5	<0.4	11	25	18	<0.1	12	760	-	-	-	76	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	<25	<50	130	<100
TP14	2017_ARC_TP14	-	10-Jan-17	1	ND	-	<4	<0.4	4	18	10	<0.1	10	-	-	-	-	39	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	<25	<50	570	350
TP15	2017_ARC_TP15	-	11-Jan-17	0.5	ND	-	<4	<0.4	10	17	12	<0.1	8	-	-	-	-	39	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-	<25	<50	290	150
SED D1L1	2017_ARC_SED D1L1	-	13-Jan-17	Sediment	-	-	5	<0.4	23	43	43	<0.1	17	570	-	-	-	140	-	-	-	-	-	-	-	-	-	-	-	<25	<50	<100	<100

*Generic & site-specific EIL values adopted from Arcadis (2019) RAP Appendix C, Table 2.
**Chromium III+IV HIL values adopted from Arcadis (2019) RAP Appendix C, Table 6.

Comments
ND - No visible or reported asbestos detected within top 0.1m of the ground surface
AF/FA - Defined as friable asbestos material <7mm or able to be pulverised by hand pressure, such as severely weathered ACM and asbestos in the form of loose fibrous material (i.e., insulation products).
Bonded ACM >7mm - Defined as "Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and fitting through a 7 x 7mm sieve.
#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Schedule 7) BaP TEQ calc by multiplying the conc of each carc. PAH in sample by its BaP TEF (ref Table 1A(1)) & summing
#2 Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability maybe important and should be considered where appropriate (refer Shedule B7).
#3 Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead model for where 50% bioavailability considered. Site-specific bioavailability should be considered where appropriate.
#4 Elemental mercury: HIL does not address elemental mercury. a site specific assessment should be considered if elemental mercury is present, or suspected to be present.
#5 PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or suspected at a site, a site-specific assessment of exposure to all PCBs (inc dioxin like PCBs) should be undertaken
#6 Aged values apply to arsenic contamination present in soil > 2 years. Refer Schedule B5c for < 2 years.
#7 To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#8 ERRATA Updated 30 April 2014 . Naphthalene should not be subtracted.
#9 Errata 30 April 2014. Naphthalene should not be subtracted from >C
#10 Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#11 Separate management limits for BTEX & naphthalene are not available hence should not be subtracted from the relevant fractions to obtain F1 & F2
#12 To obtain F2 subtract napthalene from the >C10 - C16 fraction.
NL - Derived soil HSL exceeds soil saturation concentraiton, non-limiting

Table 1 - Historical Soil Results, Low-Density Residential Land Use Sample Locations

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					TRH							PAHs																					
					C10-C40 (Sum of total)	C6-C10 (F1)	C6-C10 less BTEX (F1)	C10-C16 (F2)	F2-NAPHTHALENE	C16-C34 (F3)	C34-C40 (F4)	Total Positive PAHs	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ (Half LOR)	Acenaphthene	Acenaphthylene	Anthrazene	Benz(a)anthracene	Benzo(a)pyrene	Carcinogenic PAHs as B(a)P TPE	Benzo(e,h,i)perylene	Benzo(b)fluoranthene	Benzo(b+j)fluoranthene	Benzo(k)fluoranthene	Benzo(b)&(k)fluoranthene	Benzo(b,j+k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					50	25	25	50	50	100	100	-	0.5	-	-	-	-	-	-	-	-	0.5	0.5	0.5	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(1) HILs Residential A Soil												**300**	**3**[#1]																				
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*																																	
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m							**180**[#7]	**120**[#8]	**120**[#9]	**300**	**2,800**									**0.7**													
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m							**180**[#10]	**120**[#8]	**120**[#9]	**1,300**	**5,600**									**0.7**													
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil						**700**[#11]		**1,000**[#11]		**2,500**	**10,000**																							
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil						**800**[#11]		**1,000**[#11]		**3,500**	**10,000**																							
ANZG 2018 DGV Toxicant values for Sediments (Table 1)					**0.28**							**10**																					
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																	
>=0m, <1m							**50**[#7]		**280**[#12]																							**5**		
>=1m, <2m							**90**		**NL**																							**NL**		
>=2m, <4m							**150**		**NL**																							**NL**		
>=4m							**290**		**NL**																							**NL**		
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																	
>=0m, <1m							**45**[#7]		**110**[#12]																							**3**		
>=1m, <2m							**70**		**240**																							**NL**		
>=2m, <4m							**110**		**440**																							**NL**		
>=4m							**200**		**NL**																							**NL**		
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																																	
>=0m, <1m							**40**[#7]		**230**[#12]																							**4**		
>=1m, <2m							**65**		**NL**																							**NL**		
>=2m, <4m							**100**		**NL**																							**NL**		
>=4m							**190**		**NL**																							**NL**		

Field ID	Location Code	Description	Sampled Date	Sample Depth (m)																														
ADI Limited (1996), Stage 1 Site Investigation Report																																		
S7	1996_ADI_S7	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S7	1996_ADI_S7	-	ADI February 1996	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B39	1996_ADI_B39	-	ADI February 1996	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Envirorisk (2006), Phase 2 Environmental (Site Contamination) Assessment																																		
BH25	2006_ENVR_BH25	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	0	**ND**	**ND**	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH25	2006_ENVR_BH25	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	0	**ND**	**ND**	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Environmental Strategies (2014), Phase 2 Detailed Site Investigation																																		
TP15	2014_ES_TP15	Area C	2014	1.1	-	<25	<25	<50	<50	<100	<100	0	**ND**	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.622	<0.1		-		<0.2		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acadis (2017a), Additional Environmental Assessment																																		
TP13	2017_ARC_TP13	-	10-Jan-17	0.5	**120**	<25	<25	<50	<50	**120**	<100	**1.1**	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.05	**0.0885**	<0.1	-	-	-	-	<0.2	**0.3**	<0.1	**0.1**	<0.1	<0.1	<0.1	**0.6**	**0.1**
TP13	2017_ARC_TP13	-	10-Jan-17	4.5	**180**	<25	<25	<50	<50	**180**	<100	**2.3**	<0.5	-	<0.1	<0.1	<0.1	**0.2**	<0.05	**0.1055**	<0.1	-	-	-	-	<0.2	**0.5**	<0.1	**0.2**	**0.1**	<0.1	<1 - 0.1	**1**	**0.2**
TP14	2017_ARC_TP14	-	10-Jan-17	1	**990**	<25	<25	<50	<50	**810**	**190**	**21**	**2.5**	-	<0.1	<0.1	**0.2**	**2.6**	**1.3**	**2.265**	**0.8**	-	-	-	-	**2**	**6.7**	**0.6**	**0.6**	**0.2**	**0.3**	<1 - 0.3	**3.2**	**1.9**
TP15	2017_ARC_TP15	-	11-Jan-17	0.5	**380**	<25	<25	<50	<50	**380**	<100	**4.2**	<0.5	-	<0.1	<0.1	**0.1**	**0.2**	**0.06**	**0.1425**	<0.1	-	-	-	-	**0.2**	**0.7**	<0.1	**0.4**	**0.1**	<0.1	<1 - 0.1	**1.8**	**0.4**
SED D1L1	2017_ARC_SED D1L1	-	13-Jan-17	Sediment	<50	<25	-	<50	-	<100	<100	**0.1**	<0.5	-	<0.1	<0.1	<0.1	<0.1	<0.05	<0.172	<0.1	-	-	-	-	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.1

Table 1 - Historical Soil Results, Low-Density Residential Land Use Sample Locations

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Table 1 - Historical Soil Results, Low-Density Residential Land Use Sample Locations

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Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

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					Asbestos		Metals																				BTEX							Historical compound grouping			
					Asbestos ID in Soil	Asbestos Trace Analysis	Arsenic	Antimony	Beryllium	Cadmium	Chromium (III+VI)	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Phosphorus	Selenium	Silver	Vanadium	Cyanide	Fluoride	Sulfate	Tin	Zinc	Benzene	Toluene	Ethylbenzene	meta & para Xylene	ortho Xylene	Xylene Total	Naphthalene	Total PAH	Total OCP	Total PCB	Total VHC
					Comment	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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					Detect	Detect	-	-	1	-	-	2	-	-	0.1	2	-	10	5	2	5	-	-	2	-	-	-	-	-	-	-	-	1	-	-	-	-
NEPM 2013 Table 1A(1) HILs Residential B Soil							**500**			**150**	**500****		**30,000**	**1,200**	**120**		**1,200**									**30,000**								**400**		**1**	
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil																																					
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*							**104**				**408**		**210**	**1,116**			**175**									**400**							**170**				
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																											**50**	**85**	**70**			**105**					
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																											**65**	**105**	**125**			**45**					
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																					
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																					
ANZG 2018 DGV Toxicant values for Sediments (Table 1)							**20**			**1.5**	**80**		**65**	**50**	**0.15**		**21**									**200**								**10**			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																					
>=0m, <1m																											**0.7**	**480**	**NL**			**110**	**5**				
>=1m, <2m																											**1**	**NL**	**NL**			**310**	**NL**				
>=2m, <4m																											**2**	**NL**	**NL**			**NL**	**NL**				
>=4m																											**3**	**NL**	**NL**			**NL**	**NL**				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																					
>=0m, <1m																											**0.5**	**160**	**55**			**40**	**3**				
>=1m, <2m																											**0.5**	**220**	**NL**			**60**	**NL**				
>=2m, <4m																											**0.5**	**310**	**NL**			**95**	**NL**				
>=4m																											**0.5**	**540**	**NL**			**170**	**NL**				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																																					
>=0m, <1m																											**0.6**	**390**	**NL**			**95**	**4**				
>=1m, <2m																											**0.7**	**NL**	**NL**			**210**	**NL**				
>=2m, <4m																											**1**	**NL**	**NL**			**NL**	**NL**				
>=4m																											**2**	**NL**	**NL**			**NL**	**NL**				

Field ID	Location Code	Description	Sampled Date	Sample Depth (m)																																	
ADI Limited (1996), Stage 1 Site Investigation Report																																					
P9	1996_ADI_P9	-	ADI February 1996	0.2	ND	-	**6.5**	-	-	<0.5	**15**	-	**18**	**19**	**0.03**	-	**6**	-	-	-	-	<0.1	-	**100**	<1	**55**	<0.05	<0.05	<0.05	-	-	<0.15	-	**1.5**	-	-	-
P9	1996_ADI_P9	-	ADI February 1996	1.2	-	-	**5**	-	-	<0.5	**11**	-	**19**	**16**	**0.03**	-	**4**	-	-	-	-	<0.1	-	**290**	<1	**13**	<0.05	<0.05	<0.05	-	-	<0.15	-	ND	ND	ND	ND
P10	1996_ADI_P10	-	ADI February 1996	0.3	-	-	**7**	-	-	<0.5	**3**	-	**9**	**42**	**0.04**	-	**6.5**	-	-	-	-	<0.1	-	**55**	<1	**94**	<0.05	**0.06**	**0.06**	-	-	**0.52**	-	**8**	-	-	-
P12	1996_ADI_P12	-	ADI February 1996	0.2	-	-	**5.5**	-	-	<0.5	**23**	-	**69**	**22**	**0.025**	-	**17**	-	-	-	-	<0.1	-	**5460**	<1	**68**	**0.29**	**0.6**	<0.05	-	-	**0.29**	-	ND	-	-	-
P12	1996_ADI_P12	-	ADI February 1996	0.8	-	-	**5.5**	-	-	<0.5	**6.5**	-	**12**	**12**	**0.02**	-	**10**	-	-	-	-	<0.1	-	**300**	<1	**22**	<0.05	<0.05	<0.05	-	-	<0.15	-	ND	-	ND	ND
P26	1996_ADI_P26	-	ADI February 1996	0.2	-	-	**9**	-	-	**0.5**	**10**	-	**80**	**110**	**0.025**	-	**8**	-	-	-	-	-	-	-	**1**	**220**	<0.05	**0.05**	<0.05	-	-	<0.15	-	**1.3**	-	-	-
P26	1996_ADI_P26	-	ADI February 1996	0.55	-	-	**8.5**	-	-	**0.5**	**9.5**	-	**94**	**60**	**0.045**	-	**12**	-	-	-	-	-	-	-	**2**	**490**	-	-	-	-	-	-	-	-	-	-	-
P50	1996_ADI_P50	-	ADI February 1996	0.5	-	-	**5.5**	-	-	<0.5	**21**	-	**18**	**18**	**0.075**	-	**8**	-	-	-	-	-	-	-	<1	**35**	-	-	-	-	-	-	-	ND	-	-	-
P50	1996_ADI_P50	-	ADI February 1996	2.3	-	-	**6**	-	-	<0.5	**14**	-	**8.5**	**17**	**0.015**	-	**7.5**	-	-	-	-	-	-	-	<1	**82**	-	-	-	-	-	-	-	ND	-	-	-
P51	1996_ADI_P51	-	ADI February 1996	2.4	-	-	**5.5**	-	-	<0.5	**13**	-	**15**	**20**	**0.04**	-	**18**	-	-	-	-	-	-	-	<1	**30**	-	-	-	-	-	-	-	**0.2**	-	-	-
P51	1996_ADI_P51	-	ADI February 1996	3.6	-	-	**5**	-	-	<0.5	**10**	-	**15**	**24**	**0.02**	-	**10**	-	-	-	-	-	-	-	<1	**16**	-	-	-	-	-	-	-	ND	-	-	-
P52	1996_ADI_P52	-	ADI February 1996	0.1	-	-	**90**	-	-	<0.5	**8**	-	**45**	**23**	**0.035**	-	**11**	-	-	-	-	-	-	-	<1	**50**	<0.1	<0.1	<0.1	-	-	<0.3	-	**4.7**	ND	ND	**0.01**
P54	1996_ADI_P54	-	ADI February 1996	0.2	-	-	**5**	-	-	<0.5	**14**	-	**31**	**19**	**0.015**	-	**6**	-	-	-	-	-	-	-	<1	**51**	-	-	-	-	-	-	-	**0.1**	-	-	-
P54	1996_ADI_P54	-	ADI February 1996	0.9	-	-	**7**	-	-	<0.5	**13**	-	**17**	**27**	**0.02**	-	**4.5**	-	-	-	-	-	-	-	<1	**16**	-	-	-	-	-	-	-	ND	-	-	-
P54	1996_ADI_P54	-	ADI February 1996	1.7	-	-	**7.5**	-	-	<0.5	**7**	-	**110**	**22**	**0.05**	-	**10**	-	-	-	-	-	-	-	<1	**80**	-	-	-	-	-	-	-	**2**	-	-	-
P53	1996_ADI_P53	-	ADI February 1996	0.2	-	-	**6.5**	-	-	<0.5	**2**	-	**5.5**	**5.5**	**0.005**	-	**2.5**	-	-	-	-	-	-	-	<1	**25**	<0.1	<0.1	<0.1	-	-	<0.3	-	ND	ND	ND	-
P53	1996_ADI_P53	-	ADI February 1996	1.4	-	-	**6**	-	-	<0.5	**10**	-	**24**	**16**	**0.02**	-	**4.5**	-	-	-	-	-	-	-	<1	**28**	<0.1	<0.1	<0.1	-	-	<0.3	-	ND	ND	ND	-
P56	1996_ADI_P56	-	ADI February 1996	0.2	-	-	**10**	-	-	<0.5	**45**	-	**85**	**10**	**0.005**	-	**5**	-	-	-	-	-	-	-	<1	**25**	<0.1	<0.1	<0.1	-	-	<0.3	-	ND	ND	ND	**0.01**
P57	1996_ADI_P57	-	ADI February 1996	0.3	-	-	**8.5**	-	-	**3.5**	**6**	-	**25**	**43**	**0.38**	-	**12**	-	-	-	-	-	-	-	**3**	**230**	<0.1	<0.1	<0.1	-	-	<0.3	-	**14.4**	ND	ND	-
P57	1996_ADI_P57	-	ADI February 1996	0.55	-	-	**2.5**	-	-	<0.5	**2.5**	-	**1.5**	**1**	**0.025**	-	**4**	-	-	-	-	-	-	-	<1	**27**	<0.1	<0.1	<0.1	-	-	<0.3	-	**0.7**	ND	ND	-
P60	1996_ADI_P60	-	ADI February 1996	0.6	-	-	**8**	-	-	<0.5	**10**	-	**18**	**12**	**0.05**	-	**4.5**	-	-	-	-	-	-	-	<1	**25**	<0.1	<0.1	<0.1	-	-	<0.3	-	**0.5**	ND	ND	-
P60	1996_ADI_P60	-	ADI February 1996	0.85	-	-	**5.5**	-	-	<0.5	**10**	-	**10**	**20**	**0.05**	-	**4.5**	-	-	-	-	-	-	-	<1	**43**	-	-	-	-	-	-	-	**2.1**	-	-	-
BH5	1996_ADI_BH5	-	ADI February 1996	0.5	-	-	**6.5**	-	-	<0.5	**5**	-	**32**	**27**	**0.05**	-	**26**	-	-	-	-	<0.1	-	**50**	<1	**45**	<0.05	**0.53**	**0.11**	-	-	**0.77**	-	**1.2**	-	ND	**0.05**
BH5	1996_ADI_BH5	-	ADI February 1996	2	-	-	**7**	-	-	<0.5	**10**	-	**36**	**30**	**0.03**	-	**7.5**	-	-	-	-	<0.1	-	**470**	<1	**24**	<0.05	<0.05	<0.05	-	-	<0.15	-	ND	-	-	-
BH7	1996_ADI_BH7	-	ADI February 1996	5.5	-	-	**14**	-	-	<0.5	**18**	-	**30**	**14**	**0.025**	-	**6.5**	-	-	-	-	<0.1	-	**290**	<1	**24**	<0.05	**0.66**	<0.05	-	-	<0.15	-	ND	-	-	ND
BH8	1996_ADI_BH8	-	ADI February 1996	0.5	-	-	**55**	-	-	<0.5	**6**	-	**70**	**40**	**0.04**	-	**13**	-	-	-	-	-	-	-	<1	**95**	<0.05	<0.05	<0.05	-	-	<0.15	-	**3.2**	-	-	-
BH8	1996_ADI_BH8	-	ADI February 1996	1.3	-	-	**12**	-	-	<0.5	**4**	-	**14**	**10**	**0.01**	-	**2.5**	-	-	-	-	-	-	-	<1	**29**	<0.05	<0.05	<0.05	-	-	<0.15	-	**0.5**	-	-	-
BH8	1996_ADI_BH8	-	ADI February 1996	4	-	-	**6.5**	-	-	<0.5	**5**	-	**73**	**4**	**0.01**	-	**2.5**	-	-	-	-	-	-	-	<1	**12**	<0.05	<0.05	<0.05	-	-	<0.15	-	**0.1**	-	-	-
W2	1996_ADI_W2	-	ADI February 1996	0.2	-	-	**4.5**	-	-	<0.5	**19**	-	**8**	**21**	**0.025**	-	**5**	-	-	-	-	<0.1	-	**140**	<1	**12**	<0.05	<0.05	<0.05	-	-	<0.15	-	ND	-	-	-
W2	1996_ADI_W2	-	ADI February 1996	1.2	-	-	**3.5**	-	-	<0.5	**13**	-	**9**	**12**	**0.01**	-	**3.5**	-	-	-	-	<0.1	-	**34**	<1	**7**	<0.05	<0.05	<0.05	-	-	<0.15	-	ND	-	-	-
W2	1996_ADI_W2	-	ADI February 1996	2	-	-	**6**	-	-	<0.5	**20**	-	**26**	**10**	**0.025**	-	**9**	-	-	-	-	<0.1	-	<2	<1	**36**	<0.05	**0.28**	<0.05	-	-	<0.15	-	ND	-	-	-
W17	1996_ADI_W17	-	ADI February 1996	1.1	-	-	**5**	-	-	<0.5	**3.5**	-	**14**	**8**	**0.005**	-	**11**	-	-	-	-	-	-	-	<1	**10**	<0.05	<0.05	<0.05	-	-	<0.15	-	**0.42**	-	-	-
W17	1996_ADI_W17	-	ADI February 1996	1.45	-	-	**6**	-	-	<0.5	**3.5**	-	**47**	**16**	**0.03**	-	**5.5**	-	-	-	-	-	-	-	<1	**42**	<0.05	<0.05	<0.05	-	-	<0.15	-	ND	-	-	-
W17	1996_ADI_W17	-	ADI February 1996	2.1	-	-	**5**	-	-	<0.5	**9**	-	**15**	**12**	**0.01**	-	**3.5**	-	-	-	-	-	-	-	<1	**6.5**	<0.05	<0.05	<0.05	-	-	<0.15	-	ND	-	-	-
W25	1996_ADI_W25	-	ADI February 1996	1.3	-	-	**9**	-	-	<0.5	**10**	-	**11**	**9**	**0.025**	-	**8**	-	-	-	-	-	-	-	**1**	**10**	<0.05	<0.05	<0.05	-	-	<0.15	-	ND	-	-	-
S11	1996_ADI_S11	-	ADI February 1996	0.2	ND	-	**6.5**	-	-	<0.5	**5**	-	**25**	**19**	**0.03**	-	**13**	-	-	-	-	<0.1	-	**590**	<1	**72**	<0.05	**0.84**	**0.19**	-	-	**1**	-	**42.9**	-	-	-
S11	1996_ADI_S11	-	ADI February 1996	1.5	-	-	**6.5**	-	-	<0.5	**6**	-	**29**	**23**	**0.055**	-	**13**	-	-	-	-	<0.1	-	**380**	<1	**86**	<0.05	**0.24**	<0.05	-	-	<0.15	-	**33.9**	-	ND	ND
S36	1996_ADI_S36	-	ADI February 1996	0.6	-	-	**12**	-	-	<0.5	**2**	-	**10**	**4.5**	**0.01**	-	**10**	-	-	-	-	-	-	-	<1	**16**	<0.05	<0.05	<0.05	-	-	<0.15	-	**0.72**	-	-	-
S36	1996_ADI_S36	-	ADI February 1996	1.7	-	-	**5**	-	-	<0.5	**11**	-	**15**	**12**	**0.015**	-	**3.5**	-	-	-	-	-	-	-	<1	**8**	<0.05	<0.05	<0.05	-	-	<0.15	-	ND	-	-	-
B18	1996_ADI_B18	-	ADI February 1996	1.5	-	-	**8**	-	-	<0.5	**16**	-	**30**	**23**	**0.075**	-	**83**	-	-	-	-	-	-	-	<1	**110**	<0.05	**0.06**	<0.05	-	-	**0.16**	-	**3.68**	-	-	-

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

REDITUS

			Asbestos		Metals																				BTEX							Historical compound grouping			
			Asbestos ID in Soil	Asbestos Trace Analysis	Arsenic	Antimony	Beryllium	Cadmium	Chromium (III+VI)	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Phosphorus	Selenium	Silver	Vanadium	Cyanide	Fluoride	Sulfate	Tin	Zinc	Benzene	Toluene	Ethylbenzene	meta & para Xylene	ortho Xylene	Xylene Total	Naphthalene	Total PAH	Total OCP	Total PCB	Total VHC
			Comment	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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			Detect	Detect	-	-	1	-	-	2	-	-	0.1	2	-	10	5	2	5	-	-	2	-	-	-	-	-	-	-	-	-	1	-	-	-	-
NEPM 2013 Table 1A(1) HILs Residential B Soil					**500**			**150**	**500****		**30,000**	**1,200**	**120**		**1,200**									**30,000**									**400**		**1**	
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil																																			
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*					**104**				**408**		**210**	**1,116**			**175**									**400**							**170**				
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																									**50**	**85**	**70**			**105**					
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																									**65**	**105**	**125**			**45**					
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																			
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																			
ANZG 2018 DGV Toxicant values for Sediments (Table 1)					**20**			**1.5**	**80**		**65**	**50**	**0.15**		**21**									**200**								**10**			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																			
>=0m, <1m																									**0.7**	**480**	**NL**			**110**	**5**				
>=1m, <2m																									**1**	**NL**	**NL**			**310**	**NL**				
>=2m, <4m																									**2**	**NL**	**NL**			**NL**	**NL**				
>=4m																									**3**	**NL**	**NL**			**NL**	**NL**				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																			
>=0m, <1m																									**0.5**	**160**	**55**			**40**	**3**				
>=1m, <2m																									**0.5**	**220**	**NL**			**60**	**NL**				
>=2m, <4m																									**0.5**	**310**	**NL**			**95**	**NL**				
>=4m																									**0.5**	**540**	**NL**			**170**	**NL**				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																																			
>=0m, <1m																									**0.6**	**390**	**NL**			**95**	**4**				
>=1m, <2m																									**0.7**	**NL**	**NL**			**210**	**NL**				
>=2m, <4m																									**1**	**NL**	**NL**			**NL**	**NL**				
>=4m																									**2**	**NL**	**NL**			**NL**	**NL**				

Field ID	Location Code	Description	Sampled Date	Sample Depth (m)																																
Enviorisk (2006), Phase 2 Environmental (Site Contamination) Assessment																																				
BH1	2006_ENVR_BH1	Grid Pattern Samples	Enviorisk Dec 2005	0.1	-	-	**10**	-	-	<1	**14**	-	**17**	**20**	<0.1	-	<2	-	-	-	-	-	-	-	<5	**15**	-	-	-	-	-	-	-	-	-	-	-
BH1	2006_ENVR_BH1	Grid Pattern Samples	Enviorisk Dec 2005	0.5	-	-	<5	-	-	<1	**17**	-	<5	**6**	<0.1	-	<2	-	-	-	-	-	-	-	<5	<5	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
BH1	2006_ENVR_BH1	Grid Pattern Samples	Enviorisk Dec 2005	1	-	-	**8**	-	-	<1	**24**	-	**5**	<5	<0.1	-	<2	-	-	-	-	-	-	-	<5	**9**	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
BH1	2006_ENVR_BH1	Grid Pattern Samples	Enviorisk Dec 2005	1.5	-	-	<5	-	-	<1	**24**	-	**8**	**12**	<0.1	-	<2	-	-	-	-	-	-	-	<5	**5**	-	-	-	-	-	-	-	-	-	-	-
BH4	2006_ENVR_BH4	Grid Pattern Samples	Enviorisk Dec 2005	0.1	-	-	**6**	-	-	<1	**7**	-	**19**	**16**	<0.1	-	**5**	-	-	-	-	-	-	-	<5	**48**	-	-	-	-	-	-	-	-	-	-	-
BH4	2006_ENVR_BH4	Grid Pattern Samples	Enviorisk Dec 2005	0.5	-	-	<5	-	-	<1	**26**	-	<5	<5	<0.1	-	**2**	-	-	-	-	-	-	-	<5	**8**	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
BH4	2006_ENVR_BH4	Grid Pattern Samples	Enviorisk Dec 2005	1	-	-	**9**	-	-	<1	**28**	-	**23**	<5	<0.1	-	**7**	-	-	-	-	-	-	-	<5	**43**	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
BH8	2006_ENVR_BH8	Grid Pattern Samples	Enviorisk Dec 2005	0.1	-	-	<5	-	-	<1	**5**	-	**48**	**31**	<0.1	-	**16**	-	-	-	-	-	-	-	<5	**178**	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
BH8	2006_ENVR_BH8	Grid Pattern Samples	Enviorisk Dec 2005	0.5	-	-	<5	<5	<1	<1	**2**	**2**	**10**	<5	<0.1	<2	**7**	-	<5	<2	<5	<1	**510**	-	<5	**18**	<0.2	**0.4**	<0.2	**0.7**	<0.2	-	-	-	-	-	-
BH8	2006_ENVR_BH8	Grid Pattern Samples	Enviorisk Dec 2005	1	-	-	**15**	-	-	<1	**13**	-	**16**	**10**	<0.1	-	<2	-	-	-	-	-	-	-	<5	**32**	-	-	-	-	-	-	-	-	-	-	-
BH13	2006_ENVR_BH13	Grid Pattern Samples	Enviorisk Dec 2005	1	-	-	<5	<5	<1	<1	**15**	<2	**9**	<5	<0.1	<2	**5**	-	<5	<2	<5	<1	**430**	-	<5	**13**	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
BH13	2006_ENVR_BH13	Grid Pattern Samples	Enviorisk Dec 2005	1.5	-	-	**11**	-	-	<1	**18**	-	**69**	<5	<0.1	-	<2	-	-	-	-	-	-	-	<5	**6**	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
BH13	2006_ENVR_BH13	Grid Pattern Samples	Enviorisk Dec 2005	2	-	-	**9**	-	-	<1	**17**	-	**15**	**9**	<0.1	-	<2	-	-	-	-	-	-	-	<5	**23**	-	-	-	-	-	-	-	-	-	-	-
BH14	2006_ENVR_BH14	Grid Pattern Samples	Enviorisk Dec 2005	1	-	-	**31**	-	-	<1	**12**	-	**30**	**9**	<0.1	-	**5**	-	-	-	-	-	-	-	<5	**42**	-	-	-	-	-	-	-	-	-	-	-
BH14	2006_ENVR_BH14	Grid Pattern Samples	Enviorisk Dec 2005	1.5	-	-	<5	-	-	**1**	**15**	-	**43**	**27**	<0.1	-	**9**	-	-	-	-	-	-	-	<5	**742**	-	-	-	-	-	-	-	-	-	-	-
BH14	2006_ENVR_BH14	Grid Pattern Samples	Enviorisk Dec 2005	2.4	-	-	**8**	-	-	<1	**13**	-	**17**	<5	<0.1	-	<2	-	-	-	-	-	-	-	<5	**12**	-	-	-	-	-	-	-	-	-	-	-
BH15	2006_ENVR_BH15	Grid Pattern Samples	Enviorisk Dec 2005	0.1	-	-	<5	-	-	<1	**4**	-	**22**	**10**	<0.1	-	<2	-	-	-	-	-	-	-	-	**64**	-	-	-	-	-	-	-	-	-	-	-
BH15	2006_ENVR_BH15	Grid Pattern Samples	Enviorisk Dec 2005	1	-	-	<5	<5	<1	**3**	**4**	**4**	**65**	**32**	<0.1	<2	**13**	-	<5	<2	**10**	<1	**60**	-	<5	**151**	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
BH16	2006_ENVR_BH16	Grid Pattern Samples	Enviorisk Dec 2005	4	-	-	**12**	-	-	<1	**10**	-	**30**	**99**	**0.1**	-	**10**	-	-	-	-	-	-	-	<5	**78**	<0.2	<0.2	<0.2	**0.4**	<0.2	-	-	-	-	-	-
BH18	2006_ENVR_BH18	Judgemental Samples	Enviorisk Dec 2005	1	-	-	-	-	-	-	**3**	-	**24**	**15**	<0.1	-	**16**	-	-	-	-	-	-	-	<5	**32**	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
BH18	2006_ENVR_BH18	Judgemental Samples	Enviorisk Dec 2005	2	-	-	-	-	-	-	**11**	-	-	-	**0.5**	-	**25**	-	-	-	-	-	-	-	**7**	**1980**	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
BH18	2006_ENVR_BH18	Judgemental Samples	Enviorisk Dec 2005	3	-	-	**15**	-	-	<1	**18**	-	**36**	**23**	<0.1	-	<2	-	-	-	-	-	-	-	<5	**70**	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
BH21	2006_ENVR_BH21	Judgemental Samples	Enviorisk Dec 2005	0.5	-	-	<5	-	-	<1	**5**	-	**10**	<5	<0.1	-	**4**	-	-	-	-	-	-	-	<5	**38**	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
BH21	2006_ENVR_BH21	Judgemental Samples	Enviorisk Dec 2005	1	-	-	**5**	-	-	<1	**25**	-	**16**	**7**	<0.1	-	**5**	-	-	-	-	-	-	-	<5	**17**	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-
TP18A	2006_ENVR_TP18A	Delineation Sampling	Enviorisk Dec 2005	1	-	-	**166**	-	-	**1**	**5**	-	**495**	**198**	-	-	**48**	-	-	-	-	-	-	-	**51**	**358**	-	-	-	-	-	-	-	-	-	-	-
TP18A	2006_ENVR_TP18A	Delineation Sampling	Enviorisk Dec 2005	2	-	-	**24**	-	-	<1	**2**	-	**56**	**14**	-	-	**30**	-	-	-	-	-	-	-	<5	**212**	-	-	-	-	-	-	-	-	-	-	-
TP18A	2006_ENVR_TP18A	Delineation Sampling	Enviorisk Dec 2005	2.5	-	-	**23**	-	-	<1	**10**	-	**38**	**60**	-	-	**21**	-	-	-	-	-	-	-	<5	**212**	-	-	-	-	-	-	-	-	-	-	-
TP18B	2006_ENVR_TP18B	Delineation Sampling	Enviorisk Dec 2005	1	-	-	**222**	-	-	**1**	**7**	-	**142**	**382**	-	-	**19**	-	-	-	-	-	-	-	<5	**337**	-	-	-	-	-	-	-	-	-	-	-
TP18B	2006_ENVR_TP18B	Delineation Sampling	Enviorisk Dec 2005	2	-	-	**29**	-	-	<1	**3**	-	**142**	**38**	-	-	**16**	-	-	-	-	-	-	-	<5	**297**	-	-	-	-	-	-	-	-	-	-	-
TP18B	2006_ENVR_TP18B	Delineation Sampling	Enviorisk Dec 2005	2.5	-	-	<5	-	-	<1	<2	-	**63**	**33**	-	-	**7**	-	-	-	-	-	-	-	<5	**189**	-	-	-	-	-	-	-	-	-	-	-
TP18C	2006_ENVR_TP18C	Delineation Sampling	Enviorisk Dec 2005	1	-	-	**23**	-	-	<1	**3**	-	**32**	**11**	-	-	**14**	-	-	-	-	-	-	-	<5	**39**	-	-	-	-	-	-	-	-	-	-	-
TP18C	2006_ENVR_TP18C	Delineation Sampling	Enviorisk Dec 2005	2	-	-	**11**	-	-	<1	**4**	-	**211**	**210**	-	-	**13**	-	-	-	-	-	-	-	**9**	**204**	-	-	-	-	-	-	-	-	-	-	-
TP18C	2006_ENVR_TP18C	Delineation Sampling	Enviorisk Dec 2005	2.5	-	-	**18**	-	-	<1	**17**	-	**24**	**16**	-	-	**2**	-	-	-	-	-	-	-	<5	**13**	-	-	-	-	-	-	-	-	-	-	-
TP18D	2006_ENVR_TP18D	Delineation Sampling	Enviorisk Dec 2005	1	-	-	**7**	-	-	<1	<2	-	**11**	<5	-	-	**12**	-	-	-	-	-	-	-	<5	**50**	-	-	-	-	-	-	-	-	-	-	-
TP18D	2006_ENVR_TP18D	Delineation Sampling	Enviorisk Dec 2005	2	-	-	**14**	-	-	<1	**9**	-	**2020**	**164**	-	-	**10**	-	-	-	-	-	-	-	**293**	**748**	-	-	-	-	-	-	-	-	-	-	-
TP18D	2006_ENVR_TP18D	Delineation Sampling	Enviorisk Dec 2005	2.7	-	-	**14**	-	-	<1	**14**	-	**26**	**39**	-	-	**3**	-	-	-	-	-	-	-	<5	**49**	-	-	-	-	-	-	-	-	-	-	-
TP18E	2006_ENVR_TP18E	Delineation Sampling	Enviorisk Dec 2005	1	-	-	**284**	-	-	**11**	**11**	-	**239**	**788**	-	-	**24**	-	-	-	-	-	-	-	<5	**4970**	-	-	-	-	-	-	-	-	-	-	-
TP18E	2006_ENVR_TP18E	Delineation Sampling	Enviorisk Dec 2005	2	-	-	**7**	-	-	<1	<2	-	**16**	<5	-	-	**20**	-	-	-	-	-	-	-	<5	**35**	-	-	-	-	-	-	-	-	-	-	-
TP18E	2006_ENVR_TP18E	Delineation Sampling	Enviorisk Dec 2005	2.5	-	-	**28**	-	-	**5**	**3**	-	**172**	**1,580**	-	-	**17**	-	-	-	-	-	-	-	<5	**2310**	-	-	-	-	-	-	-	-	-	-	-
TP18F	2006_ENVR_TP18F	Delineation Sampling	Enviorisk Dec 2005	1	-	-	**40**	-	-	**1**	**4**	-	**90**	**530**	-	-	**15**	-	-	-	-	-	-	-	<5	**411**	-	-	-	-	-	-	-	-	-	-	-
TP18F	2006_ENVR_TP18F	Delineation Sampling	Enviorisk Dec 2005	2	-	-	**17**	-	-	<1	**6**	-	**41**	**26**	-	-	**26**	-	-	-	-	-	-	-	<5	**262**	-	-	-	-	-	-	-	-	-	-	-
TP18F	2006_ENVR_TP18F	Delineation Sampling	Enviorisk Dec 2005	2.5	-	-	**21**	-	-	<1	**3**	-	**27**	**24**	-	-	**25**	-	-	-	-	-	-	-	<5	**120**	-	-	-	-	-	-	-	-	-	-	-

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

REDITUS

					Asbestos		Metals																				BTEX							Historical compound grouping			
					Asbestos ID in Soil	Asbestos Trace Analysis	Arsenic	Antimony	Beryllium	Cadmium	Chromium (III+VI)	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Phosphorus	Selenium	Silver	Vanadium	Cyanide	Fluoride	Sulfate	Tin	Zinc	Benzene	Toluene	Ethylbenzene	meta & para Xylene	ortho Xylene	Xylene Total	Naphthalene	Total PAH	Total OCP	Total PCB	Total VHC
					Comment	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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					Detect	Detect	-	-	1	-	-	2	-	-	0.1	2	-	10	5	2	5	-	-	2	-	-	-	-	-	-	-	-	1	-	-	-	-
NEPM 2013 Table 1A(1) HILs Residential B Soil							**500**			**150**	**500****		**30,000**	**1,200**	**120**		**1,200**									**30,000**								**400**		**1**	
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil																																					
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*							**104**				**408**		**210**	**1,116**			**175**									**400**							**170**				
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																											**50**	**85**	**70**			**105**					
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																											**65**	**105**	**125**			**45**					
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																					
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																					
ANZG 2018 DGV Toxicant values for Sediments (Table 1)							**20**			**1.5**	**80**		**65**	**50**	**0.15**		**21**									**200**								**10**			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																					
>=0m, <1m																											**0.7**	**480**	**NL**			**110**	**5**				
>=1m, <2m																											**1**	**NL**	**NL**			**310**	**NL**				
>=2m, <4m																											**2**	**NL**	**NL**			**NL**	**NL**				
>=4m																											**3**	**NL**	**NL**			**NL**	**NL**				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																					
>=0m, <1m																											**0.5**	**160**	**55**			**40**	**3**				
>=1m, <2m																											**0.5**	**220**	**NL**			**60**	**NL**				
>=2m, <4m																											**0.5**	**310**	**NL**			**95**	**NL**				
>=4m																											**0.5**	**540**	**NL**			**170**	**NL**				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																																					
>=0m, <1m																											**0.6**	**390**	**NL**			**95**	**4**				
>=1m, <2m																											**0.7**	**NL**	**NL**			**210**	**NL**				
>=2m, <4m																											**1**	**NL**	**NL**			**NL**	**NL**				
>=4m																											**2**	**NL**	**NL**			**NL**	**NL**				

Field ID	Location Code	Description	Sampled Date	Sample Depth (m)																																	
Environmental Strategies (2014), Phase 2 Detailed Site Investigation																																					
BH40	2014_ES_BH40	Area A	2014	0.2	ND	ND	**7**	-	-	<0.4	**37**	-	**27**	**37**	<0.1	-	**28**	-	-	-	-	-	-	-	-	**130**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
BH40	2014_ES_BH40	Area A	2014	1	-	-	**9**	-	-	<0.4	**24**	-	**16**	**11**	<0.1	-	**2**	-	-	-	-	-	-	-	-	**21**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
BH43	2014_ES_BH43	Area A	2014	0.2	ND	ND	<4	-	-	<0.4	**14**	-	**88**	**6**	<0.1	-	**8**	-	-	-	-	-	-	-	-	**36**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
BH43	2014_ES_BH43	Area A	2014	1	-	-	**10**	-	-	<0.4	**17**	-	**17**	**14**	<0.1	-	**1**	-	-	-	-	-	-	-	-	**9**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
BH45	2014_ES_BH45	Area A	2014	0.2	ND	ND	<4	-	-	<0.4	**4**	-	**40**	**13**	<0.1	-	**11**	-	-	-	-	-	-	-	-	**52**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
BH45	2014_ES_BH45	Area A	2014	0.4	-	-	**6**	-	-	<0.4	**16**	-	**5**	**17**	<0.1	-	**2**	-	-	-	-	-	-	-	-	**9**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
BH50	2014_ES_BH50	Area A	2014	0.2	ND	ND	<4	-	-	<0.4	**7**	-	**57**	**22**	<0.1	-	**5**	-	-	-	-	-	-	-	-	**200**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
BH51	2014_ES_BH51	Area A	2014	0.4	**Detect**	**Detect**	**7**	-	-	**2**	**8**	-	**47**	**96**	**2.6**	-	**9**	-	-	-	-	-	-	-	-	**280**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
ES1	2014_ES_ES1	Area A	2014	0.5	ND	ND	<4	-	-	<0.4	**5**	-	**26**	**29**	**0.1**	-	**10**	-	-	-	-	-	-	-	-	**74**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
ES2	2014_ES_ES2	Area A	2014	1.5	ND	ND	**5**	-	-	<0.4	**21**	-	**23**	**8**	<0.1	-	**2**	-	-	-	-	-	-	-	-	**26**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
ES4	2014_ES_ES4	Area A	2014	0.2	ND	ND	**5**	-	-	<0.4	**6**	-	**61**	**30**	<0.1	-	**7**	-	-	-	-	-	-	-	-	**190**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
ES5	2014_ES_ES5	Area A	2014	0.5	ND	ND	<4	-	-	<0.4	**12**	-	**22**	**9**	<0.1	-	**3**	-	-	-	-	-	-	-	-	**30**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
ES6	2014_ES_ES6	Area A	2014	0.5	-	-	**7**	-	-	<0.4	**3**	-	**8**	**3**	<0.1	-	**5**	-	-	-	-	-	-	-	-	**10**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
MW2	2014_ES_MW2	Area A	2014	0.5	**Detect**	ND	**6**	-	-	**0.8**	**11**	-	**25**	**37**	<0.1	-	**11**	-	-	-	-	-	-	-	-	**75**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
MW2	2014_ES_MW2	Area A	2014	4	-	-	**6**	-	-	<0.4	**9**	-	**64**	**7**	<0.1	-	<1	-	-	-	-	-	-	-	-	**5**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
MW4	2014_ES_MW4	Area A	2014	0.5	ND	ND	**30**	-	-	<0.4	**8**	-	**64**	**47**	<0.1	-	**12**	-	-	-	-	-	-	-	-	**41**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
MW4	2014_ES_MW4	Area A	2014	1	-	-	<4	-	-	<0.4	**7**	-	**15**	**5**	<0.1	-	**2**	-	-	-	-	-	-	-	-	**8**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
MW5	2014_ES_MW5	Area A	2014	0.2	ND	ND	**30**	-	-	**4.7**	**91**	-	**2400**	**1100**	**0.2**	-	**35**	-	-	-	-	-	-	-	-	**3800**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP07	2014_ES_TP07	Area B	2014	0.2	ND	ND	<4	-	-	<0.4	**1**	-	**8**	**4**	<0.1	-	**5**	-	-	-	-	-	-	-	-	**10**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP07	2014_ES_TP07	Area B	2014	1.75	-	-	**10**	-	-	<0.4	**18**	-	**16**	**15**	<0.1	-	**2**	-	-	-	-	-	-	-	-	**6**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP08	2014_ES_TP08	Area B	2014	0.2	ND	ND	<4	-	-	<0.4	**5**	-	**29**	**39**	<0.1	-	**6**	-	-	-	-	-	-	-	-	**100**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP08	2014_ES_TP08	Area B	2014	2.35	-	-	**58**	-	-	**1**	**7**	-	**51**	**24**	<0.1	-	**11**	-	-	-	-	-	-	-	-	**81**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP33	2014_ES_TP33	Area B	2014	0.2	ND	ND	**8**	-	-	<0.4	**9**	-	**38**	**21**	<0.1	-	**6**	-	-	-	-	-	-	-	-	**74**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP33	2014_ES_TP33	Area B	2014	2.3	ND	ND	**5**	-	-	<0.4	**20**	-	**27**	**13**	<0.1	-	**5**	-	-	-	-	-	-	-	-	**16**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP34	2014_ES_TP34	Area B	2014	0.2	ND	ND	<4	-	-	<0.4	**7**	-	**22**	**18**	<0.1	-	**9**	-	-	-	-	-	-	-	-	**120**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP34	2014_ES_TP34	Area B	2014	1.4	-	-	**5**	-	-	<0.4	**11**	-	**31**	**32**	<0.1	-	**6**	-	-	-	-	-	-	-	-	**37**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP12	2014_ES_TP12	Area C	2014	0.2	ND	ND	<4	-	-	<0.4	**6**	-	**42**	**27**	<0.1	-	**7**	-	-	-	-	-	-	-	-	**89**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP12	2014_ES_TP12	Area C	2014	0.55	-	-	<4	-	-	<0.4	**23**	-	**13**	**13**	<0.1	-	**6**	-	-	-	-	-	-	-	-	**18**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP14	2014_ES_TP14	Area C	2014	0.2	ND	ND	<4	-	-	<0.4	**3**	-	**16**	**15**	<0.1	-	**5**	-	-	-	-	-	-	-	-	**67**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP14	2014_ES_TP14	Area C	2014	0.65	-	-	<4	-	-	<0.4	**20**	-	**12**	**14**	<0.1	-	**6**	-	-	-	-	-	-	-	-	**17**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP21	2014_ES_TP21	Area C	2014	0.2	ND	ND	<4	-	-	<0.4	**2**	-	**16**	**4**	<0.1	-	**6**	-	-	-	-	-	-	-	-	**14**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP21	2014_ES_TP21	Area C	2014	1	-	-	<4	-	-	<0.4	**27**	-	**17**	**16**	<0.1	-	**7**	-	-	-	-	-	-	-	-	**19**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP22	2014_ES_TP22	Area C	2014	0.2	ND	ND	<4	-	-	<0.4	**2**	-	**10**	**3**	<0.1	-	**9**	-	-	-	-	-	-	-	-	**17**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP22	2014_ES_TP22	Area C	2014	0.9	-	-	**5**	-	-	<0.4	**25**	-	**13**	**21**	<0.1	-	**12**	-	-	-	-	-	-	-	-	**21**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP23	2014_ES_TP23	Area C	2014	0.2	ND	ND	<4	-	-	<0.4	**2**	-	**10**	**3**	<0.1	-	**10**	-	-	-	-	-	-	-	-	**16**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP23	2014_ES_TP23	Area C	2014	0.7	-	-	**6**	-	-	<0.4	**21**	-	**22**	**26**	<0.1	-	**14**	-	-	-	-	-	-	-	-	**60**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP31	2014_ES_TP31	Area C	2014	1.1	ND	ND	<4	-	-	<0.4	**8**	-	**15**	**21**	<0.1	-	**8**	-	-	-	-	-	-	-	-	**30**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP31	2014_ES_TP31	Area C	2014	1.9	-	-	<4	-	-	<0.4	**16**	-	**10**	**10**	<0.1	-	**6**	-	-	-	-	-	-	-	-	**16**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP32	2014_ES_TP32	Area C	2014	1.2	ND	ND	**41**	-	-	**0.5**	**25**	-	**75**	**93**	<0.1	-	**22**	-	-	-	-	-	-	-	-	**110**	<0.2	<0.5	<1	<2	<1	<3	**5**	-	-	-	-
TP32	2014_ES_TP32	Area C	2014	1.8	-	-	**5**	-	-	<0.4	**18**	-	**11**	**17**	<0.1	-	**13**	-	-	-	-	-	-	-	-	**18**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP38	2014_ES_TP38	Area C	2014	1	ND	ND	<4	-	-	<0.4	**3**	-	**130**	**11**	<0.1	-	**7**	-	-	-	-	-	-	-	-	**27**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP38	2014_ES_TP38	Area C	2014	3.1	-	-	**4**	-	-	<0.4	**14**	-	**23**	**13**	<0.1	-	**4**	-	-	-	-	-	-	-	-	**18**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
TP02	2014_ES_TP02	Area D	2014	0.2	ND	ND	<4	-	-	<0.4	**14**	-	**15**	**18**	<0.1	-	**2**	-	-	-	-	-	-	-	-	**38**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
SEDSCR	2014_ES_SEDSCR	Area E - Sediment Samples	02-Apr-14	0.2-0.4	-	-	**4**	-	-	<0.4	**20**	-	**27**	**18**	<0.1	-	**10**	-	-	-	-	-	-	-	-	**51**	<0.2	<0.5	<1	<2	<1	<3	<1	-	-	-	-
Acadis (2017a), Additional Environmental Assessment																																					
TP1	2017_ARC_TP1	-	10-Jan-17	0.5	ND	-	**9**	-	-	<0.4	**3**	-	**49**	**17**	<0.1	-	**10**	-	-	-	-	-	-	-	-	**85**	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-
TP34	2017_ARC_TP34	-	12-Jan-17	1	ND	-	<4	-	-	<0.4	**5**	-	**14**	**4**	<0.1	-	**18**	-	-	-	-	-	-	-	-	**21**	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-
TP35	2017_ARC_TP35	-	12-Jan-17	0.5	ND	-	<4	-	-	<0.4	**3**	-	**30**	**13**	**0.1**	-	**12**	-	-	-	-	-	-	-	-	**38**	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-
TP35	2017_ARC_TP35	-	12-Jan-17	1	ND	-	<4	-	-	<0.4	**2**	-	**30**	**16**	<0.1	-	**14**	**60**	-	-	-	-	-	-	-	**28**	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-
TP9	2017_ARC_TP9	-	10-Jan-17	1	ND	-	<4	-	-	<0.4	**7**	-	**38**	**10**	<0.1	-	**11**	-	-	-	-	-	-	-	-	**77**	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-
TP10	2017_ARC_TP10	-	10-Jan-17	0.5	ND	-	<4	-	-	<0.4	**8**	-	**28**	**13**	<0.1	-	**11**	**830**	-	-	-	-	-	-	-	**88**	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-
TP10	2017_ARC_TP10	-	10-Jan-17	1	ND	-	<4	-	-	<0.4	**9**	-	**37**	**15**	<0.1	-	**9**	-	-	-	-	-	-	-	-	**90**	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-
TP11	2017_ARC_TP11	-	10-Jan-17	0.5	ND	-	<4	-	-	<0.4	**19**	-	**15**	**10**	<0.1	-	**5**	-	-	-	-	-	-	-	-	**81**	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-
TP2	2017_ARC_TP2	-	10-Jan-17	1	ND	-	<4	-	-	<0.4	**12**	-	**46**	**16**	<0.1	-	**7**	-	-	-	-	-	-	-	-	**97**	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-
TP17	2017_ARC_TP17	-	11-Jan-17	0.5	ND	-	<4	-	-	<0.4	**3**	-	**13**	**6**	<0.1	-	**8**	-	-	-	-	-	-	-	-	**33**	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-
TP21	2017_ARC_TP21	-	11-Jan-17	1	ND	-	<4	-	-	<0.4	**11**	-	**26**	**33**	<0.1	-	**10**	-	-	-	-	-	-	-	-	**85**	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-
TP3	2017_ARC_TP3	-	10-Jan-17	0.5	ND	-	<4	-	-	<0.4	**13**	-	**77**	**28**	<0.1	-	**9**	-	-	-	-	-	-	-	-	**190**	<0.2	<0.5	<1	<2	<1	<1	-	-	-	-	-

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

REDITUS

					Asbestos		Metals																				BTEX							Historical compound grouping			
					Asbestos ID in Soil	Asbestos Trace Analysis	Arsenic	Antimony	Beryllium	Cadmium	Chromium (III+VI)	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Phosphorus	Selenium	Silver	Vanadium	Cyanide	Fluoride	Sulfate	Tin	Zinc	Benzene	Toluene	Ethylbenzene	meta & para Xylene	ortho Xylene	Xylene Total	Naphthalene	Total PAH	Total OCP	Total PCB	Total VHC
					Comment	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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					Detect	Detect	-	-	1	-	-	2	-	-	0.1	2	-	10	5	2	5	-	-	2	-	-	-	-	-	-	-	-	1	-	-	-	-
NEPM 2013 Table 1A(1) HILs Residential B Soil							**500**			**150**	**500****		**30,000**	**1,200**	**120**		**1,200**									**30,000**								**400**			**1**	
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil																																					
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*							**104**				**408**		**210**	**1,116**			**175**									**400**							**170**				
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																											**50**	**85**	**70**			**105**					
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																											**65**	**105**	**125**			**45**					
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																					
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																					
ANZG 2018 DGV Toxicant values for Sediments (Table 1)							**20**			**1.5**	**80**		**65**	**50**	**0.15**		**21**									**200**								**10**			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																					
>=0m, <1m																											**0.7**	**480**	**NL**			**110**	**5**				
>=1m, <2m																											**1**	**NL**	**NL**			**310**	**NL**				
>=2m, <4m																											**2**	**NL**	**NL**			**NL**	**NL**				
>=4m																											**3**	**NL**	**NL**			**NL**	**NL**				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																					
>=0m, <1m																											**0.5**	**160**	**55**			**40**	**3**				
>=1m, <2m																											**0.5**	**220**	**NL**			**60**	**NL**				
>=2m, <4m																											**0.5**	**310**	**NL**			**95**	**NL**				
>=4m																											**0.5**	**540**	**NL**			**170**	**NL**				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																																					
>=0m, <1m																											**0.6**	**390**	**NL**			**95**	**4**				
>=1m, <2m																											**0.7**	**NL**	**NL**			**210**	**NL**				
>=2m, <4m																											**1**	**NL**	**NL**			**NL**	**NL**				
>=4m																											**2**	**NL**	**NL**			**NL**	**NL**				

Field ID	Location Code	Description	Sampled Date	Sample Depth (m)																																	
Arcadis (2018), Additional Environmental Assessment - Production Area																																					
ABH1	2018_ARC_ABH1	-	27-Nov-17	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH1	2018_ARC_ABH1	-	27-Nov-17	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH2	2018_ARC_ABH2	-	27-Nov-17	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH2	2018_ARC_ABH2	-	28-Nov-17	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH2	2018_ARC_ABH2	-	28-Nov-17	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH4	2018_ARC_ABH4	-	28-Nov-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH4	2018_ARC_ABH4	-	28-Nov-17	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH4	2018_ARC_ABH4	-	28-Nov-17	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12	2018_ARC_MW12	-	27-Nov-17	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12	2018_ARC_MW12	-	27-Nov-17	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12	2018_ARC_MW12	-	27-Nov-17	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12	2018_ARC_MW12	-	27-Nov-17	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW14	2018_ARC_MW14	-	27-Nov-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW14	2018_ARC_MW14	-	27-Nov-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW14	2018_ARC_MW14	-	27-Nov-17	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arcadis (2018), Flue, Stack and Powerhouse Assessment																																					
PH1	2018_ARC_PH1	PH1	19-Feb-18	0.3	ND	-	<4	-	-	<0.4	**5**	-	**16**	**14**	<0.1	-	**7**	-	-	-	-	-	-	-	-	**48**	<0.2	<0.5	<1	-	-	<3	-	-	-	-	-	-
PH1	2018_ARC_PH1	PH1	19-Feb-18	2	ND	-	<4	-	-	<0.4	**5**	-	**25**	**14**	<0.1	-	**8**	-	-	-	-	-	-	-	-	**77**	<0.2	<0.5	<1	-	-	<3	-	-	-	-	-	-
PH2	2018_ARC_PH2	PH2	18-Feb-18	0.1	ND	-	**370**	-	-	**4.4**	**16**	-	**130**	**150**	**0.3**	-	**9**	-	-	-	-	-	-	-	-	**1800**	<0.2	<0.5	<1	-	-	<3	-	-	-	-	-	-
PH2	2018_ARC_PH2	PH2	18-Feb-18	0.2	-	-	**7**	-	-	<0.4	**18**	-	**14**	**10**	<0.1	-	**1**	-	-	-	-	-	-	-	-	**4**	<0.2	<0.5	<1	-	-	<3	-	-	-	-	-	-
PH2-ASB ID	2018_ARC_PH2-ASB ID	PH2	18-Feb-18	0.3	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PH2	2018_ARC_PH2	PH2	18-Feb-18	0.5	ND	-	**33**	-	-	**0.9**	**23**	-	**45**	**49**	<0.1	-	**4**	-	-	-	-	-	-	-	-	**240**	<0.2	<0.5	<1	-	-	<3	-	-	-	-	-	-
PH2	2018_ARC_PH2	PH2	18-Feb-18	2.1	-	-	**10**	-	-	<0.4	**20**	-	**18**	**12**	<0.1	-	**2**	-	-	-	-	-	-	-	-	**8**	<0.2	<0.5	<1	-	-	<3	-	-	-	-	-	-
SS3	2018_ARC_SS3	SS3	19-Feb-18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS2	2018_ARC_SS2	SS2	19-Feb-18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS3	2018_ARC_SS3	SS3	19-Feb-18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS4	2018_ARC_SS4	SS4	19-Feb-18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reditus 2020 Data Gap Investigation																																					
RCTP2_1.0	2020_Red_RCTP2	-	25-Mar-20	1	-	-	**37**	-	-	<0.4	**21**	-	**60**	**140**	**3.2**	-	**12**	-	<2	-	-	-	-	-	-	**200**	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-	-
RCTP2_2.5	2020_Red_RCTP2	-	25-Mar-20	2.5	-	-	<2	-	-	<0.4	<5	-	**30**	**11**	<0.1	-	<5	-	<2	-	-	-	-	-	-	**7.5**	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-	-
RCTP9_0.5	2020_Red_RCTP9	-	25-Mar-20	0.5	-	-	**2.5**	-	-	<0.4	<5	-	**8.9**	<5	<0.1	-	<5	-	<2	-	-	-	-	-	-	**18**	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-	-
RCTP9_2.1	2020_Red_RCTP9	-	25-Mar-20	2.1	-	-	**22**	-	-	<0.4	**31**	-	**12**	**20**	<0.1	-	<5	-	<2	-	-	-	-	-	-	**17**	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-	-
RCTP9_3.3	2020_Red_RCTP9	-	25-Mar-20	3.3	-	-	**12**	-	-	<0.4	**19**	-	**31**	**120**	<0.1	-	**8.0**	-	<2	-	-	-	-	-	-	**15**	-	-	-	-	-	-	-	-	-	-	-	-
RCTP9_4.1	2020_Red_RCTP9	-	25-Mar-20	4.1	-	-	**8.1**	-	-	<0.4	**33**	-	**22**	**14**	<0.1	-	**14**	-	<2	-	-	-	-	-	-	**35**	-	-	-	-	-	-	-	-	-	-	-	-
RCTP10_0.5	2020_Red_RCTP10	-	25-Mar-20	0.5	-	-	**21**	-	-	<0.4	**27**	-	**45**	**30**	<0.1	-	**23**	-	<2	-	-	-	-	-	-	**100**	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-	-
RCTP10_1.0	2020_Red_RCTP10	-	25-Mar-20	1	-	-	**8.3**	-	-	<0.4	**25**	-	**18**	**13**	<0.1	-	<5	-	<2	-	-	-	-	-	-	**9.9**	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-	-
RCTP10_1.5	2020_Red_RCTP10	-	25-Mar-20	1.5	-	-	**2.6**	-	-	<0.4	**15**	-	**18**	**6.1**	<0.1	-	<5	-	<2	-	-	-	-	-	-	**11**	-	-	-	-	-	-	-	-	-	-	-	-
RCTP10_2.0	2020_Red_RCTP10	-	25-Mar-20	2	-	-	**6.7**	-	-	<0.4	**21**	-	**18**	**7.8**	<0.1	-	<5	-	<2	-	-	-	-	-	-	**11**	-	-	-	-	-	-	-	-	-	-	-	-
RCTP12_1.0	2020_Red_RCTP12	-	25-Mar-20	1	-	-	**6.5**	-	-	<0.4	**5.6**	-	**28**	**27**	**0.1**	-	**9.4**	-	<2	-	-	-	-	-	-	**53**	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-	-
RCTP12_2.2	2020_Red_RCTP12	-	25-Mar-20	2.2	-	-	**17**	-	-	**1.9**	**26**	-	**72**	**38**	<0.1	-	**9.8**	-	<2	-	-	-	-	-	-	**260**	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-	-
RCTP12_4.0	2020_Red_RCTP12	-	25-Mar-20	4	-	-	**9.4**	-	-	<0.4	**24**	-	**38**	**21**	<0.1	-	**12**	-	<2	-	-	-	-	-	-	**21**	-	-	-	-	-	-	-	-	-	-	-	-
RCTP12_5.5	2020_Red_RCTP12	-	25-Mar-20	5.5	-	-	**10**	-	-	<0.4	**26**	-	**35**	**14**	<0.1	-	**7.4**	-	<2	-	-	-	-	-	-	**38**	-	-	-	-	-	-	-	-	-	-	-	-

*Generic & site-specific EIL values adopted from Arcadis (2019) RAP Appendix C, Table 2.
**Chromium III+IV HIL values adopted from Arcadis (2019) RAP Appendix C, Table 6.

Comments
ND - No asbestos detected at the laboratory limit of reporting (0.1 g/kg)
#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Schedule 7) BaP TEQ calc by multiplying the conc of each carc. PAH in sample by its BaP TEF (ref Table 1A(1)) & summing
#2 Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability maybe important and should be considered where appropriate (refer Shedule B7).
#3 Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead model for where 50% bioavailability considered. Site-specific bioavailability should be considered where appropriate.
#4 Elemental mercury: HIL does not address elemental mercury. a site specific assessment should be considered if elemental mercury is present, or suspected to be present.
#5 PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or suspected at a site, a site-specific assessment of exposure to all PCBs (inc dioxin like PCBs) should be undertaken
#6 Aged values apply to arsenic contamination present in soil > 2 years. Refer Schedule B5c for < 2 years.
#7 To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#8 ERRATA Updated 30 April 2014 . Naphthalene should not be subtracted.
#9 Errata 30 April 2014. Naphthalene should not be subtracted from >C
#10 Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#11 Separate management limits for BTEX & naphthalene are not available hence should not be subtracted from the relevant fractions to obtain F1 & F2
#12 To obtain F2 subtract napthalene from the >C10 - C16 fraction.
NL - Derived soil HSL exceeds soil saturation concentraiton, non-limiting

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

REDITUS

							TPH					TRH						PAH/Phenols																				
							C6-C9	C10-C14	C15-C28	C29-C36	Total Petroleum Hydrocarbons	C10-C40 (Sum of total)	C6-C10	C6-C10 less BTEX (F1)	C10-C16	F2-NAPHTHALENE	C16-C34	C34-C40	Total Positive PAHs	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ (Half LOR)	B(a)P Total Potency Equivalent	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Carcinogenic PAHs as B(a)P TPE	Benzo(g,h,i)perylene	Benzo(b)fluoranthene	Benzo(b+j)fluoranthene	Benzo(b)fluoranthene	Benzo(b)&(k)fluoranthene	Benzo(b,j+k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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							-	-	-	-	2	50	25	25	50	50	100	100	-	0.5		-	-	-	-	-	-	-	-	0.5	0.5	0.5	-	-	-	-	-	-	-
NEPM 2013 Table 1A(1) HILs Residential B Soil																			**400**	**4**	**4**																	
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil																																						
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*																																						
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m			**180**[57]	**120**[#5]	**300**	**2,800**								**180**	**120**	**120**	**300**	**2,800**								**0.7**											
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m			**180**[#19]	**120**[#5]	**1,300**	**5,600**								**180**	**120**	**120**	**1,300**	**5,600**								**0.7**											
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil			**700**[#11]	**1,000**[#11]	**2,500**	**10,000**							**700**		**1,000**		**2,500**	**10,000**																				
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil			**800**[#11]	**1,000**[#11]	**3,500**	**10,000**							**800**		**1,000**		**3,500**	**10,000**																				
ANZG 2018 DGV Toxicant values for Sediments (Table 1)												**0.28**							**10**																			
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																						
>=0m, <1m			**NL**	**NL**										**50**		**280**																						
>=1m, <2m			**NL**	**NL**										**90**		**NL**																						
>=2m, <4m			**NL**	**NL**										**150**		**NL**																						
>=4m			**NL**	**NL**										**290**		**NL**																						
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																						
>=0m, <1m			**NL**	**NL**										**45**		**110**																						
>=1m, <2m			**NL**	**NL**										**70**		**240**																						
>=2m, <4m			**NL**	**NL**										**110**		**440**																						
>=4m			**NL**	**NL**										**200**		**NL**																						
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																																						
>=0m, <1m			**NL**	**NL**										**40**		**230**																						
>=1m, <2m			**NL**	**NL**										**65**		**NL**																						
>=2m, <4m			**NL**	**NL**										**100**		**NL**																						
>=4m			**NL**	**NL**										**190**		**NL**																						

Field ID	Location Code	Description	Sampled Date	Sample Depth (m)																																				
ADI Limited (1996), Stage 1 Site Investigation Report																																							
P9	1996_ADI_P9	-	ADI February 1996	0.2	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P9	1996_ADI_P9	-	ADI February 1996	1.2	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P10	1996_ADI_P10	-	ADI February 1996	0.3	<20	**110**	**1359**	**120**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P12	1996_ADI_P12	-	ADI February 1996	0.2	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P12	1996_ADI_P12	-	ADI February 1996	0.8	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P26	1996_ADI_P26	-	ADI February 1996	0.2	<20	**34**	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P26	1996_ADI_P26	-	ADI February 1996	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P50	1996_ADI_P50	-	ADI February 1996	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P50	1996_ADI_P50	-	ADI February 1996	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P51	1996_ADI_P51	-	ADI February 1996	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P51	1996_ADI_P51	-	ADI February 1996	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P52	1996_ADI_P52	-	ADI February 1996	0.1	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P54	1996_ADI_P54	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P54	1996_ADI_P54	-	ADI February 1996	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P54	1996_ADI_P54	-	ADI February 1996	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P53	1996_ADI_P53	-	ADI February 1996	0.2	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P53	1996_ADI_P53	-	ADI February 1996	1.4	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P56	1996_ADI_P56	-	ADI February 1996	0.2	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P57	1996_ADI_P57	-	ADI February 1996	0.3	<20	**31**	**940**	**420**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P57	1996_ADI_P57	-	ADI February 1996	0.55	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P60	1996_ADI_P60	-	ADI February 1996	0.6	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P60	1996_ADI_P60	-	ADI February 1996	0.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	1996_ADI_BH5	-	ADI February 1996	0.5	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	1996_ADI_BH5	-	ADI February 1996	2	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	1996_ADI_BH7	-	ADI February 1996	5.5	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1996_ADI_BH8	-	ADI February 1996	0.5	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1996_ADI_BH8	-	ADI February 1996	1.3	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1996_ADI_BH8	-	ADI February 1996	4	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W2	1996_ADI_W2	-	ADI February 1996	0.2	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W2	1996_ADI_W2	-	ADI February 1996	1.2	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W2	1996_ADI_W2	-	ADI February 1996	2	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W17	1996_ADI_W17	-	ADI February 1996	1.1	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W17	1996_ADI_W17	-	ADI February 1996	1.45	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W17	1996_ADI_W17	-	ADI February 1996	2.1	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W25	1996_ADI_W25	-	ADI February 1996	1.3	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S11	1996_ADI_S11	-	ADI February 1996	0.2	<20	**180**	**2950**	**520**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S11	1996_ADI_S11	-	ADI February 1996	1.5	<20	**170**	**1950**	**390**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S36	1996_ADI_S36	-	ADI February 1996	0.6	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S36	1996_ADI_S36	-	ADI February 1996	1.7	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B18	1996_ADI_B18	-	ADI February 1996	1.5	<20	<20	<50	<50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

REDITUS

							TPH					TRH							PAH/Phenols																						
							C6-C9	C10-C14	C15-C28	C29-C36	Total Petroleum Hydrocarbons	C10-C40 (Sum of total)	C6-C10	C6-C10less BTEX (F1)	C10-C16	F2-NAPHTHALENE	C16-C34	C34-C40	Total Positive PAHs	Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ (Half LOR)	B(a)P Total Potency Equivalent	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Carcinogenic PAHs as B(a)P TPE	Benzo(g,h,i)perylene	Benzo(b)fluoranthene	Benzo(j+k)fluoranthene	Benzo(b)fluoranthene	Benzo(b)&(k)fluoranthene	Benzo(b,j+k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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							-	-	-	-	2	50	25	25	50	50	100	100	-	0.5		-	-	-	-	-	-	-	0.5	0.5	0.5	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(1) HILs Residential B Soil																			**400**	**4**	**4**																			
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil																																								
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*																																								
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m			**180**[67]	**120**[49]	**300**	**2,800**								**180**	**120**	**120**	**300**	**2,800**								**0.7**													
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m			**180**[419]	**120**[49]	**1,300**	**5,600**								**180**	**120**	**120**	**1,300**	**5,600**								**0.7**													
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil			**700**[411]	**1,000**[411]	**2,500**	**10,000**							**700**		**1,000**		**2,500**	**10,000**																						
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil			**800**[411]	**1,000**[411]	**3,500**	**10,000**							**800**		**1,000**		**3,500**	**10,000**																						
ANZG 2018 DGV Toxicant values for Sediments (Table 1)								**0.28**											**10**																					
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																								
>=0m, <1m			**NL**	**NL**										**50**		**280**																								
>=1m, <2m			**NL**	**NL**										**90**		**NL**																								
>=2m, <4m			**NL**	**NL**										**150**		**NL**																								
>=4m			**NL**	**NL**										**290**		**NL**																								
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																								
>=0m, <1m			**NL**	**NL**										**45**		**110**																								
>=1m, <2m			**NL**	**NL**										**70**		**240**																								
>=2m, <4m			**NL**	**NL**										**110**		**440**																								
>=4m			**NL**	**NL**										**200**		**NL**																								
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																																								
>=0m, <1m			**NL**	**NL**										**40**		**230**																								
>=1m, <2m			**NL**	**NL**										**65**		**NL**																								
>=2m, <4m			**NL**	**NL**										**100**		**NL**																								
>=4m			**NL**	**NL**										**190**		**NL**																								

Field ID	Location Code	Description	Sampled Date	Sample Depth (m)																																					
Enviorisk (2006), Phase 2 Environmental (Site Contamination) Assessment																																									
BH1	2006_ENVR_BH1	Grid Pattern Samples	Enviorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH1	2006_ENVR_BH1	Grid Pattern Samples	Enviorisk Dec 2005	0.5	-	<50	<100	<100	<2	-	-	-	-	-	-	-	0	**ND**	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH1	2006_ENVR_BH1	Grid Pattern Samples	Enviorisk Dec 2005	1	-	<50	<100	<100	<2	-	-	-	-	-	-	-	0	**ND**	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH1	2006_ENVR_BH1	Grid Pattern Samples	Enviorisk Dec 2005	1.5	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4	2006_ENVR_BH4	Grid Pattern Samples	Enviorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4	2006_ENVR_BH4	Grid Pattern Samples	Enviorisk Dec 2005	0.5	-	<50	<100	<100	<2	-	-	-	-	-	-	-	0	**ND**	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH4	2006_ENVR_BH4	Grid Pattern Samples	Enviorisk Dec 2005	1	-	<50	<100	<100	<2	-	-	-	-	-	-	-	0	**ND**	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH8	2006_ENVR_BH8	Grid Pattern Samples	Enviorisk Dec 2005	0.1	-	<50	**400**	**270**	<2	-	-	-	-	-	-	-	**2**	**3.5**	**1.8**	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	-	**0.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH8	2006_ENVR_BH8	Grid Pattern Samples	Enviorisk Dec 2005	0.5	<2	**340**	**2130**	**700**	-	-	-	-	-	-	-	-	**22**	**2.1**	**2.1**	-	<0.5	<0.5	**0.9**	**0.5**	**1.1**	-	**0.5**	**2**	-	**2**	-	-	**0.5**	**0.5**	**1.1**	**1.5**	**0.5**			
BH8	2006_ENVR_BH8	Grid Pattern Samples	Enviorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	0				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13	2006_ENVR_BH13	Grid Pattern Samples	Enviorisk Dec 2005	1	<2	**90**	**1070**	**320**	-	-	-	-	-	-	-	-	**10.9**	**3.2**	**1.7**	-	<0.5	<0.5	**0.6**	<0.5	<0.5	-	<0.5	**1**	-	**1**	-	-	<0.5	<0.5	**0.6**	<0.5	<0.5			
BH13	2006_ENVR_BH13	Grid Pattern Samples	Enviorisk Dec 2005	1.5	<2	<50	<100	<100	-	-	-	-	-	-	-	-	0	**ND**	**ND**	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5			
BH13	2006_ENVR_BH13	Grid Pattern Samples	Enviorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	0			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14	2006_ENVR_BH14	Grid Pattern Samples	Enviorisk Dec 2005	1	<2	<50	<100	<100	-	-	-	-	-	-	-	-	0	**ND**	**ND**	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5		-		-	-	<0.5	<0.5	<0.5	<0.5	<0.5			
BH14	2006_ENVR_BH14	Grid Pattern Samples	Enviorisk Dec 2005	1.5	<2	<50	<100	<100	-	-	-	-	-	-	-	-	0	**ND**	**ND**	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5		-		-	-	<0.5	<0.5	<0.5	<0.5	<0.5			
BH14	2006_ENVR_BH14	Grid Pattern Samples	Enviorisk Dec 2005	2.4	-	-	-	-	-	-	-	-	-	-	-	-	0			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15	2006_ENVR_BH15	Grid Pattern Samples	Enviorisk Dec 2005	0.1	<2	<50	**460**	**120**	-	-	-	-	-	-	-	-	**4.9**	**3.1**	**1.6**	-	<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			
BH15	2006_ENVR_BH15	Grid Pattern Samples	Enviorisk Dec 2005	1	<2	<50	<100	<100	-	-	-	-	-	-	-	-	**1.3**	**ND**	**ND**	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<1	-	<1	-	-	<0.5	<0.5	<0.5	<0.5	<0.5			
BH16	2006_ENVR_BH16	Grid Pattern Samples	Enviorisk Dec 2005	4	<2	<50	**340**	**280**	-	-	-	-	-	-	-	-	**3.9**	**3.5**	**1.8**	-	<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			
BH18	2006_ENVR_BH18	Judgemental Samples	Enviorisk Dec 2005	1	<2	<50	<100	<100	-	-	-	-	-	-	-	-	0	**ND**	**ND**	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5			
BH18	2006_ENVR_BH18	Judgemental Samples	Enviorisk Dec 2005	2	<2	<50	<100	**160**	-	-	-	-	-	-	-	-	0	**ND**	**ND**	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5			
BH18	2006_ENVR_BH18	Judgemental Samples	Enviorisk Dec 2005	3	<2	<50	<100	<100	-	-	-	-	-	-	-	-	0	**ND**	**ND**	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5			
BH21	2006_ENVR_BH21	Judgemental Samples	Enviorisk Dec 2005	0.5	<2	<50	**190**	<100	-	-	-	-	-	-	-	-	**5.2**	**3.1**	**1.6**	-	<0.5	<0.5	<0.5	**0.8**	<0.5	-	<0.5	<0.5	-	<0.5	-	-	**1.7**	<0.5	<0.5	<0.5	<0.5			
BH21	2006_ENVR_BH21	Judgemental Samples	Enviorisk Dec 2005	1	<2	<50	<100	<100	-	-	-	-	-	-	-	-	0	**ND**	**ND**	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5			
TP18A	2006_ENVR_TP18A	Delineation Sampling	Enviorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18A	2006_ENVR_TP18A	Delineation Sampling	Enviorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18A	2006_ENVR_TP18A	Delineation Sampling	Enviorisk Dec 2005	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18B	2006_ENVR_TP18B	Delineation Sampling	Enviorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18B	2006_ENVR_TP18B	Delineation Sampling	Enviorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18B	2006_ENVR_TP18B	Delineation Sampling	Enviorisk Dec 2005	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18C	2006_ENVR_TP18C	Delineation Sampling	Enviorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18C	2006_ENVR_TP18C	Delineation Sampling	Enviorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18C	2006_ENVR_TP18C	Delineation Sampling	Enviorisk Dec 2005	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18D	2006_ENVR_TP18D	Delineation Sampling	Enviorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18D	2006_ENVR_TP18D	Delineation Sampling	Enviorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18D	2006_ENVR_TP18D	Delineation Sampling	Enviorisk Dec 2005	2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18E	2006_ENVR_TP18E	Delineation Sampling	Enviorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18E	2006_ENVR_TP18E	Delineation Sampling	Enviorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18E	2006_ENVR_TP18E	Delineation Sampling	Enviorisk Dec 2005	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18F	2006_ENVR_TP18F	Delineation Sampling	Enviorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18F	2006_ENVR_TP18F	Delineation Sampling	Enviorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18F	2006_ENVR_TP18F	Delineation Sampling	Enviorisk Dec 2005	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

REDITUS

| | | |

Consolidated DSI
Former Corrimal Coke Works, Railway St, Corrimal NSW
22158RP04

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

REDITUS

							TPH					TRH							PAH/Phenols																							
							C6-C9	C10-C14	C15-C28	C29-C36	Total Petroleum Hydrocarbons	C10-C40 (Sum of total)	C6-C10	C6-C10 less BTEX (F1)	C10-C16	F2-NAPHTHALENE	C16-C34	C34-C40	Total Positive PAHs	Benzo(a)pyrene TEQ (LOR)	Benzo(b)pyrene TEQ (Half LOR)	Benzo(b)pyrene TEQ Equivalent	B(a)P Total Potency Equivalent	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Carcinogenic PAHs as B(a)P TPE	Benzo(g,h,i)perylene	Benzo(b)fluoranthene	Benzo(j+b)fluoranthene	Benzo(k)fluoranthene	Benzo(b)&(k)fluoranthene	Benzo(b,j+k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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							-	-	-	-	2	50	25	25	50	50	100	100	-	0.5				-	-	-	-	-	-	-	0.5	0.5	0.5	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(1) HILs Residential B Soil																			**400**	**4**	**4**																				
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil																																								
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*																																								
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m							**180**[67]	**120**[#9]	**300**	**2,800**				**180**	**120**	**120**	**300**	**2,800**										**0.7**													
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m							**180**[#10]	**120**[#9]	**1,300**	**5,600**				**180**	**120**	**120**	**1,300**	**5,600**										**0.7**													
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil							**700**[#11]	**1,000**[#11]	**2,500**	**10,000**			**700**		**1,000**		**2,500**	**10,000**																								
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil							**800**[#11]	**1,000**[#11]	**3,500**	**10,000**			**800**		**1,000**		**3,500**	**10,000**																								
ANZG 2018 DGV Toxicant values for Sediments (Table 1)												**0.28**							**10**																						
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																								
>=0m, <1m							**NL**	**NL**						**50**		**280**																									
>=1m, <2m							**NL**	**NL**						**90**		**NL**																									
>=2m, <4m							**NL**	**NL**						**150**		**NL**																									
>=4m							**NL**	**NL**						**290**		**NL**																									
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																								
>=0m, <1m							**NL**	**NL**						**45**		**110**																									
>=1m, <2m							**NL**	**NL**						**70**		**240**																									
>=2m, <4m							**NL**	**NL**						**110**		**440**																									
>=4m							**NL**	**NL**						**200**		**NL**																									
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																																								
>=0m, <1m							**NL**	**NL**						**40**		**230**																									
>=1m, <2m							**NL**	**NL**						**65**		**NL**																									
>=2m, <4m							**NL**	**NL**						**100**		**NL**																									
>=4m							**NL**	**NL**						**190**		**NL**																									

Field ID	Location Code	Description	Sampled Date	Sample Depth (m)																																						
Arcadis (2018), Additional Environmental Assessment - Production Area																																									
ABH1	2018_ARC_ABH1	-	27-Nov-17	0.25	<25	<50	<100	<100	-	<50	-	-	-	-	-	-	<0.05	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1			
ABH1	2018_ARC_ABH1	-	27-Nov-17	1.2	<25	<50	<100	<100	-	<50	-	-	-	-	-	-	<0.05	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1			
ABH2	2018_ARC_ABH2	-	27-Nov-17	0.3	<25	<50	<100	<100	-	<50	-	-	-	-	-	-	<0.05	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1			
ABH2	2018_ARC_ABH2	-	28-Nov-17	0.8	<25	<50	<100	<100	-	<50	-	-	-	-	-	-	<0.05	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1			
ABH2	2018_ARC_ABH2	-	28-Nov-17	2	<25	<50	<100	<100	-	<50	-	-	-	-	-	-	<0.05	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1			
ABH4	2018_ARC_ABH4	-	28-Nov-17	0.5	<25	<50	<100	<100	-	<50	-	-	-	-	-	-	**1.1**	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	-	**0.1**	<0.1	**0.1**	<0.1	<0.1			
ABH4	2018_ARC_ABH4	-	28-Nov-17	1.5	<25	<50	<100	<100	-	<50	-	-	-	-	-	-	**2.1**	**0.12**		-	<0.1	<0.1	<0.1	**0.1**	**0.05**	-	<0.1	-	-	-	-	-	**0.3**	<0.1	**0.2**	<0.1	<0.1			
ABH4	2018_ARC_ABH4	-	28-Nov-17	3	<25	<50	<100	<100	-	<50	-	-	-	-	-	-	<0.05	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1			
MW12	2018_ARC_MW12	-	27-Nov-17	0.3	<25	<50	<100	<100	-	<50	-	-	-	-	-	-	<0.05	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1			
MW12	2018_ARC_MW12	-	27-Nov-17	0.6	<25	<50	<100	<100	-	<50	-	-	-	-	-	-	<0.05	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1			
MW12	2018_ARC_MW12	-	27-Nov-17	3.6	<25	<50	<100	<100	-	<50	-	-	-	-	-	-	<0.05	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1			
MW12	2018_ARC_MW12	-	27-Nov-17	6	<25	<50	<100	<100	-	<50	-	-	-	-	-	-	**0.1**	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1			
MW14	2018_ARC_MW14	-	27-Nov-17	0.5	<25	<50	<100	<100	-	<50	-	-	-	-	-	-	**0.1**	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1			
MW14	2018_ARC_MW14	-	27-Nov-17	1	<25	<50	<100	<100	-	<50	-	-	-	-	-	-	<0.05	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1			
MW14	2018_ARC_MW14	-	27-Nov-17	3	<25	<50	<100	<100	-	<50	-	-	-	-	-	-	<0.05	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1			
Arcadis (2018), Flue, Stack and Powerhouse Assessment																																								
PH1	2018_ARC_PH1	PH1	19-Feb-18	0.3	<25	<50	**360**	**180**	-	**490**	<25	-	<50	-	**490**	<100	**8**	<0.5		-	<0.1	<0.1	**0.3**	**0.7**	**0.2**	-	**0.1**	-	-	-	-	**0.5**	**1.5**	<0.1	**0.7**	<0.1	<0.1			
PH1	2018_ARC_PH1	PH1	19-Feb-18	2	<25	<50	**670**	**300**	-	**990**	<25	-	<50	-	**880**	**100**	**14**	**0.8**		-	**0.1**	<0.1	**0.6**	**1.6**	**0.4**	-	**0.2**	-	-	-	-	**0.9**	**2.7**	**0.1**	**1.2**	**0.2**	**0.1**			
PH2	2018_ARC_PH2	PH2	18-Feb-18	0.1	<25	<50	<100	<100	-	**100**	<25	-	<50	-	**100**	<100	**2.5**	<0.5		-	<0.1	<0.1	<0.1	**0.2**	**0.1**	-	<0.1	-	-	-	-	**0.3**	**0.4**	<0.1	**0.3**	<0.1	<0.1			
PH2	2018_ARC_PH2	PH2	18-Feb-18	0.2	<25	<50	<100	<100	-	<50	<25	-	<50	-	<100	<100	<0.05	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1			
PH2-ASB ID	2018_ARC_PH2-ASB ID	PH2	18-Feb-18	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
PH2	2018_ARC_PH2	PH2	18-Feb-18	0.5	<25	<50	<100	<100	-	**120**	<25	-	<50	-	**120**	<100	**0.98**	<0.5		-	<0.1	<0.1	<0.1	<0.1	**0.05**	-	<0.1	-	-	-	-	<0.2	**0.1**	<0.1	**0.2**	<0.1	<0.1			
PH2	2018_ARC_PH2	PH2	18-Feb-18	2.1	<25	<50	**300**	<100	-	**280**	<25	-	<50	-	**280**	<100	<0.05	<0.5		-	<0.1	<0.1	<0.1	<0.1	<0.05	-	<0.1	-	-	-	-	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1			
SS3	2018_ARC_SS3	SS3	19-Feb-18	-	<25	**51**	**690**	**830**	-	**1800**	<25	-	**64**	-	**1300**	**400**	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
SS2	2018_ARC_SS2	SS2	19-Feb-18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
SS3	2018_ARC_SS3	SS3	19-Feb-18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
SS4	2018_ARC_SS4	SS4	19-Feb-18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Reditus 2020 Data Gap Investigation																																								
RCTP2_1.0	2020_Red_RCTP2	-	25-Mar-20	1	-	-	-	-	-	**700**	<20	<20	<50	<50	**700**	<100	**0.7**	-	**0.6**	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5			
RCTP2_2.5	2020_Red_RCTP2	-	25-Mar-20	2.5	-	-	-	-	-	<100	<20	<20	<50	<50	<100	<100	<0.5	-	**0.6**	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5			
RCTP9_0.5	2020_Red_RCTP9	-	25-Mar-20	0.5	-	-	-	-	-	**700**	<20	<20	<50	<50	**700**	<100	**4.5**	-	**0.7**	-	<0.5	<0.5	<0.5	**0.7**	<0.5	-	<0.5	-	<0.5	<0.5	-	-	**1**	<0.5	<0.5	<0.5	<0.5			
RCTP9_2.1	2020_Red_RCTP9	-	25-Mar-20	2.1	-	-	-	-	-	<100	<20	<20	<50	<50	<100	<100	<0.5	-	**0.6**	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5			
RCTP9_3.3	2020_Red_RCTP9	-	25-Mar-20	3.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
RCTP9_4.1	2020_Red_RCTP9	-	25-Mar-20	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
RCTP10_0.5	2020_Red_RCTP10	-	25-Mar-20	0.5	-	-	-	-	-	**360**	<20	<20	<50	<50	**250**	**110**	<1	-	<1	-	<0.5	<0.5	<0.5	<1	<0.5	-	<0.5	-	<0.5	<0.5	-	-	<1	<0.5	<0.5	<0.5	<0.5			
RCTP10_1.0	2020_Red_RCTP10	-	25-Mar-20	1	-	-	-	-	-	**1,214**	<20	<20	**64**	**64**	**760**	**390**	<0.5	-	**0.6**	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5			
RCTP10_1.5	2020_Red_RCTP10	-	25-Mar-20	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
RCTP10_2.0	2020_Red_RCTP10	-	25-Mar-20	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
RCTP12_1.0	2020_Red_RCTP12	-	25-Mar-20	1	-	-	-	-	-	**190**	<20	<20	<50	<50	**190**	<100	**1.2**	-	**0.6**	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5			
RCTP12_2.2	2020_Red_RCTP12	-	25-Mar-20	2.2	-	-	-	-	-	<100	<20	<20	<50	<50	<100	<100	<0.5	-	**0.6**	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5			
RCTP12_4.0	2020_Red_RCTP12	-	25-Mar-20	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
RCTP12_5.5	2020_Red_RCTP12	-	25-Mar-20	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

REDITUS

						Phenolic Compounds	VOCs in soil																															
							Naphthalene	Phenanthrene	Pyrene	Phenolics Total	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichlorobenzene	1,2,3-trichloropropane	1,2,4-trichlorobenzene	1,2,4-trimethylbenzene	1,2-dibromo-3-chloropropane	1,2-dibromoethane	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3,5-trimethylbenzene	1,3-dichlorobenzene	1,3-dichloropropane	1,4-dichlorobenzene	2,2-dichloropropane	2-chlorotoluene	4-chlorotoluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							-	-	-	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.2	1	1	1	1	1	1	1
NEPM 2013 Table 1A(1) HILs Residential B Soil										50,000																														
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil																																								
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*							170																																	
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																																								
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																																								
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																								
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																								
ANZG 2018 DGV Toxicant values for Sediments (Table 1)																																								
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																								
>=0m, <1m							5																																	
>=1m, <2m							NL																																	
>=2m, <4m							NL																																	
>=4m							NL																																	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																								
>=0m, <1m							3																																	
>=1m, <2m							NL																																	
>=2m, <4m							NL																																	
>=4m							NL																																	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																																								
>=0m, <1m							4																																	
>=1m, <2m							NL																																	
>=2m, <4m							NL																																	
>=4m							NL																																	
Field ID	Location Code	Description	Sampled Date	Sample Depth (m)																																				
ADI Limited (1996), Stage 1 Site Investigation Report																																							
P9	1996_ADI_P9	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P9	1996_ADI_P9	-	ADI February 1996	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P10	1996_ADI_P10	-	ADI February 1996	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P12	1996_ADI_P12	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P12	1996_ADI_P12	-	ADI February 1996	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P26	1996_ADI_P26	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P26	1996_ADI_P26	-	ADI February 1996	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P50	1996_ADI_P50	-	ADI February 1996	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P50	1996_ADI_P50	-	ADI February 1996	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P51	1996_ADI_P51	-	ADI February 1996	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P51	1996_ADI_P51	-	ADI February 1996	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P52	1996_ADI_P52	-	ADI February 1996	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P54	1996_ADI_P54	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P54	1996_ADI_P54	-	ADI February 1996	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P54	1996_ADI_P54	-	ADI February 1996	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P53	1996_ADI_P53	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P53	1996_ADI_P53	-	ADI February 1996	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P56	1996_ADI_P56	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P57	1996_ADI_P57	-	ADI February 1996	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P57	1996_ADI_P57	-	ADI February 1996	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P60	1996_ADI_P60	-	ADI February 1996	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P60	1996_ADI_P60	-	ADI February 1996	0.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	1996_ADI_BH5	-	ADI February 1996	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	1996_ADI_BH5	-	ADI February 1996	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	1996_ADI_BH7	-	ADI February 1996	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1996_ADI_BH8	-	ADI February 1996	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1996_ADI_BH8	-	ADI February 1996	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1996_ADI_BH8	-	ADI February 1996	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W2	1996_ADI_W2	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W2	1996_ADI_W2	-	ADI February 1996	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W2	1996_ADI_W2	-	ADI February 1996	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W17	1996_ADI_W17	-	ADI February 1996	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W17	1996_ADI_W17	-	ADI February 1996	1.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W17	1996_ADI_W17	-	ADI February 1996	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W25	1996_ADI_W25	-	ADI February 1996	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S11	1996_ADI_S11	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S11	1996_ADI_S11	-	ADI February 1996	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S36	1996_ADI_S36	-	ADI February 1996	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S36	1996_ADI_S36	-	ADI February 1996	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B18	1996_ADI_B18	-	ADI February 1996	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

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					Phenolic Compounds	VOCs in soil																																	
						Naphthalene	Phenanthrene	Pyrene	Phenolics Total	1,1,1,2-tetrachloroethane	1,1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichlorobenzene	1,2,3-trichloropropane	1,2,4-trichlorobenzene	1,2,4-trimethylbenzene	1,2-dibromo-3-chloropropane	1,2-dibromoethane	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3,5-trimethylbenzene	1,3-dichlorobenzene	1,3-dichloropropane	1,4-dichlorobenzene	2,2-dichloropropane	2-chlorotoluene	4-chlorotoluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane
EQL						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
						-	-	-	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.2	1	1	1	1	1	1	1	1
NEPM 2013 Table 1A(1) HILs Residential B Soil									**50,000**																															
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil																																							
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*						**170**																																	
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																																							
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																																							
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																							
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																							
ANZG 2018 DGV Toxicant values for Sediments (Table 1)																																							
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																							
>=0m, <1m						**5**																																	
>=1m, <2m						**NL**																																	
>=2m, <4m						**NL**																																	
>=4m						**NL**																																	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																							
>=0m, <1m						**3**																																	
>=1m, <2m						**NL**																																	
>=2m, <4m						**NL**																																	
>=4m						**NL**																																	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																																							
>=0m, <1m						**4**																																	
>=1m, <2m						**NL**																																	
>=2m, <4m						**NL**																																	
>=4m						**NL**																																	

Field ID	Location Code	Description	Sampled Date	Sample Depth (m)																																					
Enviorisk (2006), Phase 2 Environmental (Site Contamination) Assessment																																								
BH1	2006_ENVR_BH1	Grid Pattern Samples	Enviorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH1	2006_ENVR_BH1	Grid Pattern Samples	Enviorisk Dec 2005	0.5	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH1	2006_ENVR_BH1	Grid Pattern Samples	Enviorisk Dec 2005	1	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH1	2006_ENVR_BH1	Grid Pattern Samples	Enviorisk Dec 2005	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4	2006_ENVR_BH4	Grid Pattern Samples	Enviorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4	2006_ENVR_BH4	Grid Pattern Samples	Enviorisk Dec 2005	0.5	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4	2006_ENVR_BH4	Grid Pattern Samples	Enviorisk Dec 2005	1	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	2006_ENVR_BH8	Grid Pattern Samples	Enviorisk Dec 2005	0.1	-	**1.3**	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	2006_ENVR_BH8	Grid Pattern Samples	Enviorisk Dec 2005	0.5	**2.4**	**6.5**	**2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	2006_ENVR_BH8	Grid Pattern Samples	Enviorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13	2006_ENVR_BH13	Grid Pattern Samples	Enviorisk Dec 2005	1	**0.8**	**5.9**	**1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13	2006_ENVR_BH13	Grid Pattern Samples	Enviorisk Dec 2005	1.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH13	2006_ENVR_BH13	Grid Pattern Samples	Enviorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14	2006_ENVR_BH14	Grid Pattern Samples	Enviorisk Dec 2005	1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14	2006_ENVR_BH14	Grid Pattern Samples	Enviorisk Dec 2005	1.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH14	2006_ENVR_BH14	Grid Pattern Samples	Enviorisk Dec 2005	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15	2006_ENVR_BH15	Grid Pattern Samples	Enviorisk Dec 2005	0.1	<0.5	**2.8**	**0.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH15	2006_ENVR_BH15	Grid Pattern Samples	Enviorisk Dec 2005	1	<0.5	**1.3**	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH16	2006_ENVR_BH16	Grid Pattern Samples	Enviorisk Dec 2005	4	<0.5	**2.3**	**0.6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18	2006_ENVR_BH18	Judgemental Samples	Enviorisk Dec 2005	1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18	2006_ENVR_BH18	Judgemental Samples	Enviorisk Dec 2005	2	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH18	2006_ENVR_BH18	Judgemental Samples	Enviorisk Dec 2005	3	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH21	2006_ENVR_BH21	Judgemental Samples	Enviorisk Dec 2005	0.5	<0.5	**1.9**	**0.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH21	2006_ENVR_BH21	Judgemental Samples	Enviorisk Dec 2005	1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18A	2006_ENVR_TP18A	Delineation Sampling	Enviorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18A	2006_ENVR_TP18A	Delineation Sampling	Enviorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18A	2006_ENVR_TP18A	Delineation Sampling	Enviorisk Dec 2005	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18B	2006_ENVR_TP18B	Delineation Sampling	Enviorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18B	2006_ENVR_TP18B	Delineation Sampling	Enviorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18B	2006_ENVR_TP18B	Delineation Sampling	Enviorisk Dec 2005	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18C	2006_ENVR_TP18C	Delineation Sampling	Enviorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18C	2006_ENVR_TP18C	Delineation Sampling	Enviorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18C	2006_ENVR_TP18C	Delineation Sampling	Enviorisk Dec 2005	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18D	2006_ENVR_TP18D	Delineation Sampling	Enviorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18D	2006_ENVR_TP18D	Delineation Sampling	Enviorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18D	2006_ENVR_TP18D	Delineation Sampling	Enviorisk Dec 2005	2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18E	2006_ENVR_TP18E	Delineation Sampling	Enviorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18E	2006_ENVR_TP18E	Delineation Sampling	Enviorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18E	2006_ENVR_TP18E	Delineation Sampling	Enviorisk Dec 2005	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18F	2006_ENVR_TP18F	Delineation Sampling	Enviorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18F	2006_ENVR_TP18F	Delineation Sampling	Enviorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18F	2006_ENVR_TP18F	Delineation Sampling	Enviorisk Dec 2005	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

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						Phenolic Compounds	VOCs in soil																																	
							Naphthalene	Phenanthrene	Pyrene	Phenolics Total	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichlorobenzene	1,2,3-trichloropropane	1,2,4-trichlorobenzene	1,2,4-trimethylbenzene	1,2-dibromo-3-chloropropane	1,2-dibromoethane	1,2-dichlorobenzene	1,2-dichloroethane	1,2-dichloropropane	1,3,5-trimethylbenzene	1,3-dichlorobenzene	1,3-dichloropropane	1,4-dichlorobenzene	2,2-dichloropropane	2-chlorotoluene	4-chlorotoluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane
							mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							-	-	-	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.2	1	1	1	1		1	1	1
NEPM 2013 Table 1A(1) HILs Residential B Soil										**50,000**																															
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil																																								
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*							170																																	
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																																								
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																																								
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																								
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ANZG 2018 DGV Toxicant values for Sediments (Table 1)																																								
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>=0m, <1m							**5**																																	
>=1m, <2m							**NL**																																	
>=2m, <4m							**NL**																																	
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NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																								
>=0m, <1m							**3**																																	
>=1m, <2m							**NL**																																	
>=2m, <4m							**NL**																																	
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NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																																								
>=0m, <1m							**4**																																	
>=1m, <2m							**NL**																																	
>=2m, <4m							**NL**																																	
>=4m							**NL**																																	

Field ID	Location Code	Description	Sampled Date	Sample Depth (m)																																						
Environmental Strategies (2014), Phase 2 Detailed Site Investigation																																									
BH40	2014_ES_BH40	Area A	2014	0.2	<0.1	**0.2**	<0.1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH40	2014_ES_BH40	Area A	2014	1	<0.1	<0.1	<0.1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH43	2014_ES_BH43	Area A	2014	0.2	<0.1	<0.1	<0.1	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH43	2014_ES_BH43	Area A	2014	1	<0.1	<0.1	<0.1	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH45	2014_ES_BH45	Area A	2014	0.2	<0.1	**0.4**	<0.1	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH45	2014_ES_BH45	Area A	2014	0.4	<0.1	<0.1	<0.1	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH50	2014_ES_BH50	Area A	2014	0.2	**0.2**	**0.9**	**0.2**	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH51	2014_ES_BH51	Area A	2014	0.4	<0.1	**0.4**	**0.2**	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
ES1	2014_ES_ES1	Area A	2014	0.5	**0.1**	**1.1**	**0.3**	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES2	2014_ES_ES2	Area A	2014	1.5	<0.1	<0.1	<0.1	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES4	2014_ES_ES4	Area A	2014	0.2	**0.1**	**1.2**	**0.5**	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES5	2014_ES_ES5	Area A	2014	0.5	<0.1	<0.1	<0.1	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES6	2014_ES_ES6	Area A	2014	0.5	<0.1	**1.2**	**0.3**	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW2	2014_ES_MW2	Area A	2014	0.5	<0.1	**0.2**	**0.3**	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW2	2014_ES_MW2	Area A	2014	4	<0.1	<0.1	<0.1	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW4	2014_ES_MW4	Area A	2014	0.5	<0.1	**1.3**	**0.5**	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW4	2014_ES_MW4	Area A	2014	1	<0.1	<0.1	<0.1	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW5	2014_ES_MW5	Area A	2014	0.2	<0.1	**0.8**	**1.5**	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07	2014_ES_TP07	Area B	2014	0.2	**0.3**	**2.2**	**1.1**	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP07	2014_ES_TP07	Area B	2014	1.75	<0.1	<0.1	<0.1	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP08	2014_ES_TP08	Area B	2014	0.2	**0.2**	**2.4**	**0.7**	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP08	2014_ES_TP08	Area B	2014	2.35	**0.1**	**1.5**	**0.7**	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33	2014_ES_TP33	Area B	2014	0.2	<0.1	**0.5**	**0.1**	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP33	2014_ES_TP33	Area B	2014	2.3	<0.1	<0.1	<0.1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP34	2014_ES_TP34	Area B	2014	0.2	**0.2**	**1.5**	**1.4**	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP34	2014_ES_TP34	Area B	2014	1.4	<0.1	**0.4**	**0.1**	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP12	2014_ES_TP12	Area C	2014	0.2	<0.1	**1**	**0.4**	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP12	2014_ES_TP12	Area C	2014	0.55	<0.1	<0.1	<0.1	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP14	2014_ES_TP14	Area C	2014	0.2	**0.1**	**1.7**	**0.5**	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP14	2014_ES_TP14	Area C	2014	0.65	<0.1	<0.1	<0.1	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21	2014_ES_TP21	Area C	2014	0.2	<0.1	**0.7**	**0.3**	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP21	2014_ES_TP21	Area C	2014	1	<0.1	<0.1	<0.1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP22	2014_ES_TP22	Area C	2014	0.2	<0.5	<0.5	<0.5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP22	2014_ES_TP22	Area C	2014	0.9	<0.1	<0.1	<0.1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP23	2014_ES_TP23	Area C	2014	0.2	<0.1	**0.3**	<0.1	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP23	2014_ES_TP23	Area C	2014	0.7	<0.1	**0.3**	**0.1**	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP31	2014_ES_TP31	Area C	2014	1.1	**0.1**	**1.4**	**0.5**	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP31	2014_ES_TP31	Area C	2014	1.9	<0.1	<0.1	<0.1	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32	2014_ES_TP32	Area C	2014	1.2	**9.8**	**2.4**	**1.5**	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32	2014_ES_TP32	Area C	2014	1.8	<0.1	<0.1	<0.1	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP38	2014_ES_TP38	Area C	2014	1	**0.1**	**0.8**	**0.2**	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP38	2014_ES_TP38	Area C	2014	3.1	<0.1	<0.1	<0.1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP02	2014_ES_TP02	Area D	2014	0.2	<0.1	<0.1	<0.1	<5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEDSCR	2014_ES_SEDSCR	Area E - Sediment Samples	02-Apr-14	0.2-0.4	<0.1	**0.1**	<0.1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acadis (2017a), Additional Environmental Assessment																																								
TP1	2017_ARC_TP1	-	10-Jan-17	0.5	<0.1	**0.3**	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP34	2017_ARC_TP34	-	12-Jan-17	1	<0.1	**0.6**	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP35	2017_ARC_TP35	-	12-Jan-17	0.5	<0.1	**0.7**	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP35	2017_ARC_TP35	-	12-Jan-17	1	<1 - 0.1	**0.5**	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP9	2017_ARC_TP9	-	10-Jan-17	1	<1 - 0.2	**1.7**	**0.3**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10	2017_ARC_TP10	-	10-Jan-17	0.5	<1 - 0.2	**1.9**	**0.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10	2017_ARC_TP10	-	10-Jan-17	1	<1 - 0.2	**1.5**	**0.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11	2017_ARC_TP11	-	10-Jan-17	0.5	<0.1	**0.1**	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2	2017_ARC_TP2	-	10-Jan-17	1	<0.1	**0.2**	**0.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP17	2017_ARC_TP17	-	11-Jan-17	0.5	<1 - 0.1	**1.5**	**0.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21	2017_ARC_TP21	-	11-Jan-17	1	<1 - 0.1	**2.2**	**0.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3	2017_ARC_TP3	-	10-Jan-17	0.5	<0.1	**0.5**	**0.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

REDITUS

| | | | | | | | | Phenolic Compounds | VOCs in soil | | | | | | | |

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

REDITUS

																											Organochlorine Pesticides													
			Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Cyclohexane	Dibromomethane	Dichlorodifluoromethane	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	Trichloroethene	tert-butylbenzene	Tetrachloroethene	Toluene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichlorofluoromethane	Vinyl chloride	Xylene (m & p)	Xylene (o)	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	2	1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Residential B Soil																															**10**			**100**						**600**			**460**		**20**	
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil																																												
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*																																						**180**						
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																																												
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																																												
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																												
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																												
ANZG 2018 DGV Toxicant values for Sediments (Table 1)																												**0.001**					**0.0045**			**0.0035**	**0.001**		**0.0028**					
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																												
>=0m, <1m																																												
>=1m, <2m																																												
>=2m, <4m																																												
>=4m																																												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																												
>=0m, <1m																																												
>=1m, <2m																																												
>=2m, <4m																																												
>=4m																																												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																																												
>=0m, <1m																																												
>=1m, <2m																																												
>=2m, <4m																																												
>=4m																																												
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**																																								
ADI Limited (1996), Stage 1 Site Investigation Report																																												
P9	1996_ADI_P9	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P9	1996_ADI_P9	-	ADI February 1996	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P10	1996_ADI_P10	-	ADI February 1996	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P12	1996_ADI_P12	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P12	1996_ADI_P12	-	ADI February 1996	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P26	1996_ADI_P26	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P26	1996_ADI_P26	-	ADI February 1996	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P50	1996_ADI_P50	-	ADI February 1996	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P50	1996_ADI_P50	-	ADI February 1996	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P51	1996_ADI_P51	-	ADI February 1996	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P51	1996_ADI_P51	-	ADI February 1996	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P52	1996_ADI_P52	-	ADI February 1996	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P54	1996_ADI_P54	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P54	1996_ADI_P54	-	ADI February 1996	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P54	1996_ADI_P54	-	ADI February 1996	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P53	1996_ADI_P53	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P53	1996_ADI_P53	-	ADI February 1996	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P56	1996_ADI_P56	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P57	1996_ADI_P57	-	ADI February 1996	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P57	1996_ADI_P57	-	ADI February 1996	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P60	1996_ADI_P60	-	ADI February 1996	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P60	1996_ADI_P60	-	ADI February 1996	0.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	1996_ADI_BH5	-	ADI February 1996	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	1996_ADI_BH5	-	ADI February 1996	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	1996_ADI_BH7	-	ADI February 1996	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1996_ADI_BH8	-	ADI February 1996	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1996_ADI_BH8	-	ADI February 1996	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH8	1996_ADI_BH8	-	ADI February 1996	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W2	1996_ADI_W2	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W2	1996_ADI_W2	-	ADI February 1996	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W2	1996_ADI_W2	-	ADI February 1996	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W17	1996_ADI_W17	-	ADI February 1996	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W17	1996_ADI_W17	-	ADI February 1996	1.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W17	1996_ADI_W17	-	ADI February 1996	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W25	1996_ADI_W25	-	ADI February 1996	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S11	1996_ADI_S11	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S11	1996_ADI_S11	-	ADI February 1996	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S36	1996_ADI_S36	-	ADI February 1996	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S36	1996_ADI_S36	-	ADI February 1996	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B18	1996_ADI_B18	-	ADI February 1996	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

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																											Organochlorine Pesticides													
			Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Cyclohexane	Dibromomethane	Dichlorodifluoromethane	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	Trichloroethene	tert-butylbenzene	Tetrachloroethene	Toluene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichlorofluoromethane	Vinyl chloride	Xylene (m & p)	Xylene (o)	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	2	1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Residential B Soil																																**10**			**100**						**600**			**460**		**20**	
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil																																													
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*																																						**180**						
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																																												
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																																												
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																												
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																												
ANZG 2018 DGV Toxicant values for Sediments (Table 1)																													**0.001**					**0.0045**			**0.0035**	**0.001**		**0.0028**					
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																												
>=0m, <1m																																												
>=1m, <2m																																												
>=2m, <4m																																												
>=4m																																												
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																												
>=0m, <1m																																												
>=1m, <2m																																												
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>=2m, <4m																																												
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| Field ID | Location Code | Description | Sampled Date | Sample Depth (m) | | | | | | | | | | | | | | | | | | |

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

REDITUS

																											Organochlorine Pesticides													
				Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Cyclohexane	Dibromomethane	Dichlorodifluoromethane	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	Trichloroethene	tert-butylbenzene	Tetrachloroethene	Toluene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichlorofluoromethane	Vinyl chloride	Xylene (m & p)	Xylene (o)	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	2	1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Residential B Soil																																**10**			**100**						**600**			**460**		**20**	
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil																																														
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*																																								**180**						
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																																													
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ANZG 2018 DGV Toxicant values for Sediments (Table 1)																													**0.001**					**0.0045**			**0.0035**	**0.001**		**0.0028**					
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																													
>=0m, <1m																																													
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NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																													
>=0m, <1m																																													
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>=1m, <2m																																													
>=2m, <4m																																													
>=4m																																													
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**																																								
Environmental Strategies (2014), Phase 2 Detailed Site Investigation																																													
BH40	2014_ES_BH40	Area A	2014	0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH40	2014_ES_BH40	Area A	2014	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH43	2014_ES_BH43	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH43	2014_ES_BH43	Area A	2014	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH45	2014_ES_BH45	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH45	2014_ES_BH45	Area A	2014	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH50	2014_ES_BH50	Area A	2014	0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH51	2014_ES_BH51	Area A	2014	0.4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES1	2014_ES_ES1	Area A	2014	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES2	2014_ES_ES2	Area A	2014	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES4	2014_ES_ES4	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES5	2014_ES_ES5	Area A	2014	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES6	2014_ES_ES6	Area A	2014	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW2	2014_ES_MW2	Area A	2014	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW2	2014_ES_MW2	Area A	2014	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW4	2014_ES_MW4	Area A	2014	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW4	2014_ES_MW4	Area A	2014	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW5	2014_ES_MW5	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07	2014_ES_TP07	Area B	2014	0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP07	2014_ES_TP07	Area B	2014	1.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP08	2014_ES_TP08	Area B	2014	0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP08	2014_ES_TP08	Area B	2014	2.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33	2014_ES_TP33	Area B	2014	0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33	2014_ES_TP33	Area B	2014	2.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP34	2014_ES_TP34	Area B	2014	0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP34	2014_ES_TP34	Area B	2014	1.4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP12	2014_ES_TP12	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP12	2014_ES_TP12	Area C	2014	0.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP14	2014_ES_TP14	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP14	2014_ES_TP14	Area C	2014	0.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21	2014_ES_TP21	Area C	2014	0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21	2014_ES_TP21	Area C	2014	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP22	2014_ES_TP22	Area C	2014	0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP22	2014_ES_TP22	Area C	2014	0.9	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP23	2014_ES_TP23	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP23	2014_ES_TP23	Area C	2014	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP31	2014_ES_TP31	Area C	2014	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP31	2014_ES_TP31	Area C	2014	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32	2014_ES_TP32	Area C	2014	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32	2014_ES_TP32	Area C	2014	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP38	2014_ES_TP38	Area C	2014	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP38	2014_ES_TP38	Area C	2014	3.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02	2014_ES_TP02	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEDSCR	2014_ES_SEDSCR	Area E - Sediment Samples	02-Apr-14	0.2-0.4	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<2	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acadis (2017a), Additional Environmental Assessment																																													
TP1	2017_ARC_TP1	-	10-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP34	2017_ARC_TP34	-	12-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP35	2017_ARC_TP35	-	12-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP35	2017_ARC_TP35	-	12-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP9	2017_ARC_TP9	-	10-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10	2017_ARC_TP10	-	10-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10	2017_ARC_TP10	-	10-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11	2017_ARC_TP11	-	10-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP2	2017_ARC_TP2	-	10-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP17	2017_ARC_TP17	-	11-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP21	2017_ARC_TP21	-	11-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP3	2017_ARC_TP3	-	10-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

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																											Organochlorine Pesticides														
			Chloroethane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Cyclohexane	Dibromomethane	Dichlorodifluoromethane	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	Trichloroethene	tert-butylbenzene	Tetrachloroethene	Toluene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichlorofluoromethane	Vinyl chloride	Xylene (m & p)	Xylene (o)	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.5	1	1	1	1	2	1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Residential B Soil																																10			100					600			460			20	
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil																																														
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*																																						180							
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																																													
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																																													
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																													
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																													
ANZG 2018 DGV Toxicant values for Sediments (Table 1)																													0.001					0.0045			0.0035	0.001		0.0028					
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																																													
>=0m, <1m																																													
>=1m, <2m																																													
>=2m, <4m																																													
>=4m																																													
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																																													
>=0m, <1m																																													
>=1m, <2m																																													
>=2m, <4m																																													
>=4m																																													
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																																													
>=0m, <1m																																													
>=1m, <2m																																													
>=2m, <4m																																													
>=4m																																													

Field ID	Location Code	Description	Sampled Date	Sample Depth (m)																																											
Arcadis (2018), Additional Environmental Assessment - Production Area																																														
ABH1	2018_ARC_ABH1	-	27-Nov-17	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH1	2018_ARC_ABH1	-	27-Nov-17	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH2	2018_ARC_ABH2	-	27-Nov-17	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH2	2018_ARC_ABH2	-	28-Nov-17	0.8	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH2	2018_ARC_ABH2	-	28-Nov-17	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH4	2018_ARC_ABH4	-	28-Nov-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH4	2018_ARC_ABH4	-	28-Nov-17	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH4	2018_ARC_ABH4	-	28-Nov-17	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12	2018_ARC_MW12	-	27-Nov-17	0.3	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12	2018_ARC_MW12	-	27-Nov-17	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12	2018_ARC_MW12	-	27-Nov-17	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW12	2018_ARC_MW12	-	27-Nov-17	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW14	2018_ARC_MW14	-	27-Nov-17	0.5	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW14	2018_ARC_MW14	-	27-Nov-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW14	2018_ARC_MW14	-	27-Nov-17	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arcadis (2018), Flue, Stack and Powerhouse Assessment																																														
PH1	2018_ARC_PH1	PH1	19-Feb-18	0.3	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PH1	2018_ARC_PH1	PH1	19-Feb-18	2	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PH2	2018_ARC_PH2	PH2	18-Feb-18	0.1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PH2	2018_ARC_PH2	PH2	18-Feb-18	0.2	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PH2-ASB ID	2018_ARC_PH2-ASB ID	PH2	18-Feb-18	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PH2	2018_ARC_PH2	PH2	18-Feb-18	0.5	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PH2	2018_ARC_PH2	PH2	18-Feb-18	2.1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS3	2018_ARC_SS3	SS3	19-Feb-18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS2	2018_ARC_SS2	SS2	19-Feb-18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS3	2018_ARC_SS3	SS3	19-Feb-18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS4	2018_ARC_SS4	SS4	19-Feb-18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reditus 2020 Data Gap Investigation																																														
RCTP2_1.0	2020_Red_RCTP2	-	25-Mar-20	1	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	<0.5	-	-	-	-	<0.5	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
RCTP2_2.5	2020_Red_RCTP2	-	25-Mar-20	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP9_0.5	2020_Red_RCTP9	-	25-Mar-20	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
RCTP9_2.1	2020_Red_RCTP9	-	25-Mar-20	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
RCTP9_3.3	2020_Red_RCTP9	-	25-Mar-20	3.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP9_4.1	2020_Red_RCTP9	-	25-Mar-20	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP10_0.5	2020_Red_RCTP10	-	25-Mar-20	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
RCTP10_1.0	2020_Red_RCTP10	-	25-Mar-20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
RCTP10_1.5	2020_Red_RCTP10	-	25-Mar-20	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP10_2.0	2020_Red_RCTP10	-	25-Mar-20	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP12_1.0	2020_Red_RCTP12	-	25-Mar-20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP12_2.2	2020_Red_RCTP12	-	25-Mar-20	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP12_4.0	2020_Red_RCTP12	-	25-Mar-20	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP12_5.5	2020_Red_RCTP12	-	25-Mar-20	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

REDITUS

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Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

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Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

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						Polychlorinated Biphenyls								Halogenated Benzenes
						Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Sum of total)	Hexachlorobenzene
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Residential B Soil													**1**	**15**
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil														
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*														
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m														
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m														
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil														
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil														
ANZG 2018 DGV Toxicant values for Sediments (Table 1)													**0.034**	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay														
>=0m, <1m														
>=1m, <2m														
>=2m, <4m														
>=4m														
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand														
>=0m, <1m														
>=1m, <2m														
>=2m, <4m														
>=4m														
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt														
>=0m, <1m														
>=1m, <2m														
>=2m, <4m														
>=4m														
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**										
ADI Limited (1996), Stage 1 Site Investigation Report														
P9	1996_ADI_P9	-	ADI February 1996	0.2		-	-	-	-	-	-	-	-	-
P9	1996_ADI_P9	-	ADI February 1996	1.2		-	-	-	-	-	-	-	-	-
P10	1996_ADI_P10	-	ADI February 1996	0.3		-	-	-	-	-	-	-	-	-
P12	1996_ADI_P12	-	ADI February 1996	0.2		-	-	-	-	-	-	-	-	-
P12	1996_ADI_P12	-	ADI February 1996	0.8		-	-	-	-	-	-	-	-	-
P26	1996_ADI_P26	-	ADI February 1996	0.2		-	-	-	-	-	-	-	-	-
P26	1996_ADI_P26	-	ADI February 1996	0.55		-	-	-	-	-	-	-	-	-
P50	1996_ADI_P50	-	ADI February 1996	0.5		-	-	-	-	-	-	-	-	-
P50	1996_ADI_P50	-	ADI February 1996	2.3		-	-	-	-	-	-	-	-	-
P51	1996_ADI_P51	-	ADI February 1996	2.4		-	-	-	-	-	-	-	-	-
P51	1996_ADI_P51	-	ADI February 1996	3.6		-	-	-	-	-	-	-	-	-
P52	1996_ADI_P52	-	ADI February 1996	0.1		-	-	-	-	-	-	-	-	-
P54	1996_ADI_P54	-	ADI February 1996	0.2		-	-	-	-	-	-	-	-	-
P54	1996_ADI_P54	-	ADI February 1996	0.9		-	-	-	-	-	-	-	-	-
P54	1996_ADI_P54	-	ADI February 1996	1.7		-	-	-	-	-	-	-	-	-
P53	1996_ADI_P53	-	ADI February 1996	0.2		-	-	-	-	-	-	-	-	-
P53	1996_ADI_P53	-	ADI February 1996	1.4		-	-	-	-	-	-	-	-	-
P56	1996_ADI_P56	-	ADI February 1996	0.2		-	-	-	-	-	-	-	-	-
P57	1996_ADI_P57	-	ADI February 1996	0.3		-	-	-	-	-	-	-	-	-
P57	1996_ADI_P57	-	ADI February 1996	0.55		-	-	-	-	-	-	-	-	-
P60	1996_ADI_P60	-	ADI February 1996	0.6		-	-	-	-	-	-	-	-	-
P60	1996_ADI_P60	-	ADI February 1996	0.85		-	-	-	-	-	-	-	-	-
BH5	1996_ADI_BH5	-	ADI February 1996	0.5		-	-	-	-	-	-	-	-	-
BH5	1996_ADI_BH5	-	ADI February 1996	2		-	-	-	-	-	-	-	-	-
BH7	1996_ADI_BH7	-	ADI February 1996	5.5		-	-	-	-	-	-	-	-	-
BH8	1996_ADI_BH8	-	ADI February 1996	0.5		-	-	-	-	-	-	-	-	-
BH8	1996_ADI_BH8	-	ADI February 1996	1.3		-	-	-	-	-	-	-	-	-
BH8	1996_ADI_BH8	-	ADI February 1996	4		-	-	-	-	-	-	-	-	-
W2	1996_ADI_W2	-	ADI February 1996	0.2		-	-	-	-	-	-	-	-	-
W2	1996_ADI_W2	-	ADI February 1996	1.2		-	-	-	-	-	-	-	-	-
W2	1996_ADI_W2	-	ADI February 1996	2		-	-	-	-	-	-	-	-	-
W17	1996_ADI_W17	-	ADI February 1996	1.1		-	-	-	-	-	-	-	-	-
W17	1996_ADI_W17	-	ADI February 1996	1.45		-	-	-	-	-	-	-	-	-
W17	1996_ADI_W17	-	ADI February 1996	2.1		-	-	-	-	-	-	-	-	-
W25	1996_ADI_W25	-	ADI February 1996	1.3		-	-	-	-	-	-	-	-	-
S11	1996_ADI_S11	-	ADI February 1996	0.2		-	-	-	-	-	-	-	-	-
S11	1996_ADI_S11	-	ADI February 1996	1.5		-	-	-	-	-	-	-	-	-
S36	1996_ADI_S36	-	ADI February 1996	0.6		-	-	-	-	-	-	-	-	-
S36	1996_ADI_S36	-	ADI February 1996	1.7		-	-	-	-	-	-	-	-	-
B18	1996_ADI_B18	-	ADI February 1996	1.5		-	-	-	-	-	-	-	-	-

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

REDITUS

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Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

REDITUS

					Polychlorinated Biphenyls								Halogenated Benzenes
					Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Sum of total)	Hexachlorobenzene
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Residential B Soil												**1**	**15**
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil													
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*													
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m													
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m													
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil													
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil													
ANZG 2018 DGV Toxicant values for Sediments (Table 1)												**0.034**	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay													
>=0m, <1m													
>=1m, <2m													
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>=4m													
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand													
>=0m, <1m													
>=1m, <2m													
>=2m, <4m													
>=4m													
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt													
>=0m, <1m													
>=1m, <2m													
>=2m, <4m													
>=4m													
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**									
Environmental Strategies (2014), Phase 2 Detailed Site Investigation													
BH40	2014_ES_BH40	Area A	2014	0.2	-	-	-	-	-	-	-	-	-
BH40	2014_ES_BH40	Area A	2014	1	-	-	-	-	-	-	-	-	-
BH43	2014_ES_BH43	Area A	2014	0.2	-	-	-	-	-	-	-	-	-
BH43	2014_ES_BH43	Area A	2014	1	-	-	-	-	-	-	-	-	-
BH45	2014_ES_BH45	Area A	2014	0.2	-	-	-	-	-	-	-	-	-
BH45	2014_ES_BH45	Area A	2014	0.4	-	-	-	-	-	-	-	-	-
BH50	2014_ES_BH50	Area A	2014	0.2	-	-	-	-	-	-	-	-	-
BH51	2014_ES_BH51	Area A	2014	0.4	-	-	-	-	-	-	-	-	-
ES1	2014_ES_ES1	Area A	2014	0.5	-	-	-	-	-	-	-	-	-
ES2	2014_ES_ES2	Area A	2014	1.5	-	-	-	-	-	-	-	-	-
ES4	2014_ES_ES4	Area A	2014	0.2	-	-	-	-	-	-	-	-	-
ES5	2014_ES_ES5	Area A	2014	0.5	-	-	-	-	-	-	-	-	-
ES6	2014_ES_ES6	Area A	2014	0.5	-	-	-	-	-	-	-	-	-
MW2	2014_ES_MW2	Area A	2014	0.5	-	-	-	-	-	-	-	-	-
MW2	2014_ES_MW2	Area A	2014	4	-	-	-	-	-	-	-	-	-
MW4	2014_ES_MW4	Area A	2014	0.5	-	-	-	-	-	-	-	-	-
MW4	2014_ES_MW4	Area A	2014	1	-	-	-	-	-	-	-	-	-
MW5	2014_ES_MW5	Area A	2014	0.2	-	-	-	-	-	-	-	-	-
TP07	2014_ES_TP07	Area B	2014	0.2	-	-	-	-	-	-	-	-	-
TP07	2014_ES_TP07	Area B	2014	1.75	-	-	-	-	-	-	-	-	-
TP08	2014_ES_TP08	Area B	2014	0.2	-	-	-	-	-	-	-	-	-
TP08	2014_ES_TP08	Area B	2014	2.35	-	-	-	-	-	-	-	-	-
TP33	2014_ES_TP33	Area B	2014	0.2	-	-	-	-	-	-	-	-	-
TP33	2014_ES_TP33	Area B	2014	2.3	-	-	-	-	-	-	-	-	-
TP34	2014_ES_TP34	Area B	2014	0.2	-	-	-	-	-	-	-	-	-
TP34	2014_ES_TP34	Area B	2014	1.4	-	-	-	-	-	-	-	-	-
TP12	2014_ES_TP12	Area C	2014	0.2	-	-	-	-	-	-	-	-	-
TP12	2014_ES_TP12	Area C	2014	0.55	-	-	-	-	-	-	-	-	-
TP14	2014_ES_TP14	Area C	2014	0.2	-	-	-	-	-	-	-	-	-
TP14	2014_ES_TP14	Area C	2014	0.65	-	-	-	-	-	-	-	-	-
TP21	2014_ES_TP21	Area C	2014	0.2	-	-	-	-	-	-	-	-	-
TP21	2014_ES_TP21	Area C	2014	1	-	-	-	-	-	-	-	-	-
TP22	2014_ES_TP22	Area C	2014	0.2	-	-	-	-	-	-	-	-	-
TP22	2014_ES_TP22	Area C	2014	0.9	-	-	-	-	-	-	-	-	-
TP23	2014_ES_TP23	Area C	2014	0.2	-	-	-	-	-	-	-	-	-
TP23	2014_ES_TP23	Area C	2014	0.7	-	-	-	-	-	-	-	-	-
TP31	2014_ES_TP31	Area C	2014	1.1	-	-	-	-	-	-	-	-	-
TP31	2014_ES_TP31	Area C	2014	1.9	-	-	-	-	-	-	-	-	-
TP32	2014_ES_TP32	Area C	2014	1.2	-	-	-	-	-	-	-	-	-
TP32	2014_ES_TP32	Area C	2014	1.8	-	-	-	-	-	-	-	-	-
TP38	2014_ES_TP38	Area C	2014	1	-	-	-	-	-	-	-	-	-
TP38	2014_ES_TP38	Area C	2014	3.1	-	-	-	-	-	-	-	-	-
TP02	2014_ES_TP02	Area D	2014	0.2	-	-	-	-	-	-	-	-	-
SED5CR	2014_ES_SED5CR	Area E - Sediment Samples	02-Apr-14	0.2-0.4	-	-	-	-	-	-	-	-	-
Acadis (2017a), Additional Environmental Assessment													
TP1	2017_ARC_TP1	-	10-Jan-17	0.5	-	-	-	-	-	-	-	-	-
TP34	2017_ARC_TP34	-	12-Jan-17	1	-	-	-	-	-	-	-	-	-
TP35	2017_ARC_TP35	-	12-Jan-17	0.5	-	-	-	-	-	-	-	-	-
TP35	2017_ARC_TP35	-	12-Jan-17	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP9	2017_ARC_TP9	-	10-Jan-17	1	-	-	-	-	-	-	-	-	-
TP10	2017_ARC_TP10	-	10-Jan-17	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP10	2017_ARC_TP10	-	10-Jan-17	1	-	-	-	-	-	-	-	-	-
TP11	2017_ARC_TP11	-	10-Jan-17	0.5	-	-	-	-	-	-	-	-	-
TP2	2017_ARC_TP2	-	10-Jan-17	1	-	-	-	-	-	-	-	-	-
TP17	2017_ARC_TP17	-	11-Jan-17	0.5	-	-	-	-	-	-	-	-	-
TP21	2017_ARC_TP21	-	11-Jan-17	1	-	-	-	-	-	-	-	-	-
TP3	2017_ARC_TP3	-	10-Jan-17	0.5	-	-	-	-	-	-	-	-	-

Table 2 - Historical Soil Results, Medium-High Density Residential Land Use Sample Locations

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ANZG 2018 DGV Toxicant values for Sediments (Table 1)												**0.034**	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay													
>=0m, <1m													
>=1m, <2m													
>=2m, <4m													
>=4m													
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand													
>=0m, <1m													
>=1m, <2m													
>=2m, <4m													
>=4m													
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt													
>=0m, <1m													
>=1m, <2m													
>=2m, <4m													
>=4m													
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**									
Arcadis (2018), Additional Environmental Assessment - Production Area													
ABH1	2018_ARC_ABH1	-	27-Nov-17	0.25	-	-	-	-	-	-	-	-	-
ABH1	2018_ARC_ABH1	-	27-Nov-17	1.2	-	-	-	-	-	-	-	-	-
ABH2	2018_ARC_ABH2	-	27-Nov-17	0.3	-	-	-	-	-	-	-	-	-
ABH2	2018_ARC_ABH2	-	28-Nov-17	0.8	-	-	-	-	-	-	-	-	-
ABH2	2018_ARC_ABH2	-	28-Nov-17	2	-	-	-	-	-	-	-	-	-
ABH4	2018_ARC_ABH4	-	28-Nov-17	0.5	-	-	-	-	-	-	-	-	-
ABH4	2018_ARC_ABH4	-	28-Nov-17	1.5	-	-	-	-	-	-	-	-	-
ABH4	2018_ARC_ABH4	-	28-Nov-17	3	-	-	-	-	-	-	-	-	-
MW12	2018_ARC_MW12	-	27-Nov-17	0.3	-	-	-	-	-	-	-	-	-
MW12	2018_ARC_MW12	-	27-Nov-17	0.6	-	-	-	-	-	-	-	-	-
MW12	2018_ARC_MW12	-	27-Nov-17	3.6	-	-	-	-	-	-	-	-	-
MW12	2018_ARC_MW12	-	27-Nov-17	6	-	-	-	-	-	-	-	-	-
MW14	2018_ARC_MW14	-	27-Nov-17	0.5	-	-	-	-	-	-	-	-	-
MW14	2018_ARC_MW14	-	27-Nov-17	1	-	-	-	-	-	-	-	-	-
MW14	2018_ARC_MW14	-	27-Nov-17	3	-	-	-	-	-	-	-	-	-
Arcadis (2018), Flue, Stack and Powerhouse Assessment													
PH1	2018_ARC_PH1	PH1	19-Feb-18	0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
PH1	2018_ARC_PH1	PH1	19-Feb-18	2	<1	<1	<1	<1	<1	<1	<1	<1	-
PH2	2018_ARC_PH2	PH2	18-Feb-18	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
PH2	2018_ARC_PH2	PH2	18-Feb-18	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
PH2-ASB ID	2018_ARC_PH2-ASB ID	PH2	18-Feb-18	0.3	-	-	-	-	-	-	-	-	-
PH2	2018_ARC_PH2	PH2	18-Feb-18	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
PH2	2018_ARC_PH2	PH2	18-Feb-18	2.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
SS3	2018_ARC_SS3	SS3	19-Feb-18	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
SS2	2018_ARC_SS2	SS2	19-Feb-18	-	-	-	-	-	-	-	-	-	-
SS3	2018_ARC_SS3	SS3	19-Feb-18	-	-	-	-	-	-	-	-	-	-
SS4	2018_ARC_SS4	SS4	19-Feb-18	-	-	-	-	-	-	-	-	-	-
Reditus 2020 Data Gap Investigation													
RCTP2_1.0	2020_Red_RCTP2	-	25-Mar-20	1	-	-	-	-	-	-	-	-	<0.5
RCTP2_2.5	2020_Red_RCTP2	-	25-Mar-20	2.5	-	-	-	-	-	-	-	-	-
RCTP9_0.5	2020_Red_RCTP9	-	25-Mar-20	0.5	-	-	-	-	-	-	-	-	<0.5
RCTP9_2.1	2020_Red_RCTP9	-	25-Mar-20	2.1	-	-	-	-	-	-	-	-	<0.5
RCTP9_3.3	2020_Red_RCTP9	-	25-Mar-20	3.3	-	-	-	-	-	-	-	-	-
RCTP9_4.1	2020_Red_RCTP9	-	25-Mar-20	4.1	-	-	-	-	-	-	-	-	-
RCTP10_0.5	2020_Red_RCTP10	-	25-Mar-20	0.5	-	-	-	-	-	-	-	-	<0.5
RCTP10_1.0	2020_Red_RCTP10	-	25-Mar-20	1	-	-	-	-	-	-	-	-	<0.5
RCTP10_1.5	2020_Red_RCTP10	-	25-Mar-20	1.5	-	-	-	-	-	-	-	-	-
RCTP10_2.0	2020_Red_RCTP10	-	25-Mar-20	2	-	-	-	-	-	-	-	-	-
RCTP12_1.0	2020_Red_RCTP12	-	25-Mar-20	1	-	-	-	-	-	-	-	-	-
RCTP12_2.2	2020_Red_RCTP12	-	25-Mar-20	2.2	-	-	-	-	-	-	-	-	-
RCTP12_4.0	2020_Red_RCTP12	-	25-Mar-20	4	-	-	-	-	-	-	-	-	-
RCTP12_5.5	2020_Red_RCTP12	-	25-Mar-20	5.5	-	-	-	-	-	-	-	-	-

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

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Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

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Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

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Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

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Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

					Asbestos		Metals																				BTEX							Historical compound grouping			
					Asbestos ID in Soil	Asbestos Trace Analysis	Arsenic	Antimony	Beryllium	Cadmium	Chromium (III+VI)	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Phosphorus	Selenium	Silver	Vanadium	Cyanide	Fluoride	Sulfate	Tin	Zinc	Benzene	Toluene	Ethylbenzene	meta & para Xylene	ortho Xylene	Xylene Total	Naphthalene	Total PAH	Total OCP	Total PCB	Total VHC
					Comment	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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					Detect	Detect	-	-	1	-	-	2	-	-	0.1	2	-	10	5	2	5	-	-	2	-	-	-	-	-	-	-	-	1	-	-	-	-
NEPM 2013 Table 1A(1) HILs Recreational C Soil							300#2			90	300**		17,000	600#3	80#4		1,200									30,000								300		1	
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential C Soil					ND	ND																															
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*							104				408		210	1,116			175									400							170				
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																											50	85	70			105					
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																											65	105	125			45					
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																					
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																					
ANZG 2018 DGV Toxicant values for Sediments (Table 1)							20			1.5	80		65	50	0.15		21									200								10			
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay																																					
>=0m, <1m																											NL	NL	NL			NL	NL				
>=1m, <2m																											NL	NL	NL			NL	NL				
>=2m, <4m																											NL	NL	NL			NL	NL				
>=4m																											NL	NL	NL			NL	NL				
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand																																					
>=0m, <1m																											NL	NL	NL			NL	NL				
>=1m, <2m																											NL	NL	NL			NL	NL				
>=2m, <4m																											NL	NL	NL			NL	NL				
>=4m																											NL	NL	NL			NL	NL				
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt																																					
>=0m, <1m																											NL	NL	NL			NL	NL				
>=1m, <2m																											NL	NL	NL			NL	NL				
>=2m, <4m																											NL	NL	NL			NL	NL				
>=4m																											NL	NL	NL			NL	NL				

Field ID	Location Code	Description	Sampled Date	Sample Depth (m)																																		
Reditus 2020 Data Gap Investigation																																					
RCBH1	2020_Red_RCBH1	-	18-Mar-20	1	-	-	<4	-	-	<0.4	<1	-	9	3	<0.1	-	2	-	<2	-	-	-	-	-	-	8	<0.2	<0.5	<1	-	-	<3	-	-	-	-	-
RCBH1_3.0M	2020_Red_RCBH1	-	18-Mar-20	3	-	-	12	-	-	<0.4	23	-	13	16	<0.1	-	<5	-	<2	-	-	-	-	-	-	<5	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCBH1_5.0M	2020_Red_RCBH1	-	18-Mar-20	5	-	-	7.3	-	-	<0.4	20	-	22	13	<0.1	-	<5	-	3.1	-	-	-	-	-	-	5.9	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCBH2_1.0M	2020_Red_RCBH2	-	18-Mar-20	1	ND	-	6.2	-	-	<0.4	9.7	-	30	18	<0.1	-	10	-	<2	-	-	-	-	-	-	32	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCBH2_2.5M	2020_Red_RCBH2	-	18-Mar-20	2.5	-	-	12	-	-	<0.4	13	-	20	14	<0.1	-	17	-	<2	-	-	-	-	-	-	43	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCBH2_4.0M	2020_Red_RCBH2	-	18-Mar-20	4	-	-	21	-	-	<0.4	26	-	33	21	0.1	-	9.6	-	<2	-	-	-	-	-	-	35	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCBH2_5.0M	2020_Red_RCBH2	-	18-Mar-20	5	-	-	7.0	-	-	<0.4	23	-	33	16	<0.1	-	<5	-	3.7	-	-	-	-	-	-	12	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCMW2_0.5M	2020_Red_RCMW2	-	18-Mar-20	0.5	ND	-	18	-	-	0.8	27	-	16	21	<0.1	-	<5	-	<2	-	-	-	-	-	-	970	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCMW2_1.0M	2020_Red_RCMW2	-	18-Mar-20	1	-	-	34	-	-	0.7	31	-	51	25	<0.1	-	<5	-	2.3	-	-	-	-	-	-	590	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCMW2_3.5M	2020_Red_RCMW2	-	18-Mar-20	3.5	-	-	7.2	-	-	<0.4	15	-	64	7.2	<0.1	-	<5	-	<2	-	-	-	-	-	-	11	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCMW2_5.5M	2020_Red_RCMW2	-	18-Mar-20	5.5	-	-	17	-	-	<0.4	30	-	52	17	<0.1	-	<5	-	<2	-	-	-	-	-	-	41	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCMW3_1.5M	2020_Red_RCMW3	-	18-Mar-20	1.5	ND	-	3.1	-	-	0.4	31	-	33	10	<0.1	-	<5	-	<2	-	-	-	-	-	-	160	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCMW3_2.5M	2020_Red_RCMW3	-	18-Mar-20	2.5	-	-	13	-	-	<0.4	34	-	41	14	<0.1	-	7.2	-	3.5	-	-	-	-	-	-	100	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCMW3_4.5M	2020_Red_RCMW3	-	18-Mar-20	4.5	-	-	31	-	-	<0.4	19	-	90	14	<0.1	-	15	-	4.5	-	-	-	-	-	-	63	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCMW3_6.5M	2020_Red_RCMW3	-	18-Mar-20	6.5	-	-	8.4	-	-	<0.4	13	-	93	20	<0.1	-	5.9	-	7.3	-	-	-	-	-	-	29	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCMW3_7.5M	2020_Red_RCMW3	-	18-Mar-20	7.5	-	-	5.3	-	-	<0.4	10	-	120	14	<0.1	-	5.2	-	7.6	-	-	-	-	-	-	26	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCTP1_4.0	2020_Red_RCTP1	-	25-Mar-20	4	-	-	<2	-	-	<0.4	<5	-	8.3	<5	<0.1	-	<5	-	<2	-	-	-	-	-	-	6.8	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCTP3_1.0	2020_Red_RCTP3	-	25-Mar-20	1	-	-	<2	-	-	<0.4	<5	-	38	8.1	<0.1	-	6.8	-	<2	-	-	-	-	-	-	170	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCTP3_2.0	2020_Red_RCTP3	-	25-Mar-20	2	-	-	7.7	-	-	<0.4	17	-	32	30	0.3	-	12	-	<2	-	-	-	-	-	-	110	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCTP4_0.3	2020_Red_RCTP4	-	25-Mar-20	0.3	-	-	4.1	-	-	<0.4	12	-	16	18	<0.1	-	11	-	<2	-	-	-	-	-	-	39	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCTP4_1.0	2020_Red_RCTP4	-	25-Mar-20	1	-	-	6.7	-	-	<0.4	37	-	24	19	<0.1	-	10	-	<2	-	-	-	-	-	-	25	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCTP4_3.0	2020_Red_RCTP4	-	25-Mar-20	3	-	-	3.3	-	-	<0.4	23	-	19	13	<0.1	-	7.8	-	<2	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-
RCTP4_5.7	2020_Red_RCTP4	-	25-Mar-20	5.7	-	-	14	-	-	<0.4	21	-	30	14	<0.1	-	<5	-	<2	-	-	-	-	-	-	7.2	-	-	-	-	-	-	-	-	-	-	-
RCTP5_0.5	2020_Red_RCTP5	-	25-Mar-20	0.5	-	-	<2	-	-	<0.4	<5	-	11	<5	<0.1	-	9.6	-	<2	-	-	-	-	-	-	15	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCTP5_1.5	2020_Red_RCTP5	-	25-Mar-20	1.5	-	-	7.8	-	-	<0.4	28	-	27	16	<0.1	-	6.1	-	<2	-	-	-	-	-	-	15	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCTP5_2.2	2020_Red_RCTP5	-	25-Mar-20	2.2	-	-	5.5	-	-	<0.4	17	-	32	18	<0.1	-	<5	-	<2	-	-	-	-	-	-	5.3	-	-	-	-	-	-	-	-	-	-	-
RCTP5_4.0	2020_Red_RCTP5	-	25-Mar-20	4	-	-	2.1	-	-	<0.4	<5	-	18	8.6	<0.1	-	<5	-	<2	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
RCTP5_5.8	2020_Red_RCTP5	-	25-Mar-20	5.8	-	-	3.5	-	-	<0.4	11	-	17	14	<0.1	-	<5	-	<2	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
RCTP6_0.5	2020_Red_RCTP6	-	25-Mar-20	0.5	-	-	4.7	-	-	<0.4	24	-	7.7	12	<0.1	-	<5	-	<2	-	-	-	-	-	-	<5	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCTP6_2.0	2020_Red_RCTP6	-	25-Mar-20	2	-	-	8.8	-	-	<0.4	18	-	21	15	<0.1	-	<5	-	<2	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
RCTP6_4.0	2020_Red_RCTP6	-	25-Mar-20	4	-	-	<2	-	-	<0.4	12	-	22	5.2	<0.1	-	<5	-	<2	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-
RCTP6_6.0	2020_Red_RCTP6	-	25-Mar-20	6	-	-	12	-	-	<0.4	18	-	110	12	<0.1	-	39	-	<2	-	-	-	-	-	-	120	-	-	-	-	-	-	-	-	-	-	-
RCTP7_1.0	2020_Red_RCTP7	-	25-Mar-20	1	-	-	2.2	-	-	<0.4	15	-	<5	27	<0.1	-	<5	-	<2	-	-	-	-	-	-	8.9	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCTP7_3.0	2020_Red_RCTP7	-	25-Mar-20	3	-	-	5.1	-	-	<0.4	26	-	<5	7.9	<0.1	-	<5	-	<2	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
RCTP7_5.6	2020_Red_RCTP7	-	25-Mar-20	5.6	-	-	<2	-	-	<0.4	8.6	-	<5	5.2	<0.1	-	<5	-	<2	-	-	-	-	-	-	6.9	-	-	-	-	-	-	-	-	-	-	-
RCTP8_0.5	2020_Red_RCTP8	-	25-Mar-20	0.5	-	-	5.4	-	-	<0.4	28	-	16	13	<0.1	-	6.9	-	<2	-	-	-	-	-	-	20	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCTP8_2.5	2020_Red_RCTP8	-	25-Mar-20	2.5	-	-	6.2	-	-	<0.4	36	-	7.4	8.8	<0.1	-	<5	-	<2	-	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	-	-	-
RCTP8_5.2	2020_Red_RCTP8	-	25-Mar-20	5.2	-	-	<2	-	-	<0.4	9.6	-	<5	5.2	<0.1	-	<5	-	<2	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
RCTP11_3.0	2020_Red_RCTP11	-	25-Mar-20	3	-	-	2.0	-	-	<0.4	<5	-	24	15	<0.1	-	14	-	<2	-	-	-	-	-	-	82	<0.1	<0.1	<0.1	-	-	<0.3	-	-	-	-	-
RCTP11_5.0	2020_Red_RCTP11	-	25-Mar-20	5	-	-	13	-	-	<0.4	21	-	53	80	0.2	-	23	-	<2	-	-	-	-	-	-	170	-	-	-	-	-	-	-	-	-	-	-

*Generic & site-specific EIL values adopted from Arcadis (2019) RAP Appendix C, Table 2.
**Chromium III+IV HIL values adopted from Arcadis (2019) RAP Appendix C, Table 6.

Comments
ND - No asbestos detected at the laboratory limit of reporting (0.1 g/kg)
#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Schedule 7) BaP TEQ Half calc by multiplying the conc of each carc. PAH in sample by its BaP TEF (ref Table 1A(1)) & summing
#2 Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability maybe important and should be considered where appropriate (refer Shedule B7).
#3 Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead model for where 50% bioavailability considered. Site-specific bioavailability should be considered where appropriate.
#4 Elemental mercury: HIL does not address elemental mercury. a site specific assessment should be considered if elemental mercury is present, or suspected to be present.
#5 PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or suspected at a site, a site-specific assessment of exposure to all PCBs (inc dioxin like PCBs) should be undertaken
#6 Aged values apply to arsenic contamination present in soil > 2 years. Refer Schedule B5c for < 2 years.
#7 To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#8 ERRATA Updated 30 April 2014 . Naphthalene should not be subtracted.
#9 Errata 30 April 2014. Naphthalene should not be subtracted from >C
#10 Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#11 Separate management limits for BTEX & naphthalene are not available hence should not be subtracted from the relevant fractions to obtain F1 & F2
#12 To obtain F2 subtract napthalene from the >C10 - C16 fraction.
NL - Derived soil HSL exceeds soil saturation concentraiton, non-limiting

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

| | | | | | | | TPH | | | | | TRH | | | | | | | PAH/Phenols | | | | | | |

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Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

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Consolidated DSI
Former Corrimal Coke Works, Railway St, Corrimal NSW
22158RP04

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

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Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

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							Ultra Trace PAH																		Phenolic Compounds												
							3-Methylcholanthrene	2-Methylcholanthrene	7,12-Dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(e)pyrene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(b)fluoranthene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Coronene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	NZ Fluorenyl Acetamide	Phenolics Total	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichlorobenzene	1,2,3-trichloropropane	1,2,4-trichlorobenzene	1,2,4-trimethylbenzene	1,2-dibromo-3-chloropropane
							µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	100	5	1	1	1	1	1	1	1	1	1	1	1	1
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Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**																																					
ADI Limited (1996), Stage 1 Site Investigation Report																																									
P28	1996_ADI_P28	-	ADI February 1996	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P29	1996_ADI_P29	-	ADI February 1996	0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P55	1996_ADI_P55	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P55	1996_ADI_P55	-	ADI February 1996	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P55	1996_ADI_P55	-	ADI February 1996	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P58	1996_ADI_P58	-	ADI February 1996	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P58	1996_ADI_P58	-	ADI February 1996	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W1	1996_ADI_W1	-	ADI February 1996	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W1	1996_ADI_W1	-	ADI February 1996	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W1	1996_ADI_W1	-	ADI February 1996	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W3	1996_ADI_W3	-	ADI February 1996	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W3	1996_ADI_W3	-	ADI February 1996	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W3	1996_ADI_W3	-	ADI February 1996	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W4	1996_ADI_W4	-	ADI February 1996	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W4	1996_ADI_W4	-	ADI February 1996	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W4	1996_ADI_W4	-	ADI February 1996	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W5	1996_ADI_W5	-	ADI February 1996	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W13	1996_ADI_W13	-	ADI February 1996	Stockpile	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W14	1996_ADI_W14	-	ADI February 1996	Stockpile	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W15	1996_ADI_W15	-	ADI February 1996	Stockpile	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S6	1996_ADI_S6	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S6	1996_ADI_S6	-	ADI February 1996	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S6	1996_ADI_S6	-	ADI February 1996	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S8	1996_ADI_S8	-	ADI February 1996	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S8	1996_ADI_S8	-	ADI February 1996	0.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S32	1996_ADI_S32	-	ADI February 1996	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S32	1996_ADI_S32	-	ADI February 1996	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S32	1996_ADI_S32	-	ADI February 1996	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S34	1996_ADI_S34	-	ADI February 1996	1.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S37	1996_ADI_S37	-	ADI February 1996	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3	1996_ADI_BH3	-	ADI February 1996	1.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4	1996_ADI_BH4	-	ADI February 1996	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4	1996_ADI_BH4	-	ADI February 1996	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	1996_ADI_BH6	-	ADI February 1996	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	1996_ADI_BH6	-	ADI February 1996	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O21	1996_ADI_O21	-	ADI February 1996	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O21	1996_ADI_O21	-	ADI February 1996	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O22	1996_ADI_O22	-	ADI February 1996	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O22	1996_ADI_O22	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O23	1996_ADI_O23	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O24	1996_ADI_O24	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O24	1996_ADI_O24	-	ADI February 1996	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O40	1996_ADI_O40	-	ADI February 1996	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O41	1996_ADI_O41	-	ADI February 1996	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O42	1996_ADI_O42	-	ADI February 1996	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O43	1996_ADI_O43	-	ADI February 1996	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O44	1996_ADI_O44	-	ADI February 1996	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2	1996_ADI_BH2	-	ADI February 1996	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2	1996_ADI_BH2	-	ADI February 1996	3.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2	1996_ADI_BH2	-	ADI February 1996	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B19	1996_ADI_B19	-	ADI February 1996	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B20	1996_ADI_B20	-	ADI February 1996	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B33	1996_ADI_B33	-	ADI February 1996	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B47	1996_ADI_B47	-	ADI February 1996	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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REDITUS

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							µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	100	5	1	1	1	1	1	1	1	1	1	1	1
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>=4m																																								
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**																																				
Envirorisk (2006), Phase 2 Environmental (Site Contamination) Assessment																																							
BH2	2006_ENVR_BH2	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2	2006_ENVR_BH2	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2	2006_ENVR_BH2	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3	2006_ENVR_BH3	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3	2006_ENVR_BH3	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3	2006_ENVR_BH3	Grid Pattern Samples	Envirorisk Dec 2005	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	2006_ENVR_BH5	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	2006_ENVR_BH5	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	2006_ENVR_BH5	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	2006_ENVR_BH6	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	2006_ENVR_BH6	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	2006_ENVR_BH6	Grid Pattern Samples	Envirorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	2006_ENVR_BH7	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	2006_ENVR_BH7	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	2006_ENVR_BH7	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH9	2006_ENVR_BH9	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH9	2006_ENVR_BH9	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH9	2006_ENVR_BH9	Grid Pattern Samples	Envirorisk Dec 2005	4.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	2006_ENVR_BH10	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	2006_ENVR_BH10	Grid Pattern Samples	Envirorisk Dec 2005	4.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	2006_ENVR_BH10	Grid Pattern Samples	Envirorisk Dec 2005	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	2006_ENVR_BH11	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	2006_ENVR_BH11	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	2006_ENVR_BH11	Grid Pattern Samples	Envirorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	2006_ENVR_BH12	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	2006_ENVR_BH12	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	2006_ENVR_BH12	Grid Pattern Samples	Envirorisk Dec 2005	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH17	2006_ENVR_BH17	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH17	2006_ENVR_BH17	Judgemental Samples	Envirorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH17	2006_ENVR_BH17	Judgemental Samples	Envirorisk Dec 2005	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19	2006_ENVR_BH19	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19	2006_ENVR_BH19	Judgemental Samples	Envirorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19	2006_ENVR_BH19	Judgemental Samples	Envirorisk Dec 2005	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20	2006_ENVR_BH20	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20	2006_ENVR_BH20	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH22	2006_ENVR_BH22	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH22	2006_ENVR_BH22	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH22	2006_ENVR_BH22	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH23	2006_ENVR_BH23	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH23	2006_ENVR_BH23	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH24	2006_ENVR_BH24	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH24	2006_ENVR_BH24	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH26	2006_ENVR_BH26	Judgemental Samples	Envirorisk Dec 2005	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH26	2006_ENVR_BH26	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH26	2006_ENVR_BH26	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH27	2006_ENVR_BH27	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH27	2006_ENVR_BH27	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH27	2006_ENVR_BH27	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH28	2006_ENVR_BH28	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH28	2006_ENVR_BH28	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH28	2006_ENVR_BH28	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH29	2006_ENVR_BH29	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH29	2006_ENVR_BH29	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH29	2006_ENVR_BH29	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH30	2006_ENVR_BH30	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH30	2006_ENVR_BH30	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH31	2006_ENVR_BH31	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH31	2006_ENVR_BH31	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH32	2006_ENVR_BH32	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33	2006_ENVR_BH33	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB1	2006_ENVR_RB1	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB1	2006_ENVR_RB1	Judgemental Samples	Envirorisk Dec 2005	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB2	2006_ENVR_RB2	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BW1	2006_ENVR_BW1	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BW2	2006_ENVR_BW2	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BW3	2006_ENVR_BW3	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BW4	2006_ENVR_BW4	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BW5	2006_ENVR_BW5	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BW6	2006_ENVR_BW6	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED 1	2006_ENVR_SED 1	Soil Analytical Data (Sediments)	21-Dec-05	-	<10	**30**	<10	<10	**40**	**10**	**40**	**50**	**60**	**30**	**20**	**20**	**80**	**10**	<10	**70**	**10**	**20**	**20**	**80**	**80**	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
SED 2	2006_ENVR_SED 2	Soil Analytical Data (Sediments)	21-Dec-05	-	<10	**20**	<10	<10	<10	<10	**20**	**20**	**20**	**10**	**10**	**10**	**30**	<10	<10	**40**	<10	<10	**10**	**60**	**40**	<100	-	-	-	-	-	-	-	-	-	-	-	-	-
SED 3	2006_ENVR_SED 3	Soil Analytical Data (Sediments)	21-Dec-05	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

							Ultra Trace PAH																		Phenolic Compounds												
							3-Methylcholanthrene	2-Methylcholanthrene	7,12-Dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(e)pyrene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Coronene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	NZ Fluorenyl Acetamide	Phenolics Total	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichlorobenzene	1,2,3-trichloropropane	1,2,4-trichlorobenzene	1,2,4-trimethylbenzene	1,2-dibromo-3-chloropropane
							µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	100	5	1	1	1	1	1	1	1	1	1	1	1
NEPM 2013 Table 1A(1) HILs Recreational C Soil																													45,000											
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential C Soil																																								
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*																																								
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																																								
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																																								
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																								
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																								
ANZG 2018 DGV Toxicant values for Sediments (Table 1)																																								
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay																																								
>=0m, <1m																																								
>=1m, <2m																																								
>=2m, <4m																																								
>=4m																																								
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand																																								
>=0m, <1m																																								
>=1m, <2m																																								
>=2m, <4m																																								
>=4m																																								
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt																																								
>=0m, <1m																																								
>=1m, <2m																																								
>=2m, <4m																																								
>=4m																																								
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**																																				
Environmental Strategies (2014), Phase 2 Detailed Site Investigation																																							
BH39	2014_ES_BH39	Area A	2014	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH39	2014_ES_BH39	Area A	2014	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH41	2014_ES_BH41	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH41	2014_ES_BH41	Area A	2014	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
BH42	2014_ES_BH42	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
BH42	2014_ES_BH42	Area A	2014	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
BH44	2014_ES_BH44	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
BH44	2014_ES_BH44	Area A	2014	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
BH46	2014_ES_BH46	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
BH46	2014_ES_BH46	Area A	2014	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
BH47	2014_ES_BH47	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
BH47	2014_ES_BH47	Area A	2014	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
BH48	2014_ES_BH48	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
BH48	2014_ES_BH48	Area A	2014	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
BH49	2014_ES_BH49	Area A	2014	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH49	2014_ES_BH49	Area A	2014	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
ES3	2014_ES_ES3	Area A	2014	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
ES3	2014_ES_ES3	Area A	2014	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
MW1	2014_ES_MW1	Area A	2014	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
MW3	2014_ES_MW3	Area A	2014	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
MW3	2014_ES_MW3	Area A	2014	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP37	2014_ES_TP37	Area B	2014	0.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP37	2014_ES_TP37	Area B	2014	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP13	2014_ES_TP13	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP13	2014_ES_TP13	Area C	2014	0.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP16	2014_ES_TP16	Area C	2014	0.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP17	2014_ES_TP17	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP17	2014_ES_TP17	Area C	2014	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP18	2014_ES_TP18	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP18	2014_ES_TP18	Area C	2014	1.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP19	2014_ES_TP19	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP19	2014_ES_TP19	Area C	2014	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP20	2014_ES_TP20	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP20	2014_ES_TP20	Area C	2014	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP29	2014_ES_TP29	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP29	2014_ES_TP29	Area C	2014	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP30	2014_ES_TP30	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP30	2014_ES_TP30	Area C	2014	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP35	2014_ES_TP35	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP35	2014_ES_TP35	Area C	2014	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP36	2014_ES_TP36	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP36	2014_ES_TP36	Area C	2014	3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP01	2014_ES_TP01	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP01	2014_ES_TP01	Area D	2014	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP03	2014_ES_TP03	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP03	2014_ES_TP03	Area D	2014	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP04	2014_ES_TP04	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP04	2014_ES_TP04	Area D	2014	2.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP05	2014_ES_TP05	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP06	2014_ES_TP06	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TP09	2014_ES_TP09	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP09	2014_ES_TP09	Area D	2014	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP10	2014_ES_TP10	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP10	2014_ES_TP10	Area D	2014	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP11	2014_ES_TP11	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP24	2014_ES_TP24	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP25	2014_ES_TP25	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP26	2014_ES_TP26	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP27	2014_ES_TP27	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
TP28	2014_ES_TP28	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-
SED1CR	2014_ES_SED1CR	Area E - Sediment Samples	02-Apr-14	0.2-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SED2CR	2014_ES_SED2CR	Area E - Sediment Samples	02-Apr-14	0.2-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SED3CR	2014_ES_SED3CR	Area E - Sediment Samples	02-Apr-14	0.2-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SED7CR	2014_ES_SED7CR	Area E - Sediment Samples	02-Apr-14	0.2-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SED8CR	2014_ES_SED8CR	Area E - Sediment Samples	04-Apr-14	0.2-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	-	-	-	-	-	-	-	-	-	-	-

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

							Ultra Trace PAH																		Phenolic Compounds												
							3-Methylcholanthrene	2-Methylcholanthrene	7,12-Dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(e)pyrene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(b)fluoranthene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Coronene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	NZ Fluorenyl Acetamide	Phenolics Total	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichlorobenzene	1,2,3-trichloropropane	1,2,4-trichlorobenzene	1,2,4-trimethylbenzene	1,2-dibromo-3-chloropropane
							µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL							10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	100	5	1	1	1	1	1	1	1	1	1	1	1	1
NEPM 2013 Table 1A(1) HILs Recreational C Soil																													45,000												
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential C Soil																																								
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*																																								
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																																								
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																																								
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																								
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																								
ANZG 2018 DGV Toxicant values for Sediments (Table 1)																																								
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay																																								
>=0m, <1m																																								
>=1m, <2m																																								
>=2m, <4m																																								
>=4m																																								
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand																																								
>=0m, <1m																																								
>=1m, <2m																																								
>=2m, <4m																																								
>=4m																																								
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt																																								
>=0m, <1m																																								
>=1m, <2m																																								
>=2m, <4m																																								
>=4m																																								
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**																																					
Acadis (2017a), Additional Environmental Assessment																																								
TP4	2017_ARC_TP4	-	10-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP4	2017_ARC_TP4	-	10-Jan-17	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP5	2017_ARC_TP5	-	10-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP6	2017_ARC_TP6	-	10-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP7	2017_ARC_TP7	-	10-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP8	2017_ARC_TP8	-	10-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP12	2017_ARC_TP12	-	10-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP16	2017_ARC_TP16	-	11-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP16	2017_ARC_TP16	-	11-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19	2017_ARC_TP19	-	11-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19	2017_ARC_TP19	-	11-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP20	2017_ARC_TP20	-	11-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP31	2017_ARC_TP31	-	12-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP32	2017_ARC_TP32	-	12-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP22	2017_ARC_TP22	-	11-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP22	2017_ARC_TP22	-	11-Jan-17	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP23	2017_ARC_TP23	-	11-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP24	2017_ARC_TP24	-	11-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP25	2017_ARC_TP25	-	11-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP25	2017_ARC_TP25	-	11-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP26	2017_ARC_TP26	-	11-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP27	2017_ARC_TP27	-	11-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP28	2017_ARC_TP28	-	11-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP28	2017_ARC_TP28	-	11-Jan-17	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP30	2017_ARC_TP30	-	12-Jan-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP33	2017_ARC_TP33	-	12-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED D1L2	2017_ARC_SED D1L2	-	13-Jan-17	Sediment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED D1L3	2017_ARC_SED D1L3	-	13-Jan-17	Sediment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED D2L1	2017_ARC_SED D2L1	-	13-Jan-17	Sediment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED D2L2	2017_ARC_SED D2L2	-	13-Jan-17	Sediment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED D2L3	2017_ARC_SED D2L3	-	13-Jan-17	Sediment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arcadis (2018), Additional Environmental Assessment - Production Area																																								
ABH3	2018_ARC_ABH3	-	28-Nov-17	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH3	2018_ARC_ABH3	-	28-Nov-17	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH3	2018_ARC_ABH3	-	28-Nov-17	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1
ABH5	2018_ARC_ABH5	-	28-Nov-17	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH5	2018_ARC_ABH5	-	28-Nov-17	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1
ABH5	2018_ARC_ABH5	-	28-Nov-17	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH6	2018_ARC_ABH6	-	28-Nov-17	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ABH6	2018_ARC_ABH6	-	28-Nov-17	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1
ABH6	2018_ARC_ABH6	-	28-Nov-17	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11	2018_ARC_MW11	-	27-Nov-17	0.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1
MW11	2018_ARC_MW11	-	27-Nov-17	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW11	2018_ARC_MW11	-	27-Nov-17	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW13	2018_ARC_MW13	-	28-Nov-17	0.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1
MW13	2018_ARC_MW13	-	28-Nov-17	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW13	2018_ARC_MW13	-	28-Nov-17	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arcadis (2018), Flue, Stack and Powerhouse Assessment																																								
SS1	2018_ARC_SS1	SS1	19-Feb-18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SS5	2018_ARC_SS5	SS5	19-Feb-18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

							Ultra Trace PAH																		Phenolic Compounds												
							3-Methylcholanthrene	2-Methylcholanthrene	7,12-Dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(e)pyrene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Coronene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	N2 Fluorenyl Acetamide	Phenolics Total	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichlorobenzene	1,2,3-trichloropropane	1,2,4-trichlorobenzene	1,2,4-trimethylbenzene	1,2-dibromo-3-chloropropane
EQL							µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
							10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	100	5	1	1	1	1	1	1	1	1	1	1	1
NEPM 2013 Table 1A(1) HILs Recreational C Soil																													**45,000**											
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential C Soil																																							
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*																																							
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																																							
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																																							
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																							
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																							
ANZG 2018 DGV Toxicant values for Sediments (Table 1)																																							
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay																																							
>=0m, <1m																																							
>=1m, <2m																																							
>=2m, <4m																																							
>=4m																																							
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand																																							
>=0m, <1m																																							
>=1m, <2m																																							
>=2m, <4m																																							
>=4m																																							
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt																																							
>=0m, <1m																																							
>=1m, <2m																																							
>=2m, <4m																																							
>=4m																																							

Field ID	Location Code	Description	Sampled Date	Sample Depth (m)																																				
Reditus 2020 Data Gap Investigation																																								
RCBH1	2020_Red_RCBH1	-	18-Mar-20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<1	<1	<1	<1	<1	<1	<1	-	<1	-	<1	<1
RCBH1_3.0M	2020_Red_RCBH1	-	18-Mar-20	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCBH1_5.0M	2020_Red_RCBH1	-	18-Mar-20	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCBH2_1.0M	2020_Red_RCBH2	-	18-Mar-20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	-
RCBH2_2.5M	2020_Red_RCBH2	-	18-Mar-20	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCBH2_4.0M	2020_Red_RCBH2	-	18-Mar-20	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCBH2_5.0M	2020_Red_RCBH2	-	18-Mar-20	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCMW2_0.5M	2020_Red_RCMW2	-	18-Mar-20	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	-
RCMW2_1.0M	2020_Red_RCMW2	-	18-Mar-20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	-
RCMW2_3.5M	2020_Red_RCMW2	-	18-Mar-20	3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	-
RCMW2_5.5M	2020_Red_RCMW2	-	18-Mar-20	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCMW3_1.5M	2020_Red_RCMW3	-	18-Mar-20	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	<0.5	-
RCMW3_2.5M	2020_Red_RCMW3	-	18-Mar-20	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCMW3_4.5M	2020_Red_RCMW3	-	18-Mar-20	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCMW3_6.5M	2020_Red_RCMW3	-	18-Mar-20	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCMW3_7.5M	2020_Red_RCMW3	-	18-Mar-20	7.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCTP1_4.0	2020_Red_RCTP1	-	25-Mar-20	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCTP3_1.0	2020_Red_RCTP3	-	25-Mar-20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCTP3_2.0	2020_Red_RCTP3	-	25-Mar-20	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCTP4_0.3	2020_Red_RCTP4	-	25-Mar-20	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCTP4_1.0	2020_Red_RCTP4	-	25-Mar-20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCTP4_3.0	2020_Red_RCTP4	-	25-Mar-20	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP4_5.7	2020_Red_RCTP4	-	25-Mar-20	5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP5_0.5	2020_Red_RCTP5	-	25-Mar-20	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCTP5_1.5	2020_Red_RCTP5	-	25-Mar-20	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCTP5_2.2	2020_Red_RCTP5	-	25-Mar-20	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP5_4.0	2020_Red_RCTP5	-	25-Mar-20	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP5_5.8	2020_Red_RCTP5	-	25-Mar-20	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP6_0.5	2020_Red_RCTP6	-	25-Mar-20	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCTP6_2.0	2020_Red_RCTP6	-	25-Mar-20	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP6_4.0	2020_Red_RCTP6	-	25-Mar-20	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP6_6.0	2020_Red_RCTP6	-	25-Mar-20	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP7_1.0	2020_Red_RCTP7	-	25-Mar-20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCTP7_3.0	2020_Red_RCTP7	-	25-Mar-20	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP7_5.6	2020_Red_RCTP7	-	25-Mar-20	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP8_0.5	2020_Red_RCTP8	-	25-Mar-20	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCTP8_2.5	2020_Red_RCTP8	-	25-Mar-20	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP8_5.2	2020_Red_RCTP8	-	25-Mar-20	5.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP11_3.0	2020_Red_RCTP11	-	25-Mar-20	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
RCTP11_5.0	2020_Red_RCTP11	-	25-Mar-20	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

| | | | | | | | VOCs in soil | | | | | | |

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

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| | | |

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

												Organochlorine Pesticides																											
				Trichloroethene	tert-butylbenzene	Tetrachloroethene	Toluene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichlorofluoromethane	Vinyl chloride	Xylene (m & p)	Xylene (o)	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				1	1	1	0.5	1	1	1	1	2	1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	1
NEPM 2013 Table 1A(1) HILs Recreational C Soil																	**9**		**80**					**400**			**400**			**20**					**10**		**400**	
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential C Soil																																							
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*																							**180**																
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																																							
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																																							
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																							
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																							
ANZG 2018 DGV Toxicant values for Sediments (Table 1)														**0.0014**					**0.0045**			**0.0035**	**0.0012**		**0.0028**				**0.0027**			**0.0009**						
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay																																							
>=0m, <1m																																							
>=1m, <2m																																							
>=2m, <4m																																							
>=4m																																							
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand																																							
>=0m, <1m																																							
>=1m, <2m																																							
>=2m, <4m																																							
>=4m																																							
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt																																							
>=0m, <1m																																							
>=1m, <2m																																							
>=2m, <4m																																							
>=4m																																							
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**																																				
Envirorisk (2006), Phase 2 Environmental (Site Contamination) Assessment																																							
BH2	2006_ENVR_BH2	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2	2006_ENVR_BH2	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2	2006_ENVR_BH2	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3	2006_ENVR_BH3	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3	2006_ENVR_BH3	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3	2006_ENVR_BH3	Grid Pattern Samples	Envirorisk Dec 2005	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	2006_ENVR_BH5	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	2006_ENVR_BH5	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH5	2006_ENVR_BH5	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	2006_ENVR_BH6	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	2006_ENVR_BH6	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	2006_ENVR_BH6	Grid Pattern Samples	Envirorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	2006_ENVR_BH7	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	2006_ENVR_BH7	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH7	2006_ENVR_BH7	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH9	2006_ENVR_BH9	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH9	2006_ENVR_BH9	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH9	2006_ENVR_BH9	Grid Pattern Samples	Envirorisk Dec 2005	4.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	2006_ENVR_BH10	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	2006_ENVR_BH10	Grid Pattern Samples	Envirorisk Dec 2005	4.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10	2006_ENVR_BH10	Grid Pattern Samples	Envirorisk Dec 2005	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	2006_ENVR_BH11	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	2006_ENVR_BH11	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH11	2006_ENVR_BH11	Grid Pattern Samples	Envirorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	2006_ENVR_BH12	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	2006_ENVR_BH12	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH12	2006_ENVR_BH12	Grid Pattern Samples	Envirorisk Dec 2005	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH17	2006_ENVR_BH17	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH17	2006_ENVR_BH17	Judgemental Samples	Envirorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH17	2006_ENVR_BH17	Judgemental Samples	Envirorisk Dec 2005	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19	2006_ENVR_BH19	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19	2006_ENVR_BH19	Judgemental Samples	Envirorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH19	2006_ENVR_BH19	Judgemental Samples	Envirorisk Dec 2005	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20	2006_ENVR_BH20	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH20	2006_ENVR_BH20	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH22	2006_ENVR_BH22	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH22	2006_ENVR_BH22	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH22	2006_ENVR_BH22	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH23	2006_ENVR_BH23	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH23	2006_ENVR_BH23	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH24	2006_ENVR_BH24	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH24	2006_ENVR_BH24	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH26	2006_ENVR_BH26	Judgemental Samples	Envirorisk Dec 2005	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH26	2006_ENVR_BH26	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH26	2006_ENVR_BH26	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH27	2006_ENVR_BH27	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH27	2006_ENVR_BH27	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH27	2006_ENVR_BH27	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH28	2006_ENVR_BH28	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH28	2006_ENVR_BH28	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH28	2006_ENVR_BH28	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH29	2006_ENVR_BH29	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH29	2006_ENVR_BH29	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH29	2006_ENVR_BH29	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH30	2006_ENVR_BH30	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH30	2006_ENVR_BH30	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH31	2006_ENVR_BH31	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH31	2006_ENVR_BH31	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH32	2006_ENVR_BH32	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH33	2006_ENVR_BH33	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB1	2006_ENVR_RB1	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB1	2006_ENVR_RB1	Judgemental Samples	Envirorisk Dec 2005	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RB2	2006_ENVR_RB2	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BW1	2006_ENVR_BW1	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BW2	2006_ENVR_BW2	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BW3	2006_ENVR_BW3	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BW4	2006_ENVR_BW4	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BW5	2006_ENVR_BW5	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BW6	2006_ENVR_BW6	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED 1	2006_ENVR_SED 1	Soil Analytical Data (Sediments)	21-Dec-05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED 2	2006_ENVR_SED 2	Soil Analytical Data (Sediments)	21-Dec-05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED 3	2006_ENVR_SED 3	Soil Analytical Data (Sediments)	21-Dec-05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

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Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

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						Organophosphorous Pesticides																																	
						Tokuthion	Azinophos methyl	Bolstar (Sulprofos)	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	EPN	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Parathion	Phorate	Pirimiphos-methyl	Pyrazophos	Ronnel	Tebufos	Trichloronate	Tetrachlorvinphos
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.2	0.1	0.2	0.2	0.1	0.1	2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	2	0.2	2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2
NEPM 2013 Table 1A(1) HILs Recreational C Soil										250																													
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential C Soil																																							
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*																																							
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																																							
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																																							
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																																							
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																																							
ANZG 2018 DGV Toxicant values for Sediments (Table 1)																																							
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay																																							
>=0m, <1m																																							
>=1m, <2m																																							
>=2m, <4m																																							
>=4m																																							
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand																																							
>=0m, <1m																																							
>=1m, <2m																																							
>=2m, <4m																																							
>=4m																																							
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt																																							
>=0m, <1m																																							
>=1m, <2m																																							
>=2m, <4m																																							
>=4m																																							
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**																																			
ADI Limited (1996), Stage 1 Site Investigation Report																																							
P28	1996_ADI_P28	-	ADI February 1996	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P29	1996_ADI_P29	-	ADI February 1996	0.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P55	1996_ADI_P55	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P55	1996_ADI_P55	-	ADI February 1996	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P55	1996_ADI_P55	-	ADI February 1996	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P58	1996_ADI_P58	-	ADI February 1996	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P58	1996_ADI_P58	-	ADI February 1996	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W1	1996_ADI_W1	-	ADI February 1996	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W1	1996_ADI_W1	-	ADI February 1996	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W1	1996_ADI_W1	-	ADI February 1996	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W3	1996_ADI_W3	-	ADI February 1996	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W3	1996_ADI_W3	-	ADI February 1996	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W3	1996_ADI_W3	-	ADI February 1996	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W4	1996_ADI_W4	-	ADI February 1996	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W4	1996_ADI_W4	-	ADI February 1996	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W4	1996_ADI_W4	-	ADI February 1996	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W5	1996_ADI_W5	-	ADI February 1996	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W13	1996_ADI_W13	-	ADI February 1996	Stockpile	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W14	1996_ADI_W14	-	ADI February 1996	Stockpile	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
W15	1996_ADI_W15	-	ADI February 1996	Stockpile	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S6	1996_ADI_S6	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S6	1996_ADI_S6	-	ADI February 1996	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S6	1996_ADI_S6	-	ADI February 1996	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S8	1996_ADI_S8	-	ADI February 1996	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S8	1996_ADI_S8	-	ADI February 1996	0.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S32	1996_ADI_S32	-	ADI February 1996	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S32	1996_ADI_S32	-	ADI February 1996	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S32	1996_ADI_S32	-	ADI February 1996	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S34	1996_ADI_S34	-	ADI February 1996	1.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S37	1996_ADI_S37	-	ADI February 1996	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH3	1996_ADI_BH3	-	ADI February 1996	1.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4	1996_ADI_BH4	-	ADI February 1996	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH4	1996_ADI_BH4	-	ADI February 1996	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	1996_ADI_BH6	-	ADI February 1996	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH6	1996_ADI_BH6	-	ADI February 1996	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O21	1996_ADI_O21	-	ADI February 1996	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O21	1996_ADI_O21	-	ADI February 1996	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O22	1996_ADI_O22	-	ADI February 1996	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O22	1996_ADI_O22	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O23	1996_ADI_O23	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O24	1996_ADI_O24	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O24	1996_ADI_O24	-	ADI February 1996	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O40	1996_ADI_O40	-	ADI February 1996	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O41	1996_ADI_O41	-	ADI February 1996	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O42	1996_ADI_O42	-	ADI February 1996	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O43	1996_ADI_O43	-	ADI February 1996	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
O44	1996_ADI_O44	-	ADI February 1996	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2	1996_ADI_BH2	-	ADI February 1996	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2	1996_ADI_BH2	-	ADI February 1996	3.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH2	1996_ADI_BH2	-	ADI February 1996	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B19	1996_ADI_B19	-	ADI February 1996	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B20	1996_ADI_B20	-	ADI February 1996	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B33	1996_ADI_B33	-	ADI February 1996	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B47	1996_ADI_B47	-	ADI February 1996	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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								Organophosphorous Pesticides																													
								Tokuthion	Azinophos methyl	Bolstar (Sulprofos)	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	EPN	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Parathion	Phorate	Pirimiphos-methyl	Pyrazophos	Ronnel	Tebufos	Trichloronate	Tetrachlorvinphos
								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL								0.2	0.1	0.2	0.2	0.1	0.1	2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	2	0.2	2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2
NEPM 2013 Table 1A(1) HILs Recreational C Soil												250																													
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NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand																																								
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NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt																																								
>=0m, <1m																																								
>=1m, <2m																																								
>=2m, <4m																																								
>=4m																																								
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**																																				
Environmental Strategies (2014), Phase 2 Detailed Site Investigation																																								
BH39	2014_ES_BH39	Area A	2014	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH39	2014_ES_BH39	Area A	2014	1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH41	2014_ES_BH41	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH41	2014_ES_BH41	Area A	2014	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH42	2014_ES_BH42	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH42	2014_ES_BH42	Area A	2014	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH44	2014_ES_BH44	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH44	2014_ES_BH44	Area A	2014	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46	2014_ES_BH46	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH46	2014_ES_BH46	Area A	2014	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH47	2014_ES_BH47	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH47	2014_ES_BH47	Area A	2014	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH48	2014_ES_BH48	Area A	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH48	2014_ES_BH48	Area A	2014	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49	2014_ES_BH49	Area A	2014	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH49	2014_ES_BH49	Area A	2014	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES3	2014_ES_ES3	Area A	2014	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES3	2014_ES_ES3	Area A	2014	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW1	2014_ES_MW1	Area A	2014	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW3	2014_ES_MW3	Area A	2014	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW3	2014_ES_MW3	Area A	2014	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP37	2014_ES_TP37	Area B	2014	0.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP37	2014_ES_TP37	Area B	2014	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP13	2014_ES_TP13	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP13	2014_ES_TP13	Area C	2014	0.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP16	2014_ES_TP16	Area C	2014	0.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP17	2014_ES_TP17	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP17	2014_ES_TP17	Area C	2014	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18	2014_ES_TP18	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18	2014_ES_TP18	Area C	2014	1.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19	2014_ES_TP19	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP19	2014_ES_TP19	Area C	2014	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP20	2014_ES_TP20	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP20	2014_ES_TP20	Area C	2014	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP29	2014_ES_TP29	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP29	2014_ES_TP29	Area C	2014	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP30	2014_ES_TP30	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP30	2014_ES_TP30	Area C	2014	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP35	2014_ES_TP35	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP35	2014_ES_TP35	Area C	2014	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP36	2014_ES_TP36	Area C	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP36	2014_ES_TP36	Area C	2014	3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01	2014_ES_TP01	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01	2014_ES_TP01	Area D	2014	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03	2014_ES_TP03	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03	2014_ES_TP03	Area D	2014	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP04	2014_ES_TP04	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP04	2014_ES_TP04	Area D	2014	2.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP05	2014_ES_TP05	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP06	2014_ES_TP06	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP09	2014_ES_TP09	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP09	2014_ES_TP09	Area D	2014	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10	2014_ES_TP10	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP10	2014_ES_TP10	Area D	2014	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP11	2014_ES_TP11	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP24	2014_ES_TP24	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP25	2014_ES_TP25	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP26	2014_ES_TP26	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP27	2014_ES_TP27	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP28	2014_ES_TP28	Area D	2014	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED1CR	2014_ES_SED1CR	Area E - Sediment Samples	02-Apr-14	0.2-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED2CR	2014_ES_SED2CR	Area E - Sediment Samples	02-Apr-14	0.2-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED3CR	2014_ES_SED3CR	Area E - Sediment Samples	02-Apr-14	0.2-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED7CR	2014_ES_SED7CR	Area E - Sediment Samples	02-Apr-14	0.2-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SED8CR	2014_ES_SED8CR	Area E - Sediment Samples	04-Apr-14	0.2-0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

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Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

					Organophosphorous Pesticides																																	
					Tokuthion	Azinophos methyl	Bolstar (Sulprofos)	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	EPN	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Parathion	Phorate	Pirimiphos-methyl	Pyrazophos	Ronnel	Tebufos	Trichloronate	Tetrachlorvinphos
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.2	0.1	0.2	0.2	0.1	0.1	2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	2	0.2	2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2
NEPM 2013 Table 1A(1) HILs Recreational C Soil									**250**																													
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential C Soil																																						
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*																																						
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>=1m, <2m																																						
>=2m, <4m																																						
>=4m																																						
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**																																			
Reditus 2020 Data Gap Investigation																																						
RCBH1	2020_Red_RCBH1	-	18-Mar-20	1	-	<0.1	<0.1	-	<0.1	<0.1	-	-	-	<0.1	<0.1	<0.1	-	<0.1	-	<0.1	-	-	-	<0.1	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-
RCBH1_3.0M	2020_Red_RCBH1	-	18-Mar-20	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCBH1_5.0M	2020_Red_RCBH1	-	18-Mar-20	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
RCBH2_1.0M	2020_Red_RCBH2	-	18-Mar-20	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
RCBH2_2.5M	2020_Red_RCBH2	-	18-Mar-20	2.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
RCBH2_4.0M	2020_Red_RCBH2	-	18-Mar-20	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCBH2_5.0M	2020_Red_RCBH2	-	18-Mar-20	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
RCMW2_0.5M	2020_Red_RCMW2	-	18-Mar-20	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
RCMW2_1.0M	2020_Red_RCMW2	-	18-Mar-20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCMW2_3.5M	2020_Red_RCMW2	-	18-Mar-20	3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCMW2_5.5M	2020_Red_RCMW2	-	18-Mar-20	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCMW3_1.5M	2020_Red_RCMW3	-	18-Mar-20	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCMW3_2.5M	2020_Red_RCMW3	-	18-Mar-20	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCMW3_4.5M	2020_Red_RCMW3	-	18-Mar-20	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCMW3_6.5M	2020_Red_RCMW3	-	18-Mar-20	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCMW3_7.5M	2020_Red_RCMW3	-	18-Mar-20	7.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP1_4.0	2020_Red_RCTP1	-	25-Mar-20	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP3_1.0	2020_Red_RCTP3	-	25-Mar-20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP3_2.0	2020_Red_RCTP3	-	25-Mar-20	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP4_0.3	2020_Red_RCTP4	-	25-Mar-20	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
RCTP4_1.0	2020_Red_RCTP4	-	25-Mar-20	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
RCTP4_3.0	2020_Red_RCTP4	-	25-Mar-20	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP4_5.7	2020_Red_RCTP4	-	25-Mar-20	5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP5_0.5	2020_Red_RCTP5	-	25-Mar-20	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
RCTP5_1.5	2020_Red_RCTP5	-	25-Mar-20	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP5_2.2	2020_Red_RCTP5	-	25-Mar-20	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP5_4.0	2020_Red_RCTP5	-	25-Mar-20	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP5_5.8	2020_Red_RCTP5	-	25-Mar-20	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP6_0.5	2020_Red_RCTP6	-	25-Mar-20	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
RCTP6_2.0	2020_Red_RCTP6	-	25-Mar-20	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP6_4.0	2020_Red_RCTP6	-	25-Mar-20	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP6_6.0	2020_Red_RCTP6	-	25-Mar-20	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP7_1.0	2020_Red_RCTP7	-	25-Mar-20	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
RCTP7_3.0	2020_Red_RCTP7	-	25-Mar-20	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP7_5.6	2020_Red_RCTP7	-	25-Mar-20	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP8_0.5	2020_Red_RCTP8	-	25-Mar-20	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
RCTP8_2.5	2020_Red_RCTP8	-	25-Mar-20	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP8_5.2	2020_Red_RCTP8	-	25-Mar-20	5.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RCTP11_3.0	2020_Red_RCTP11	-	25-Mar-20	3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
RCTP11_5.0	2020_Red_RCTP11	-	25-Mar-20	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

						Polychlorinated Biphenyls									Halogenated Benzenes
						Bromophos-ethyl	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	Hexachlorobenzene
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Recreational C Soil														**1[45]**	**10**
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential C Soil															
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*															
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m															
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m															
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil															
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil															
ANZG 2018 DGV Toxicant values for Sediments (Table 1)														**0.034**	
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay															
>=0m, <1m															
>=1m, <2m															
>=2m, <4m															
>=4m															
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand															
>=0m, <1m															
>=1m, <2m															
>=2m, <4m															
>=4m															
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt															
>=0m, <1m															
>=1m, <2m															
>=2m, <4m															
>=4m															
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**											
ADI Limited (1996), Stage 1 Site Investigation Report															
P28	1996_ADI_P28	-	ADI February 1996	0.9	-	-	-	-	-	-	-	-	-	-	-
P29	1996_ADI_P29	-	ADI February 1996	0.15	-	-	-	-	-	-	-	-	-	-	-
P55	1996_ADI_P55	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-
P55	1996_ADI_P55	-	ADI February 1996	0.7	-	-	-	-	-	-	-	-	-	-	-
P55	1996_ADI_P55	-	ADI February 1996	1	-	-	-	-	-	-	-	-	-	-	-
P58	1996_ADI_P58	-	ADI February 1996	0.25	-	-	-	-	-	-	-	-	-	-	-
P58	1996_ADI_P58	-	ADI February 1996	0.7	-	-	-	-	-	-	-	-	-	-	-
W1	1996_ADI_W1	-	ADI February 1996	0.3	-	-	-	-	-	-	-	-	-	-	-
W1	1996_ADI_W1	-	ADI February 1996	0.8	-	-	-	-	-	-	-	-	-	-	-
W1	1996_ADI_W1	-	ADI February 1996	1.9	-	-	-	-	-	-	-	-	-	-	-
W3	1996_ADI_W3	-	ADI February 1996	0.5	-	-	-	-	-	-	-	-	-	-	-
W3	1996_ADI_W3	-	ADI February 1996	0.6	-	-	-	-	-	-	-	-	-	-	-
W3	1996_ADI_W3	-	ADI February 1996	2.6	-	-	-	-	-	-	-	-	-	-	-
W4	1996_ADI_W4	-	ADI February 1996	0.4	-	-	-	-	-	-	-	-	-	-	-
W4	1996_ADI_W4	-	ADI February 1996	1.6	-	-	-	-	-	-	-	-	-	-	-
W4	1996_ADI_W4	-	ADI February 1996	4	-	-	-	-	-	-	-	-	-	-	-
W5	1996_ADI_W5	-	ADI February 1996	0.1	-	-	-	-	-	-	-	-	-	-	-
W13	1996_ADI_W13	-	ADI February 1996	Stockpile	-	-	-	-	-	-	-	-	-	-	-
W14	1996_ADI_W14	-	ADI February 1996	Stockpile	-	-	-	-	-	-	-	-	-	-	-
W15	1996_ADI_W15	-	ADI February 1996	Stockpile	-	-	-	-	-	-	-	-	-	-	-
S6	1996_ADI_S6	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-
S6	1996_ADI_S6	-	ADI February 1996	0.8	-	-	-	-	-	-	-	-	-	-	-
S6	1996_ADI_S6	-	ADI February 1996	3	-	-	-	-	-	-	-	-	-	-	-
S8	1996_ADI_S8	-	ADI February 1996	0.1	-	-	-	-	-	-	-	-	-	-	-
S8	1996_ADI_S8	-	ADI February 1996	0.95	-	-	-	-	-	-	-	-	-	-	-
S32	1996_ADI_S32	-	ADI February 1996	0.4	-	-	-	-	-	-	-	-	-	-	-
S32	1996_ADI_S32	-	ADI February 1996	1	-	-	-	-	-	-	-	-	-	-	-
S32	1996_ADI_S32	-	ADI February 1996	1.7	-	-	-	-	-	-	-	-	-	-	-
S34	1996_ADI_S34	-	ADI February 1996	1.55	-	-	-	-	-	-	-	-	-	-	-
S37	1996_ADI_S37	-	ADI February 1996	3.4	-	-	-	-	-	-	-	-	-	-	-
BH3	1996_ADI_BH3	-	ADI February 1996	1.25	-	-	-	-	-	-	-	-	-	-	-
BH4	1996_ADI_BH4	-	ADI February 1996	0.4	-	-	-	-	-	-	-	-	-	-	-
BH4	1996_ADI_BH4	-	ADI February 1996	1.7	-	-	-	-	-	-	-	-	-	-	-
BH6	1996_ADI_BH6	-	ADI February 1996	0.6	-	-	-	-	-	-	-	-	-	-	-
BH6	1996_ADI_BH6	-	ADI February 1996	2	-	-	-	-	-	-	-	-	-	-	-
O21	1996_ADI_O21	-	ADI February 1996	0.4	-	-	-	-	-	-	-	-	-	-	-
O21	1996_ADI_O21	-	ADI February 1996	1.1	-	-	-	-	-	-	-	-	-	-	-
O22	1996_ADI_O22	-	ADI February 1996	0.7	-	-	-	-	-	-	-	-	-	-	-
O22	1996_ADI_O22	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-
O23	1996_ADI_O23	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-
O24	1996_ADI_O24	-	ADI February 1996	0.2	-	-	-	-	-	-	-	-	-	-	-
O24	1996_ADI_O24	-	ADI February 1996	0.8	-	-	-	-	-	-	-	-	-	-	-
O40	1996_ADI_O40	-	ADI February 1996	0.7	-	-	-	-	-	-	-	-	-	-	-
O41	1996_ADI_O41	-	ADI February 1996	0.4	-	-	-	-	-	-	-	-	-	-	-
O42	1996_ADI_O42	-	ADI February 1996	0.1	-	-	-	-	-	-	-	-	-	-	-
O43	1996_ADI_O43	-	ADI February 1996	0.3	-	-	-	-	-	-	-	-	-	-	-
O44	1996_ADI_O44	-	ADI February 1996	1.5	-	-	-	-	-	-	-	-	-	-	-
BH2	1996_ADI_BH2	-	ADI February 1996	0.3	-	-	-	-	-	-	-	-	-	-	-
BH2	1996_ADI_BH2	-	ADI February 1996	3.3	-	-	-	-	-	-	-	-	-	-	-
BH2	1996_ADI_BH2	-	ADI February 1996	7.3	-	-	-	-	-	-	-	-	-	-	-
B19	1996_ADI_B19	-	ADI February 1996	1.5	-	-	-	-	-	-	-	-	-	-	-
B20	1996_ADI_B20	-	ADI February 1996	1.5	-	-	-	-	-	-	-	-	-	-	-
B33	1996_ADI_B33	-	ADI February 1996	1	-	-	-	-	-	-	-	-	-	-	-
B47	1996_ADI_B47	-	ADI February 1996	1.2	-	-	-	-	-	-	-	-	-	-	-

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

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						Polychlorinated Biphenyls									Halogenated Benzenes
						Bromophos-ethyl	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	Hexachlorobenzene
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Recreational C Soil														1[#5]	**10**
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential C Soil															
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*															
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m															
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m															
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil															
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil															
ANZG 2018 DGV Toxicant values for Sediments (Table 1)														0.034	
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay															
>=0m, <1m															
>=1m, <2m															
>=2m, <4m															
>=4m															
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand															
>=0m, <1m															
>=1m, <2m															
>=2m, <4m															
>=4m															
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt															
>=0m, <1m															
>=1m, <2m															
>=2m, <4m															
>=4m															
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**											
Envirorisk (2006), Phase 2 Environmental (Site Contamination) Assessment															
BH2	2006_ENVR_BH2	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BH2	2006_ENVR_BH2	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH2	2006_ENVR_BH2	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-
BH3	2006_ENVR_BH3	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BH3	2006_ENVR_BH3	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH3	2006_ENVR_BH3	Grid Pattern Samples	Envirorisk Dec 2005	1.2	-	-	-	-	-	-	-	-	-	-
BH5	2006_ENVR_BH5	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BH5	2006_ENVR_BH5	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH5	2006_ENVR_BH5	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-
BH6	2006_ENVR_BH6	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BH6	2006_ENVR_BH6	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-
BH6	2006_ENVR_BH6	Grid Pattern Samples	Envirorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-
BH7	2006_ENVR_BH7	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BH7	2006_ENVR_BH7	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH7	2006_ENVR_BH7	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-
BH9	2006_ENVR_BH9	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BH9	2006_ENVR_BH9	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH9	2006_ENVR_BH9	Grid Pattern Samples	Envirorisk Dec 2005	4.4	-	-	-	-	-	-	-	-	-	-
BH10	2006_ENVR_BH10	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-
BH10	2006_ENVR_BH10	Grid Pattern Samples	Envirorisk Dec 2005	4.2	-	-	-	-	-	-	-	-	-	-
BH10	2006_ENVR_BH10	Grid Pattern Samples	Envirorisk Dec 2005	4.8	-	-	-	-	-	-	-	-	-	-
BH11	2006_ENVR_BH11	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BH11	2006_ENVR_BH11	Grid Pattern Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH11	2006_ENVR_BH11	Grid Pattern Samples	Envirorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-
BH12	2006_ENVR_BH12	Grid Pattern Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BH12	2006_ENVR_BH12	Grid Pattern Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-
BH12	2006_ENVR_BH12	Grid Pattern Samples	Envirorisk Dec 2005	2.5	-	-	-	-	-	-	-	-	-	-
BH17	2006_ENVR_BH17	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH17	2006_ENVR_BH17	Judgemental Samples	Envirorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-
BH17	2006_ENVR_BH17	Judgemental Samples	Envirorisk Dec 2005	4	-	-	-	-	-	-	-	-	-	-
BH19	2006_ENVR_BH19	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-
BH19	2006_ENVR_BH19	Judgemental Samples	Envirorisk Dec 2005	2	-	-	-	-	-	-	-	-	-	-
BH19	2006_ENVR_BH19	Judgemental Samples	Envirorisk Dec 2005	4	-	-	-	-	-	-	-	-	-	-
BH20	2006_ENVR_BH20	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH20	2006_ENVR_BH20	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-
BH22	2006_ENVR_BH22	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BH22	2006_ENVR_BH22	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH22	2006_ENVR_BH22	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-
BH23	2006_ENVR_BH23	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH23	2006_ENVR_BH23	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-
BH24	2006_ENVR_BH24	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH24	2006_ENVR_BH24	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-
BH26	2006_ENVR_BH26	Judgemental Samples	Envirorisk Dec 2005	0.2	-	-	-	-	-	-	-	-	-	-
BH26	2006_ENVR_BH26	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH26	2006_ENVR_BH26	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-
BH27	2006_ENVR_BH27	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BH27	2006_ENVR_BH27	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH27	2006_ENVR_BH27	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-
BH28	2006_ENVR_BH28	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BH28	2006_ENVR_BH28	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH28	2006_ENVR_BH28	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-
BH29	2006_ENVR_BH29	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BH29	2006_ENVR_BH29	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH29	2006_ENVR_BH29	Judgemental Samples	Envirorisk Dec 2005	1	-	-	-	-	-	-	-	-	-	-
BH30	2006_ENVR_BH30	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BH30	2006_ENVR_BH30	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH31	2006_ENVR_BH31	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BH31	2006_ENVR_BH31	Judgemental Samples	Envirorisk Dec 2005	0.5	-	-	-	-	-	-	-	-	-	-
BH32	2006_ENVR_BH32	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BH33	2006_ENVR_BH33	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
RB1	2006_ENVR_RB1	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
RB1	2006_ENVR_RB1	Judgemental Samples	Envirorisk Dec 2005	0.25	-	-	-	-	-	-	-	-	-	-
RB2	2006_ENVR_RB2	Judgemental Samples	Envirorisk Dec 2005	0.1	-	-	-	-	-	-	-	-	-	-
BW1	2006_ENVR_BW1	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-
BW2	2006_ENVR_BW2	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-
BW3	2006_ENVR_BW3	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-
BW4	2006_ENVR_BW4	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-
BW5	2006_ENVR_BW5	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-
BW6	2006_ENVR_BW6	Soil Analytical Data (Bund Walls)	Envirorisk Dec 2005	-	-	-	-	-	-	-	-	-	-	-
SED 1	2006_ENVR_SED 1	Soil Analytical Data (Sediments)	21-Dec-05	-	-	-	-	-	-	-	-	-	-	-
SED 2	2006_ENVR_SED 2	Soil Analytical Data (Sediments)	21-Dec-05	-	-	-	-	-	-	-	-	-	-	-
SED 3	2006_ENVR_SED 3	Soil Analytical Data (Sediments)	21-Dec-05	-	-	-	-	-	-	-	-	-	-	-

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

						Polychlorinated Biphenyls									Halogenated Benzenes
						Bromophos-ethyl	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	Hexachlorobenzene
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL						0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Recreational C Soil														1[45]	10
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential C Soil															
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*															
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m															
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m															
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil															
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil															
ANZG 2018 DGV Toxicant values for Sediments (Table 1)														0.034	
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay															
>=0m, <1m															
>=1m, <2m															
>=2m, <4m															
>=4m															
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand															
>=0m, <1m															
>=1m, <2m															
>=2m, <4m															
>=4m															
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt															
>=0m, <1m															
>=1m, <2m															
>=2m, <4m															
>=4m															
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**											
Environmental Strategies (2014), Phase 2 Detailed Site Investigation															
BH39	2014_ES_BH39	Area A	2014	1		-	-	-	-	-	-	-	-	-	-
BH39	2014_ES_BH39	Area A	2014	1.7		-	-	-	-	-	-	-	-	-	-
BH41	2014_ES_BH41	Area A	2014	0.2		-	-	-	-	-	-	-	-	-	-
BH41	2014_ES_BH41	Area A	2014	0.8		-	-	-	-	-	-	-	-	-	-
BH42	2014_ES_BH42	Area A	2014	0.2		-	-	-	-	-	-	-	-	-	-
BH42	2014_ES_BH42	Area A	2014	1		-	-	-	-	-	-	-	-	-	-
BH44	2014_ES_BH44	Area A	2014	0.2		-	-	-	-	-	-	-	-	-	-
BH44	2014_ES_BH44	Area A	2014	0.5		-	-	-	-	-	-	-	-	-	-
BH46	2014_ES_BH46	Area A	2014	0.2		-	-	-	-	-	-	-	-	-	-
BH46	2014_ES_BH46	Area A	2014	0.4		-	-	-	-	-	-	-	-	-	-
BH47	2014_ES_BH47	Area A	2014	0.2		-	-	-	-	-	-	-	-	-	-
BH47	2014_ES_BH47	Area A	2014	2.5		-	-	-	-	-	-	-	-	-	-
BH48	2014_ES_BH48	Area A	2014	0.2		-	-	-	-	-	-	-	-	-	-
BH48	2014_ES_BH48	Area A	2014	3		-	-	-	-	-	-	-	-	-	-
BH49	2014_ES_BH49	Area A	2014	1.6		-	-	-	-	-	-	-	-	-	-
BH49	2014_ES_BH49	Area A	2014	2.3		-	-	-	-	-	-	-	-	-	-
ES3	2014_ES_ES3	Area A	2014	0.25		-	-	-	-	-	-	-	-	-	-
ES3	2014_ES_ES3	Area A	2014	0.5		-	-	-	-	-	-	-	-	-	-
MW1	2014_ES_MW1	Area A	2014	0.5		-	-	-	-	-	-	-	-	-	-
MW3	2014_ES_MW3	Area A	2014	0.25		-	-	-	-	-	-	-	-	-	-
MW3	2014_ES_MW3	Area A	2014	2.5		-	-	-	-	-	-	-	-	-	-
TP37	2014_ES_TP37	Area B	2014	0.85		-	-	-	-	-	-	-	-	-	-
TP37	2014_ES_TP37	Area B	2014	2.2		-	-	-	-	-	-	-	-	-	-
TP13	2014_ES_TP13	Area C	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP13	2014_ES_TP13	Area C	2014	0.65		-	-	-	-	-	-	-	-	-	-
TP16	2014_ES_TP16	Area C	2014	0.45		-	-	-	-	-	-	-	-	-	-
TP17	2014_ES_TP17	Area C	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP17	2014_ES_TP17	Area C	2014	1.4		-	-	-	-	-	-	-	-	-	-
TP18	2014_ES_TP18	Area C	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP18	2014_ES_TP18	Area C	2014	1.25		-	-	-	-	-	-	-	-	-	-
TP19	2014_ES_TP19	Area C	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP19	2014_ES_TP19	Area C	2014	0.7		-	-	-	-	-	-	-	-	-	-
TP20	2014_ES_TP20	Area C	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP20	2014_ES_TP20	Area C	2014	1		-	-	-	-	-	-	-	-	-	-
TP29	2014_ES_TP29	Area C	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP29	2014_ES_TP29	Area C	2014	1.6		-	-	-	-	-	-	-	-	-	-
TP30	2014_ES_TP30	Area C	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP30	2014_ES_TP30	Area C	2014	1.1		-	-	-	-	-	-	-	-	-	-
TP35	2014_ES_TP35	Area C	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP35	2014_ES_TP35	Area C	2014	2.2		-	-	-	-	-	-	-	-	-	-
TP36	2014_ES_TP36	Area C	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP36	2014_ES_TP36	Area C	2014	3.5		-	-	-	-	-	-	-	-	-	-
TP01	2014_ES_TP01	Area D	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP01	2014_ES_TP01	Area D	2014	1.2		-	-	-	-	-	-	-	-	-	-
TP03	2014_ES_TP03	Area D	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP03	2014_ES_TP03	Area D	2014	1.6		-	-	-	-	-	-	-	-	-	-
TP04	2014_ES_TP04	Area D	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP04	2014_ES_TP04	Area D	2014	2.25		-	-	-	-	-	-	-	-	-	-
TP05	2014_ES_TP05	Area D	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP06	2014_ES_TP06	Area D	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP09	2014_ES_TP09	Area D	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP09	2014_ES_TP09	Area D	2014	1.1		-	-	-	-	-	-	-	-	-	-
TP10	2014_ES_TP10	Area D	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP10	2014_ES_TP10	Area D	2014	1		-	-	-	-	-	-	-	-	-	-
TP11	2014_ES_TP11	Area D	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP24	2014_ES_TP24	Area D	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP25	2014_ES_TP25	Area D	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP26	2014_ES_TP26	Area D	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP27	2014_ES_TP27	Area D	2014	0.2		-	-	-	-	-	-	-	-	-	-
TP28	2014_ES_TP28	Area D	2014	0.2		-	-	-	-	-	-	-	-	-	-
SED1CR	2014_ES_SED1CR	Area E - Sediment Samples	02-Apr-14	0.2-0.4		-	-	-	-	-	-	-	-	-	-
SED2CR	2014_ES_SED2CR	Area E - Sediment Samples	02-Apr-14	0.2-0.4		-	-	-	-	-	-	-	-	-	-
SED3CR	2014_ES_SED3CR	Area E - Sediment Samples	02-Apr-14	0.2-0.4		-	-	-	-	-	-	-	-	-	-
SED7CR	2014_ES_SED7CR	Area E - Sediment Samples	02-Apr-14	0.2-0.4		-	-	-	-	-	-	-	-	-	-
SED8CR	2014_ES_SED8CR	Area E - Sediment Samples	04-Apr-14	0.2-0.4		-	-	-	-	-	-	-	-	-	-

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

REDITUS

						Polychlorinated Biphenyls								Halogenated Benzenes
					Bromophos-ethyl	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	Hexachlorobenzene
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Recreational C Soil													**1[#5]**	**10**
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential C Soil														
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*														
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m														
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m														
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil														
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil														
ANZG 2018 DGV Toxicant values for Sediments (Table 1)													**0.034**	
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay														
>=0m, <1m														
>=1m, <2m														
>=2m, <4m														
>=4m														
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand														
>=0m, <1m														
>=1m, <2m														
>=2m, <4m														
>=4m														
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt														
>=0m, <1m														
>=1m, <2m														
>=2m, <4m														
>=4m														
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**										
Acadis (2017a), Additional Environmental Assessment														
TP4	2017_ARC_TP4	-	10-Jan-17	1	-	-	-	-	-	-	-	-	-	-
TP4	2017_ARC_TP4	-	10-Jan-17	2.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP5	2017_ARC_TP5	-	10-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-
TP6	2017_ARC_TP6	-	10-Jan-17	1	-	-	-	-	-	-	-	-	-	-
TP7	2017_ARC_TP7	-	10-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-
TP8	2017_ARC_TP8	-	10-Jan-17	1	-	-	-	-	-	-	-	-	-	-
TP12	2017_ARC_TP12	-	10-Jan-17	1	-	-	-	-	-	-	-	-	-	-
TP16	2017_ARC_TP16	-	11-Jan-17	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP16	2017_ARC_TP16	-	11-Jan-17	1	-	-	-	-	-	-	-	-	-	-
TP19	2017_ARC_TP19	-	11-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-
TP19	2017_ARC_TP19	-	11-Jan-17	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP20	2017_ARC_TP20	-	11-Jan-17	1	-	-	-	-	-	-	-	-	-	-
TP31	2017_ARC_TP31	-	12-Jan-17	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP32	2017_ARC_TP32	-	12-Jan-17	1	-	-	-	-	-	-	-	-	-	-
TP22	2017_ARC_TP22	-	11-Jan-17	1	-	-	-	-	-	-	-	-	-	-
TP22	2017_ARC_TP22	-	11-Jan-17	2.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP23	2017_ARC_TP23	-	11-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-
TP24	2017_ARC_TP24	-	11-Jan-17	1	-	-	-	-	-	-	-	-	-	-
TP25	2017_ARC_TP25	-	11-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-
TP25	2017_ARC_TP25	-	11-Jan-17	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP26	2017_ARC_TP26	-	11-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-
TP27	2017_ARC_TP27	-	11-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-
TP28	2017_ARC_TP28	-	11-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-
TP28	2017_ARC_TP28	-	11-Jan-17	4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TP30	2017_ARC_TP30	-	12-Jan-17	1	-	-	-	-	-	-	-	-	-	-
TP33	2017_ARC_TP33	-	12-Jan-17	0.5	-	-	-	-	-	-	-	-	-	-
SED D1L2	2017_ARC_SED D1L2	-	13-Jan-17	Sediment	-	-	-	-	-	-	-	-	-	-
SED D1L3	2017_ARC_SED D1L3	-	13-Jan-17	Sediment	-	-	-	-	-	-	-	-	-	-
SED D2L1	2017_ARC_SED D2L1	-	13-Jan-17	Sediment	-	-	-	-	-	-	-	-	-	-
SED D2L2	2017_ARC_SED D2L2	-	13-Jan-17	Sediment	-	-	-	-	-	-	-	-	-	-
SED D2L3	2017_ARC_SED D2L3	-	13-Jan-17	Sediment	-	-	-	-	-	-	-	-	-	-
Arcadis (2018), Additional Environmental Assessment - Production Area														
ABH3	2018_ARC_ABH3	-	28-Nov-17	0.2	-	-	-	-	-	-	-	-	-	-
ABH3	2018_ARC_ABH3	-	28-Nov-17	1.5	-	-	-	-	-	-	-	-	-	-
ABH3	2018_ARC_ABH3	-	28-Nov-17	2	-	-	-	-	-	-	-	-	-	-
ABH5	2018_ARC_ABH5	-	28-Nov-17	0.2	-	-	-	-	-	-	-	-	-	-
ABH5	2018_ARC_ABH5	-	28-Nov-17	1	-	-	-	-	-	-	-	-	-	-
ABH5	2018_ARC_ABH5	-	28-Nov-17	2	-	-	-	-	-	-	-	-	-	-
ABH6	2018_ARC_ABH6	-	28-Nov-17	0.5	-	-	-	-	-	-	-	-	-	-
ABH6	2018_ARC_ABH6	-	28-Nov-17	1.5	-	-	-	-	-	-	-	-	-	-
ABH6	2018_ARC_ABH6	-	28-Nov-17	4.5	-	-	-	-	-	-	-	-	-	-
MW11	2018_ARC_MW11	-	27-Nov-17	0.35	-	-	-	-	-	-	-	-	-	-
MW11	2018_ARC_MW11	-	27-Nov-17	3	-	-	-	-	-	-	-	-	-	-
MW11	2018_ARC_MW11	-	27-Nov-17	4	-	-	-	-	-	-	-	-	-	-
MW13	2018_ARC_MW13	-	28-Nov-17	0.35	-	-	-	-	-	-	-	-	-	-
MW13	2018_ARC_MW13	-	28-Nov-17	0.8	-	-	-	-	-	-	-	-	-	-
MW13	2018_ARC_MW13	-	28-Nov-17	3	-	-	-	-	-	-	-	-	-	-
Arcadis (2018), Flue, Stack and Powerhouse Assessment														
SS1	2018_ARC_SS1	SS1	19-Feb-18	-	-	-	-	-	-	-	-	-	-	-
SS5	2018_ARC_SS5	SS5	19-Feb-18	-	-	-	-	-	-	-	-	-	-	-

Table 3 - Historical Soil Results, Public Open Space Land USe Sample Locations

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						Polychlorinated Biphenyls									Halogenated Benzenes
					Bromophos-ethyl	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	Hexachlorobenzene
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL					0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NEPM 2013 Table 1A(1) HILs Recreational C Soil													**1[#5]**	**10**
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential C Soil														
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*														
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m														
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m														
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil														
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil														
ANZG 2018 DGV Toxicant values for Sediments (Table 1)													**0.034**	
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay														
>=0m, <1m														
>=1m, <2m														
>=2m, <4m														
>=4m														
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand														
>=0m, <1m														
>=1m, <2m														
>=2m, <4m														
>=4m														
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt														
>=0m, <1m														
>=1m, <2m														
>=2m, <4m														
>=4m														
Field ID	**Location Code**	**Description**	**Sampled Date**	**Sample Depth (m)**										
Reditus 2020 Data Gap Investigation														
RCBH1	2020_Red_RCBH1	-	18-Mar-20	1	-	-	-	-	-	-	-	-	-	<0.1
RCBH1_3.0M	2020_Red_RCBH1	-	18-Mar-20	3	-	-	-	-	-	-	-	-	-	-
RCBH1_5.0M	2020_Red_RCBH1	-	18-Mar-20	5	-	-	-	-	-	-	-	-	-	<0.5
RCBH2_1.0M	2020_Red_RCBH2	-	18-Mar-20	1	-	-	-	-	-	-	-	-	-	<0.5
RCBH2_2.5M	2020_Red_RCBH2	-	18-Mar-20	2.5	-	-	-	-	-	-	-	-	-	<0.5
RCBH2_4.0M	2020_Red_RCBH2	-	18-Mar-20	4	-	-	-	-	-	-	-	-	-	-
RCBH2_5.0M	2020_Red_RCBH2	-	18-Mar-20	5	-	-	-	-	-	-	-	-	-	<0.5
RCMW2_0.5M	2020_Red_RCMW2	-	18-Mar-20	0.5	-	-	-	-	-	-	-	-	-	<0.5
RCMW2_1.0M	2020_Red_RCMW2	-	18-Mar-20	1	-	-	-	-	-	-	-	-	-	-
RCMW2_3.5M	2020_Red_RCMW2	-	18-Mar-20	3.5	-	-	-	-	-	-	-	-	-	-
RCMW2_5.5M	2020_Red_RCMW2	-	18-Mar-20	5.5	-	-	-	-	-	-	-	-	-	-
RCMW3_1.5M	2020_Red_RCMW3	-	18-Mar-20	1.5	-	-	-	-	-	-	-	-	-	-
RCMW3_2.5M	2020_Red_RCMW3	-	18-Mar-20	2.5	-	-	-	-	-	-	-	-	-	-
RCMW3_4.5M	2020_Red_RCMW3	-	18-Mar-20	4.5	-	-	-	-	-	-	-	-	-	-
RCMW3_6.5M	2020_Red_RCMW3	-	18-Mar-20	6.5	-	-	-	-	-	-	-	-	-	-
RCMW3_7.5M	2020_Red_RCMW3	-	18-Mar-20	7.5	-	-	-	-	-	-	-	-	-	-
RCTP1_4.0	2020_Red_RCTP1	-	25-Mar-20	4	-	-	-	-	-	-	-	-	-	-
RCTP3_1.0	2020_Red_RCTP3	-	25-Mar-20	1	-	-	-	-	-	-	-	-	-	-
RCTP3_2.0	2020_Red_RCTP3	-	25-Mar-20	2	-	-	-	-	-	-	-	-	-	-
RCTP4_0.3	2020_Red_RCTP4	-	25-Mar-20	0.3	-	-	-	-	-	-	-	-	-	<0.5
RCTP4_1.0	2020_Red_RCTP4	-	25-Mar-20	1	-	-	-	-	-	-	-	-	-	<0.5
RCTP4_3.0	2020_Red_RCTP4	-	25-Mar-20	3	-	-	-	-	-	-	-	-	-	-
RCTP4_5.7	2020_Red_RCTP4	-	25-Mar-20	5.7	-	-	-	-	-	-	-	-	-	-
RCTP5_0.5	2020_Red_RCTP5	-	25-Mar-20	0.5	-	-	-	-	-	-	-	-	-	<0.5
RCTP5_1.5	2020_Red_RCTP5	-	25-Mar-20	1.5	-	-	-	-	-	-	-	-	-	-
RCTP5_2.2	2020_Red_RCTP5	-	25-Mar-20	2.2	-	-	-	-	-	-	-	-	-	-
RCTP5_4.0	2020_Red_RCTP5	-	25-Mar-20	4	-	-	-	-	-	-	-	-	-	-
RCTP5_5.8	2020_Red_RCTP5	-	25-Mar-20	5.8	-	-	-	-	-	-	-	-	-	-
RCTP6_0.5	2020_Red_RCTP6	-	25-Mar-20	0.5	-	-	-	-	-	-	-	-	-	<0.5
RCTP6_2.0	2020_Red_RCTP6	-	25-Mar-20	2	-	-	-	-	-	-	-	-	-	-
RCTP6_4.0	2020_Red_RCTP6	-	25-Mar-20	4	-	-	-	-	-	-	-	-	-	-
RCTP6_6.0	2020_Red_RCTP6	-	25-Mar-20	6	-	-	-	-	-	-	-	-	-	-
RCTP7_1.0	2020_Red_RCTP7	-	25-Mar-20	1	-	-	-	-	-	-	-	-	-	<0.5
RCTP7_3.0	2020_Red_RCTP7	-	25-Mar-20	3	-	-	-	-	-	-	-	-	-	-
RCTP7_5.6	2020_Red_RCTP7	-	25-Mar-20	5.6	-	-	-	-	-	-	-	-	-	-
RCTP8_0.5	2020_Red_RCTP8	-	25-Mar-20	0.5	-	-	-	-	-	-	-	-	-	<0.5
RCTP8_2.5	2020_Red_RCTP8	-	25-Mar-20	2.5	-	-	-	-	-	-	-	-	-	-
RCTP8_5.2	2020_Red_RCTP8	-	25-Mar-20	5.2	-	-	-	-	-	-	-	-	-	-
RCTP11_3.0	2020_Red_RCTP11	-	25-Mar-20	3	-	-	-	-	-	-	-	-	-	<0.5
RCTP11_5.0	2020_Red_RCTP11	-	25-Mar-20	5	-	-	-	-	-	-	-	-	-	-

Consolidated DSI
Former Corrimal Coke Works, Railway St, Corrimal NSW
22158RP04

Table 4 - Soil Assessment Criteria

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	Asbestos			BTEX					TRH						PAHs			
	Friable Asbestos (AF/FA)	Asbestos (Bonded ACM >7mm)	All Forms of Asbestos	Naphthalene (BTEX)	Benzene	Toluene	Ethylbenzene	Xylene Total	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	Benzo(a) pyrene	Naphthalene	Benzo(a)pyrene TEQ /TEQ Half	PAHs (Sum of total)
	%w/w	%w/w	Detect	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NEPM 2013 Table 1A(1) HILs Residential A Soil																	3[#1]	300
NEPM 2013 Table 1A(1) HILs Residential B Soil																	4[#1]	400
NEPM 2013 Table 1A(1) HILs Recreational C Soil																	3[#1]	300
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential A Soil	0.001	0.01	ND															
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil	0.001	0.04	ND															
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential C Soil	0.001	0.02	ND															
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*				170												170		
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m					50	85	70	105		180[#7]	120[#8]	120[#9]	300	2,800	0.7			
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m					65	105	125	45		180[#10]	120[#8]	120[#9]	1,300	5,600	0.7			
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil									700[#11]		1,000[#11]		2,500	10,000				
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil									800[#11]		1,000[#11]		3,500	10,000				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																		
>=0m, <1m				5	0.7	480	NL	110		50[#7]		280[#12]				5		
>=1m, <2m				NL	1	NL	NL	310		90		NL				NL		
>=2m, <4m				NL	2	NL	NL	NL		150		NL				NL		
>=4m				NL	3	NL	NL	NL		290		NL				NL		
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																		
>=0m, <1m				3	0.5	160	55	40		45[#7]		110[#12]				3		
>=1m, <2m				NL	0.5	220	NL	60		70		240				NL		
>=2m, <4m				NL	0.5	310	NL	95		110		440				NL		
>=4m				NL	0.5	540	NL	170		200		NL				NL		
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																		
>=0m, <1m				4	0.6	390	NL	95		40[#7]		230[#12]				4		
>=1m, <2m				NL	0.7	NL	NL	210		65		NL				NL		
>=2m, <4m				NL	1	NL	NL	NL		100		NL				NL		
>=4m				NL	2	NL	NL	NL		190		NL				NL		
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay																		
>=0m, <1m				NL	NL	NL	NL	NL		NL		NL				NL		
>=1m, <2m				NL	NL	NL	NL	NL		NL		NL				NL		
>=2m, <4m				NL	NL	NL	NL	NL		NL		NL				NL		
>=4m				NL	NL	NL	NL	NL		NL		NL				NL		
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand																		
>=0m, <1m				NL	NL	NL	NL	NL		NL		NL				NL		
>=1m, <2m				NL	NL	NL	NL	NL		NL		NL				NL		
>=2m, <4m				NL	NL	NL	NL	NL		NL		NL				NL		
>=4m				NL	NL	NL	NL	NL		NL		NL				NL		
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt																		
>=0m, <1m				NL	NL	NL	NL	NL		NL		NL				NL		
>=1m, <2m				NL	NL	NL	NL	NL		NL		NL				NL		
>=2m, <4m				NL	NL	NL	NL	NL		NL		NL				NL		
>=4m				NL	NL	NL	NL	NL		NL		NL				NL		

*Generic & site-specific EIL values adopted from Arcadis (2019) RAP Appendix C, Table 2.
**Chromium III+IV HIL values adopted from Arcadis (2019) RAP Appendix C, Table 6.

Comments
ND - No visible or reported asbestos detected within top 0.1m of the ground surface
AF/FA - Defined as friable asbestos material <7mm or able to be pulverised by hand pressure, such as severely weathered ACM and asbestos in the form of loose fibrous material (i.e., insulation products).
Bonded ACM >7mm - Defined as "Products or materials that contain asbestos in an inert bound matrix such as cement or resin. Here taken to be sound material, even as fragments and fitting through a 7 x 7mm sieve.
#1 Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Schedule 7) BaP TEQ calc by multiplying the conc of each carc. PAH in sample by its BaP TEF (ref Table 1A(1)) & summing
#2 Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability maybe important and should be considered where appropriate (refer Shedule B7).
#3 Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead model for where 50% bioavailability considered. Site-specific bioavailability should be considered where appropriate.
#4 Elemental mercury: HIL does not address elemental mercury. a site specific assessment should be considered if elemental mercury is present, or suspected to be present.
#5 PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or suspected at a site, a site-specific assessment of exposure to all PCBs (inc dioxin like PCBs) should be undertaken
#6 Aged values apply to arsenic contamination present in soil > 2 years. Refer Schedule B5c for < 2 years.
#7 To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#8 ERRATA Updated 30 April 2014 . Naphthalene should not be subtracted.
#9 Errata 30 April 2014. Naphthalene should not be subtracted from >C
#10 Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#11 Separate management limits for BTEX & naphthalene are not available hence should not be subtracted from the relevant fractions to obtain F1 & F2
#12 To obtain F2 subtract napthalene from the >C10 - C16 fraction.
NL - Derived soil HSL exceeds soil saturation concentraiton, non-limiting

Table 4 - Soil Assessment Criteria

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	Metals								OCP/OPP										Phenols	PCBs
	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	Aldrin +Dieldrin	Chlordane	Endosulfan	DDT	DDT+DDE+DDD	Endrin	Heptachlor	Hexachlorobenzene	Methoxychlor	Chlorpyrifos	Total Phenolic Compounds	PCBs (Sum of total)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NEPM 2013 Table 1A(1) HILs Residential A Soil	100[#2]	20	500**	6,000	300[#3]	40[#4]	400	7,400	7	50	300		240	10	6	10	300	160	3,000	1[#5]
NEPM 2013 Table 1A(1) HILs Residential B Soil	500[#2]	150	500**	30,000	1,200[#3]	120[#4]	1,200	60,000	10	100	460		600	20	10	15	500	340	50,000	1[#5]
NEPM 2013 Table 1A(1) HILs Recreational C Soil	300[#2]	90	300**	17,000	600[#3]	80[#4]	1,200	30,000	9	80	400		400	20	10	10	400	250	45,000	1[#5]
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential A Soil																				
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential B Soil																				
NEPM 2013 Table 7 HSLs for Asbestos in Soil - Residential C Soil																				
NEPM 2013 Table 1B(1-4) Generic & Site Specific EIL - Urban Res & Public Open Space*	104		408	210	1,116		175	400				180								
NEPM 2013 Table 1B(6) ESLs for Urban Res, Coarse Soil >=0m, <2m																				
NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil >=0m, <2m																				
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Coarse Soil																				
NEPM 2013 Table 1B(7) Management Limits in Res / Parkland, Fine Soil																				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																				
>=0m, <1m																				
>=1m, <2m																				
>=2m, <4m																				
>=4m																				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Sand																				
>=0m, <1m																				
>=1m, <2m																				
>=2m, <4m																				
>=4m																				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Silt																				
>=0m, <1m																				
>=1m, <2m																				
>=2m, <4m																				
>=4m																				
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay																				
>=0m, <1m																				
>=1m, <2m																				
>=2m, <4m																				
>=4m																				
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Sand																				
>=0m, <1m																				
>=1m, <2m																				
>=2m, <4m																				
>=4m																				
NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Silt																				
>=0m, <1m																				
>=1m, <2m																				
>=2m, <4m																				
>=4m																				

Appendix C – Conceptual Design Plans

Stage 1 = ***183***
Stage 2 = ***117***
Stage 3 = ***114***
Stage 4 =***109***



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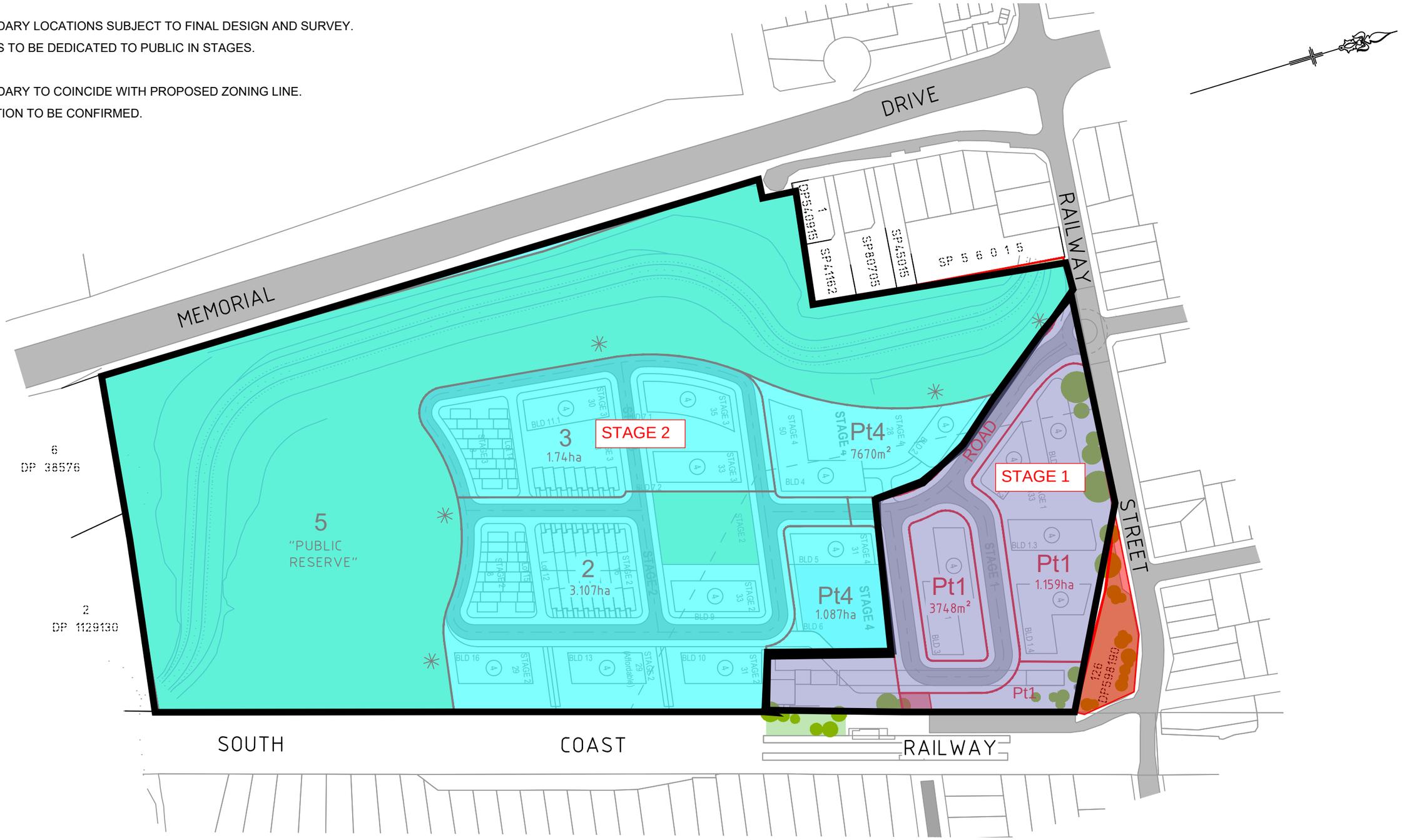
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Project Name	Corrimal Coke Works
Project Address	27 Railway Street, Corrimal, NSW 2518
Client	Legacy Property
Date	August 2020
Project Number	11877
Drawing Name	Staging Plan
Scale	1:2000 @ A3
Drawing Number	**SK10.9**
Revision	**01**

NOTES:

- BOUNDARY LOCATIONS SUBJECT TO FINAL DESIGN AND SURVEY.
- ROADS TO BE DEDICATED TO PUBLIC IN STAGES.

✳ BOUNDARY TO COINCIDE WITH PROPOSED ZONING LINE.
LOCATION TO BE CONFIRMED.



SUBDIVISION DA STAGING PLAN

Appendix D – Compiled Historical Bore Logs

Borehole Log

Environmental Strategies Pty Ltd
Suite 15201, Locomotive Workshop
2 Locomotive Street
Eveleigh NSW 2012
Tel: +61 (0)2 9690 2555
www.environmentalstrategies.com.au

Hole ID.	**ES1**
Project Number:	**14016**
Hole Depth:	**2.60 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**
Location / Site:	**Railway Street, Corrimal NSW**
Client:	**Illawarra Coke Company**
Drilling Company:	**BHC Drilling**
Drill Method:	**Solid Flight Auger**

Date Started:	**27/03/2014**
Date Completed:	**26/06/2014**
Ground Level :	
Top of Casing :	
Easting:	**307301.56**
Northing:	**6194131.58**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Solid Flight Auger		0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6, 1.8, **2.00**				Fill	**FILL** - COKE and COALWASH, black, with some ash.	dry	ES1_0.5 ES1_1.0	
		2.2, 2.4, **2.60**			CL	Natural	**CLAY** - red / brown, stiff, plastic.	dry	ES1_2.5	
		2.8, 3.0					**End of Hole at 2.60 m**			

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **David Jackson**	Date: **27/03/2014 - 26/06/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:07:49 PM

Borehole Log

Environmental Strategies Pty Ltd
Suite 15201, Locomotive Workshop
2 Locomotive Street
Eveleigh NSW 2012
Tel: +61 (0)2 9690 2555
www.environmentalstrategies.com.au

Hole ID.	**ES2**
Project Number:	**14016**
Hole Depth:	**2.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**27/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**26/06/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**BHC Drilling**	Top of Casing :	
Drill Method:	**Solid Flight Auger**	Easting:	**307273.22**
		Northing:	**6194198.46**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Solid Flight Auger		0.05				Fill	**BITUMEN**.			
		0.10					**FILL** - Roadbase. Silty CLAY, grey, with crushed basalt.	dry		
		0.2						dry		
		0.4					**FILL** - Crushed ROCK, angular to sub-angular gravels 20-40mm, mixed with non plastic silty clay.		ES2_0.5	
		0.6								
		0.8								
		1.0							ES2_1.0	
		1.2								
		1.40								
		1.50					**FILL** - Reworked CLAY, grey / white, with crushed sandstone gravels.	moist	ES2_1.5	
		1.60			CL		**CLAY** - brown, soft.	moist		
		1.8			CL	Natural	**Sandy CLAY** - brown, stiff to hard, non plastic.	dry		
		2.00							ES2_2.0	
		2.2					**End of Hole at 2.00 m**			
		2.4								
		2.6								
		2.8								
		3.0								

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **27/03/2014 - 26/06/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:07:50 PM

Borehole Log

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Tel: +61 (0)2 9690 2555
www.environmentalstrategies.com.au

Hole ID.	**ES3**
Project Number:	**14016**
Hole Depth:	**1.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**27/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**26/06/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**BHC Drilling**	Top of Casing :	
Drill Method:	**Solid Flight Auger**	Easting:	**307366.63**
		Northing:	**6194348.85**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Solid Flight Auger		0.10				Fill	**BITUMEN**.			
		0.2					**FILL** - Reworked CLAY, black, with coke wash mixed throughout.	dry	ES3_0.25	
		0.40			CL	Natural	**Silty CLAY** - brown, non cohesive, alluvial.	dry	ES3_0.5	
		0.6								
		0.8								
		1.00							ES3_1.0	
							End of Hole at 1.00 m			
		1.2								
		1.4								
		1.6								
		1.8								
		2.0								
		2.2								
		2.4								
		2.6								
		2.8								
		3.0								

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **27/03/2014 - 26/06/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:07:51 PM

Borehole Log

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Hole ID.	**ES4**
Project Number:	**14016**
Hole Depth:	**1.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**27/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**26/06/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**BHC Drilling**	Top of Casing :	
Drill Method:	**Solid Flight Auger**	Easting:	**307241.87**
		Northing:	**6194326.63**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Solid Flight Auger		0.2 0.4 0.60				Fill	**FILL** - COKE and COALWASH, black, mixed with clay.	dry	ES4_0.2	
		0.8 1.00			CL	Natural	**CLAY** - brown / orange, stiff, slightly plastic, cohesive.	dry to moist	ES4_1.0	
		1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0					**End of Hole at 1.00 m**			

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **David Jackson**	Date: **27/03/2014 - 26/06/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:07:52 PM

Borehole Log

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Hole ID.	**ES5**
Project Number:	**14016**
Hole Depth:	**1.45 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**27/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**26/06/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**BHC Drilling**	Top of Casing :	
Drill Method:	**Solid Flight Auger**	Easting:	**307231.96**
		Northing:	**6194352.28**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Solid Flight Auger		0.2 0.4 **0.60**				Fill	**FILL** - COKE and COALWASH, black, mixed with clay.	dry wet	ES5_0.5	
		0.8 1.0 1.2 1.4 **1.45**			CL	Natural	**CLAY** - grey / brown / orange, stiff, plastic, cohesive.	dry to moist	ES5_1.0 ES5_1.45	
		1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0					**End of Hole at 1.45 m**			

Additional Comments

Strike Groundwater Level Static Groundwater Level

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **David Jackson**
Checked By:

Date: **27/03/2014 - 26/06/2014**
Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:07:53 PM

Borehole Log

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Hole ID.	**ES6**
Project Number:	**14016**
Hole Depth:	**1.55 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**27/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**26/06/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**BHC Drilling**	Top of Casing :	
Drill Method:	**Solid Flight Auger**	Easting:	**307289.62**
		Northing:	**6194357.69**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Solid Flight Auger		0.06				Fill	**BITUMEN**.			
		0.2					**FILL** - COKE and COALWASH, black.	dry		
		0.4							ES6_0.5	
		0.6								
		0.70								
		0.8			CL	Natural	**Silty CLAY** - brown, non plastic, non cohesive.	dry		
		1.0							ES6_1.0	
		1.2					Becoming more cohesive at 1.3m.			
		1.40								
		1.55			CL		**CLAY** - red / orange / white mottled, stiff, no plasticity, slightly cohesive.	dry	ES6_1.5	
		1.6					**End of Hole at 1.55 m**			
		1.8								
		2.0								
		2.2								
		2.4								
		2.6								
		2.8								
		3.0								

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **27/03/2014 - 26/06/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:07:54 PM

Test Pit Log

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2 Locomotive Street
Eveleigh NSW 2012
Tel: +61 (0)2 9690 2555
www.environmentalstrategies.com.au

Hole ID.	**TP1**
Project Number:	**14016**
Hole Depth:	**1.20 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307147.39**
		Northing:	**6194375.06**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
							Grass on surface.			
Excavation		0.5				Fill	**FILL** - Sandy CLAY, black, coal wash mixed throughout, wood, steel plates, pipes, reinforcement bar, crushed bricks, rubber.	dry	TP1_0.2	
		0.60					**FILL** - COKE.	dry		
		0.75								
		1.0			CL	Natural	**Sandy Silty CLAY** - brown, non plastic, rootlets present 0.75 to 0.9m.	dry	TP1_0.8	
		1.20							TP1_1.2	
							End of Hole at 1.20 m			
		1.5								
		2.0								
		2.5								
		3.0								

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **19/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:06:16 PM

Test Pit Log

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Hole ID.	**TP2**
Project Number:	**14016**
Hole Depth:	**1.10 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307172.83**
		Northing:	**6194372.92**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
							Grass on surface.			
Excavation		0.40				Fill	**FILL** - Sandy CLAY, black, coal wash mixed throughout, with orange mottled slightly plastic clay clumps.	dry	TP2_0.2	
		0.5			CL	Natural	**Silty CLAY** - brown.	dry	TP2_0.5	
		0.90								
		1.0			CL		**CLAY** - grey / red / orange mottled, stiff, non plastic, slightly cohesive.	dry		
		1.10					**End of Hole at 1.10 m**			
		1.5								
		2.0								
		2.5								
		3.0								

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **19/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:06:17 PM

Test Pit Log

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2 Locomotive Street
Eveleigh NSW 2012
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Hole ID.	**TP3**
Project Number:	**14016**
Hole Depth:	**1.60 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307166.19**
		Northing:	**6194329.28**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
							Grass on surface.			
Excavation		0.5				Fill	**FILL** - Sandy CLAY, black, with coal wash, crushed basalt and sandstone, bricks. Coke mixed throughout from 0.5m.	dry	TP3_0.2	
		0.80					**FILL** - COKE.	dry	TP3_1.1	
		1.0								
		1.20								
		1.5			CL	Natural	**Silty CLAY** - brown, non cohesive, roots present 1.2 to 1.5m.	dry	TP3_1.6	
		1.60					**End of Hole at 1.60 m**			
		2.0								
		2.5								
		3.0								

Additional Comments

Strike Groundwater Level Static Groundwater Level

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **David Jackson** Date: **19/03/2014**
Checked By: Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:06:18 PM

Test Pit Log

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Suite 15201, Locomotive Workshop
2 Locomotive Street
Eveleigh NSW 2012
Tel: +61 (0)2 9690 2555
www.environmentalstrategies.com.au

Hole ID.	**TP4**
Project Number:	**14016**
Hole Depth:	**2.85 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307153.96**
		Northing:	**6194328.92**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
							Grass on surface.			
Excavation		0.40				Fill	**FILL** - Sandy CLAY, black, with coal wash mixed throughout, bricks, crushed rock, sandstone and shale.	dry to moist	TP4_0.2	
		0.5					**FILL** - CLAY, grey / brown / orange, soft to medium stiff, slightly plastic, slightly cohesive, crushed brick and sandstone.	dry	TP4_0.45	
		0.81					**FILL** - COKE WASH and Fines.	dry	TP4_0.85	
		1.0								
		1.5								
		2.0							TP4_1.9	Hydrocarbon odour 1.8 to 2.1m.
		2.10			CL	Natural	**CLAY** - grey / white / yellow / brown mottled, stiff to medium stiff, slightly plastic, non cohesive.	moist	TP4_2.25	
		2.5								
		2.85							TP4_2.75	
		3.0					**End of Hole at 2.85 m**			

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **19/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:06:19 PM

Test Pit Log

Environmental Strategies Pty Ltd
Suite 15201, Locomotive Workshop
2 Locomotive Street
Eveleigh NSW 2012
Tel: +61 (0)2 9690 2555
www.environmentalstrategies.com.au

Hole ID.	**TP5**
Project Number:	**14016**
Hole Depth:	**2.80 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307147.85**
		Northing:	**6194299.72**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Excavation		0.5 1.00 1.5 2.0 2.5 2.80				Fill	**FILL** - Sandy CLAY, black, with coal wash mixed throughout, bricks, crushed basalt, steel, wire.	dry	TP5_0.2	
							FILL - COKE WASH and Fines, fine to coarse gravel 1-2mm to 20-33mm.	dry	TP5_1.1	
									TP5_2.8	
		3.0					**End of Hole at 2.80 m**			

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **19/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:06:20 PM

Test Pit Log

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Suite 15201, Locomotive Workshop
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Eveleigh NSW 2012
Tel: +61 (0)2 9690 2555
www.environmentalstrategies.com.au

Hole ID.	**TP6**
Project Number:	**14016**
Hole Depth:	**3.20 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307155.44**
		Northing:	**6194293.00**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Excavation		0.45				Fill	**FILL** - Sandy CLAY, black, with coal wash mixed throughout, crushed basalt and shale rock (20-200mm).	dry	TP6_0.2	
		0.5					**FILL** - COKE WASH and Fines, with some soft brown clay, mixed with some crushed basalt and bricks.	dry		
		1.0								
		1.5							TP6_1.3	
		2.0								
		2.5					With some gravel from 2.5 to 3.2.		TP6_2.5	
		3.0								
		3.20							TP6_3.2	
							End of Hole at 3.20 m			

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **19/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:06:21 PM

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Hole ID.	**TP7**
Project Number:	**14016**
Hole Depth:	**2.60 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307174.24**
		Northing:	**6194273.42**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Excavation		0.5 1.0 1.5 *1.60*				Fill	**FILL** - Sandy CLAY, black, with coal wash mixed throughout, crushed sandstone rock. Becoming less clayey and sandy with depth.	dry	TP7_0.2	
		2.0 2.5 *2.60*			CL	Natural	**CLAY** - grey / yellow mottled, stiff, slightly plastic, cohesive.	dry	TP7_1.75 TP7_2.6	
		3.0					**End of Hole at 2.60 m**			

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **19/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**TP8**
Project Number:	**14016**
Hole Depth:	**2.60 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307157.38**
		Northing:	**6194243.66**

Method	Depth (mbgl)	Material Description	Samples / Tests (ID No.)	Observations / Comments
		Bare ground on surface.		
Excavation	0.5, 1.0, **1.20**	**FILL** - COAL and COKE Fines, mixed with sandy clay, wooden sleeper, scrap steal, concrete boulder.	TP8_0.2	
Excavation	1.5, 2.0, 2.5, **2.60**	**FILL** - Sandy CLAY, mixed with coal wash, many rootlets at 1.3m, bricks, buried refuse (plastic, rubber, textile gloves, wood, flashing).	TP8_1.3 TP8T1_1.5 TP8_2.4 TP8_2.6	Sample TP8T1 collected from heat glove buried at 1.5m.
	3.0	**End of Hole at 2.60 m** Refusal on crushed concrete and reinforcement bar.		

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **19/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**TP9**
Project Number:	**14016**
Hole Depth:	**1.10 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307008.56**
		Northing:	**6194192.76**

Method	Depth (mbgl)	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
		Grass on surface.			
Excavation	0.5	**FILL** - Reworked CLAY, brown / black, non plastic, cohesive, rootlets, with crushed shale 30-40mm. (Fill)	dry	TP9_0.2	
				TP9_0.45	
	0.70	**FILL** - COAL WASH, black, fine to coarse grained, with some gravel sized 10mm. (Fill)	moist	TP9_0.75	
	0.85				
	1.0	**CLAY** - CLAY, brown, stiff, plastic, cohesive. (CL, Natural)	slightly moist		
	1.10			TP9_1.1	
	1.5	**End of Hole at 1.10 m**			
	2.0				
	2.5				
	3.0				

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **David Jackson**	Date: **19/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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Hole ID.	**TP10**
Project Number:	**14016**
Hole Depth:	**1.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307068.57**
		Northing:	**6194182.69**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Excavation		0.40				Fill	**FILL** - COKE Fines and Crushed COKE, black, coke pieces 50-60mm.	dry	TP10_0.2	
		0.75				Fill	**FILL** - SAND, brown / black, with coke wash and some ash.	dry	TP10_0.5	
		1.00			CL	Natural	**Sandy CLAY** - brown, soft, fine grained sand.	moist	TP10_1.0	
							End of Hole at 1.00 m			

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **19/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**TP11**
Project Number:	**14016**
Hole Depth:	**2.80 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307101.19**
		Northing:	**6194189.13**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Excavation		0.5				Fill	**FILL** - COKE Fines and Crushed COKE, black, coke pieces 50-150mm.	dry	TP11_0.2	
		0.64					**FILL** - ASH and SAND, black / brown, medium grained sand, with some coke wash.	dry	TP11_0.8	
		0.80					**FILL** - Crushed SHALE and SANDSTONE, grey, mixed with coke fines, shale and sandstone pieces 200-300mm.	dry		
		1.0								
		1.5								
		2.0								
		2.5							TP11_2.8	
		2.80					**End of Hole at 2.80 m** Terminated due to collapse and instability.			
		3.0								

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **19/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**TP12**
Project Number:	**14016**
Hole Depth:	**0.60 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307101.68**
		Northing:	**6194148.21**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Excavation		0.40				Fill	**FILL** - COKE Fines and Crushed COKE, black.	dry	TP12_0.2	
		0.5			CL	Natural	**CLAY** - brown, stiff, slightly plastic, cohesive.	dry	TP12_0.55	
		0.60					**End of Hole at 0.60 m**			
		1.0								
		1.5								
		2.0								
		2.5								
		3.0								

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **19/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**TP13**
Project Number:	**14016**
Hole Depth:	**1.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307055.96**
		Northing:	**6194152.02**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Excavation		0.5				Fill	**FILL** - COKE Fines and Crushed COKE, black, coke pieces 10-180mm.	dry	TP13_0.2	
		0.60			CL	Natural	**Silty CLAY** - brown / grey, hard, non plastic, slightly cohesive.	dry	TP13_0.65	
		0.80			CL		**CLAY** - brown, stiff, slightly plastic.	slightly moist	TP13_0.9	
		1.00					**End of Hole at 1.00 m**			
		1.5								
		2.0								
		2.5								
		3.0								

Additional Comments

Strike Groundwater Level Static Groundwater Level

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **David Jackson** Date: **19/03/2014**
Checked By: Date:

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Hole ID.	**TP14**
Project Number:	**14016**
Hole Depth:	**0.90 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307155.81**
		Northing:	**6194110.37**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Solid Flight Auger		0.50				Fill	**FILL** - COKE Fines and Crushed COKE, black, coke pieces 20-220mm.	dry	TP14_0.2	
		0.90			CL	Natural	**CLAY** - brown, stiff, slightly plastic, slightly cohesive.	dry to moist	TP14_0.65	
		1.0					**End of Hole at 0.90 m**			
		1.5								
		2.0								
		2.5								
		3.0								

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **19/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:06:29 PM

Test Pit Log

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Hole ID.	**TP15**
Project Number:	**14016**
Hole Depth:	**1.40 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307155.23**
		Northing:	**6194067.53**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Excavation		0.5				Fill	**FILL** - COKE Wash and Fines, Crushed COKE, black, coke pieces 20-120mm. Steel cable at 0.7m.	dry	TP15_0.2	
		1.00			CL	Natural	**CLAY** - brown, stiff, slightly plastic, cohesive.	dry	TP15_1.1	
		1.40					**End of Hole at 1.40 m**			
		1.5								
		2.0								
		2.5								
		3.0								

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **19/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**TP16**
Project Number:	**14016**
Hole Depth:	**0.75 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307143.39**
		Northing:	**6194012.45**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Excavation		0.30				Fill	**FILL** - COKE Wash and Fines, Crushed COKE, black, coke pieces 20-120mm.	dry	TP16_0.2	
		0.5			CL	Natural	**CLAY** - brown, stiff, slightly plastic, slightly cohesive.	dry	TP16_0.45	
		0.75							TP16_0.75	
		1.0					**End of Hole at 0.75 m**			
		1.5								
		2.0								
		2.5								
		3.0								

Additional Comments

Strike Groundwater Level Static Groundwater Level

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **David Jackson** Date: **19/03/2014**
Checked By: Date:

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Hole ID.	**TP17**
Project Number:	**14016**
Hole Depth:	**1.60 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307086.02**
		Northing:	**6193984.10**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Excavation		0.5 1.0 *1.10*				Fill	**FILL** - COKE Wash and Crushed COKE, black, coke pieces 5-15mm, some stiff non plastic reworked grey clay throughout.	dry	TP17_0.2	Seepage noted at 1.0m.
		1.5 *1.60*			CL	Natural	**CLAY** - brown / grey, stiff, plastic, cohesive.	moist	TP17_1.4	Organic odour.
		2.0 2.5 3.0					**End of Hole at 1.60 m**			

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **19/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**TP18**
Project Number:	**14016**
Hole Depth:	**1.55 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307029.58**
		Northing:	**6194013.11**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Excavation		0.5 1.0 *1.20*				Fill	**FILL** - COKE Wash and Crushed COKE, black, with some crushed sandstone. Hardwood sleeper at 0.65m.	dry	TP18_0.2	
		1.5 *1.55*			CL	Natural	**CLAY** - grey, stiff, slightly plastic, cohesive.	moist	TP18_1.3	
		2.0 2.5 3.0					**End of Hole at 1.55 m**			

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **David Jackson** Date: **19/03/2014**
Checked By: Date:

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Hole ID.	**TP19**
Project Number:	**14016**
Hole Depth:	**0.80 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307008.63**
		Northing:	**6194065.16**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Excavation		0.5 *0.55*				Fill	**FILL** - COKE Wash and Crushed COKE, black, coke pieces 10-200mm.	dry	TP19_0.2	
		0.80			CL	Natural	**CLAY** - brown, stiff, plastic, cohesive.	moist	TP19_0.7	
		1.0 1.5 2.0 2.5 3.0					**End of Hole at 0.80 m**			

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **David Jackson**	Date: **19/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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Hole ID.	**TP20**
Project Number:	**14016**
Hole Depth:	**1.40 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**19/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**19/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307064.54**
		Northing:	**6194052.78**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Excavation		0.5				Fill	**FILL** - COKE Wash and Crushed COKE, black. Some crushed sandstone at 0.4m.	dry	TP20_0.2	
		0.80								
		1.0			CL	Natural	**CLAY** - grey, stiff, slightly plastic, cohesive.	moist	TP20_1.0	
		1.40							TP20_1.4	
		1.5					**End of Hole at 1.40 m**			
		2.0								
		2.5								
		3.0								

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **David Jackson**	Date: **19/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:06:35 PM

Test Pit Log

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Hole ID.	**TP21**
Project Number:	**14016**
Hole Depth:	**1.20 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307085.80**
		Northing:	**6194092.50**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
Excavation		0.5				Fill	**FILL** - Crushed COKE and COAL, black.	moist	0.1	TP21_0.2	
		0.60			CL	Natural	**CLAY** - grey / brown, becoming light brown, hard, plastic, rootlets present.	slightly moist	0.2	TP21_1.0	
		1.0							0.4	TP21_1.2	
		1.20					**End of Hole at 1.20 m**				
		1.5									
		2.0									
		2.5									
		3.0									

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **Doug Craven**	Date: **20/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**TP22**
Project Number:	**14016**
Hole Depth:	**1.20 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307115.60**
		Northing:	**6194070.70**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
Excavation		0.5				Fill	**FILL** - Crushed COKE and COAL, black.	moist	0.2	TP22_0.2	
		0.70			CL	Natural	**CLAY** - light brown / grey, hard, plastic, crumbly.	slightly moist	0.1	TP22_1.2	
		1.0							0.0	TP22_0.9	
		1.20					**End of Hole at 1.20 m**				
		1.5									
		2.0									
		2.5									
		3.0									

Additional Comments

Strike Groundwater Level Static Groundwater Level

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Doug Craven** Date: **20/03/2014**
Checked By: Date:

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Hole ID.	**TP23**
Project Number:	**14016**
Hole Depth:	**1.10 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307100.24**
		Northing:	**6194048.30**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Samples / Tests: DUP TRIP	Observations / Comments
Excavation		0.5				Fill	**FILL** - Crushed COKE and COAL, black, crumbly.	slightly moist	0.0	TP23_0.2		
		0.60			CL	Natural	**CLAY** - dark brown / grey, hard, slightly plastic, crumbly.	slightly moist	0.1	TP23_0.7	QS001 QS001a	
		1.0					Becoming grey / brown, soft, plastic and moist.	moist	0.3	TP23_1.1		
		1.10					**End of Hole at 1.10 m**					
		1.5										
		2.0										
		2.5										
		3.0										

Additional Comments

Strike Groundwater Level Static Groundwater Level

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Doug Craven** Date: **20/03/2014**
Checked By: Date:

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Hole ID.	**TP24**
Project Number:	**14016**
Hole Depth:	**0.80 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307081.40**
		Northing:	**6193829.43**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests PID ppm	Samples / Tests ID No.	Observations / Comments
							Grass and Plants on surface.				
Excavation		0.50			CL	Natural	**CLAY** - Sandy CLAY, dark brown, soft, slightly plastic.	moist	0.4	TP24_0.2	
		0.80			CL		**CLAY** - Sandy CLAY, brown, hard, slightly plastic, crumbly, rootlets present, increased clay content.	slightly moist	0.3 0.2	TP24_0.6 TP24_0.8	
		1.0					**End of Hole at 0.80 m**				
		1.5									
		2.0									
		2.5									
		3.0									

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **Doug Craven**	Date: **20/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**TP25**
Project Number:	**14016**
Hole Depth:	**0.70 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307054.54**
		Northing:	**6193836.18**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
							Grass and Plants on surface.				
Excavation		0.30			CL	Natural	**CLAY** - Sandy CLAY, dark brown, soft, slightly plastic, crumbly.	moist	0.3	TP25_0.2	
		0.5			CL		**CLAY** - Sandy CLAY, brown, hard, plastic.	slightly moist	0.4	TP25_0.4	
		0.70							0.4	TP25_0.7	
							End of Hole at 0.70 m				
		1.0									
		1.5									
		2.0									
		2.5									
		3.0									

Additional Comments

Strike Groundwater Level Static Groundwater Level

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Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Doug Craven** Date: **20/03/2014**
Checked By: Date:

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Hole ID.	**TP26**
Project Number:	**14016**
Hole Depth:	**0.80 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307054.72**
		Northing:	**6193909.44**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
							Grass and Plants on surface.				
Solid Flight Auger		0.50			CL	Natural	**CLAY** - Sandy CLAY, dark brown, slightly plastic, crumbly, rootlets present.	slightly moist	0.3	TP26_0.2	
		0.80			CL		**CLAY** - Sandy CLAY, light brown, soft, slightly plastic. Mottled red at 0.7m.	slightly moist	0.2	TP26_0.6 TP26_0.8	
		1.0					**End of Hole at 0.80 m**				
		1.5									
		2.0									
		2.5									
		3.0									

Additional Comments

Strike Groundwater Level Static Groundwater Level

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Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Doug Craven** Date: **20/03/2014**
Checked By: Date:

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Hole ID.	**TP27**
Project Number:	**14016**
Hole Depth:	**0.90 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307045.00**
		Northing:	**6193943.00**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
Solid Flight Auger		0.50			CL	Natural	**CLAY** - Sandy CLAY, dark brown, slightly plastic, crumbly, organic matter present.	slightly moist	0.9	TP27_0.2	
		0.75			CL		**CLAY** - Sandy CLAY, light brown, plastic.	slightly moist	0.9	TP27_0.5	
		0.90			CL		**CLAY** - CLAY, white mottled red, hard, plastic.	slightly moist	0.4	TP27_0.9	
		1.0					**End of Hole at 0.90 m**				
		1.5									
		2.0									
		2.5									
		3.0									

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **Doug Craven**	Date: **20/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**TP28**
Project Number:	**14016**
Hole Depth:	**1.10 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307002.56**
		Northing:	**6193976.05**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
Excavation		0.5			CL	Natural	**CLAY** - Sandy CLAY, dark brown, slightly plastic, crumbly, plants and organic matter present.	slightly moist	0.0	TP28_0.2	
		0.60									
					CL		**CLAY** - Sandy CLAY, light brown, plastic.	slightly moist to moist	0.0	TP28_0.6	
		0.90									
		1.0			CL		**CLAY** - CLAY, grey mottled red, stiff, plastic.	moist		TP28_1.0	
		1.10									
							End of Hole at 1.10 m				
		1.5									
		2.0									
		2.5									
		3.0									

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **Doug Craven**	Date: **20/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**TP29**
Project Number:	**14016**
Hole Depth:	**2.30 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307219.98**
		Northing:	**6193921.29**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Samples / Tests: DUP TRIP	Observations / Comments
Excavation		0.5 1.0 1.50				Fill	**FILL** - Crushed COAL and COKE, black, hard, compacted, coke pieces up to 40mm, occasional siltstone present.	slightly moist	0.0	TP29_0.2	QS002 QS002a	
									0.0	TP29_1.2		
		2.0 2.30			CL		**Sandy CLAY** - dark brown, hard, plastic, crumbly. Moisture and clay content increasing with depth.	slightly moist	0.0	TP29_1.6		
									0.0	TP29_1.9		
		2.5 3.0					**End of Hole at 2.30 m**					

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **Doug Craven**	Date: **20/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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Hole ID.	**TP30**
Project Number:	**14016**
Hole Depth:	**2.40 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307216.07**
		Northing:	**6193941.29**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests PID ppm	Samples / Tests ID No.	Observations / Comments
Excavation		0.40				Fill	**FILL** - Crushed COAL and COKE, black, soft, granular.	slightly moist	0.2	TP30_0.2	
		0.5				Fill	**FILL** - Crushed COAL and COKE mixed with Siltstone, black, hard, compacted, large pieces 100mm +.	slightly moist			
		1.0									
		1.10			CL	Natural	**CLAY** - dark brown, soft, plastic, loamy, organic matter, possible reworked.	moist	0.1	TP30_1.1	
		1.5									
		2.0					Moisture increases with depth.		0.2	TP30_1.8	
		2.40									
		2.5					**End of Hole at 2.40 m**				
		3.0									

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **Doug Craven**	Date: **20/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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Hole ID.	**TP31**
Project Number:	**14016**
Hole Depth:	**1.90 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Pro Dig**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307232.14**
		Northing:	**6193942.96**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests PID ppm	Samples / Tests ID No.	Observations / Comments
Excavation		0.5				Fill	**FILL** - Crushed COAL and COKE, loose, pieces up to 40mm.	moist	0.0	TP31_0.2	
		1.0					Large pieces at 0.3, becoming hard and compacted.		0.0	TP31_1.1	
		1.30					Coaliferous sandstone and wash at 0.5m.		0.2	TP31_1.3	
		1.5			CL	Natural	**CLAY** - orange brown, stiff.	dry			
		1.90					Increasing moisture with depth.		0.2	TP31_1.9	
		2.0					**Sandy Silty CLAY** - orange brown, stiff.	dry			
		2.5					**End of Hole at 1.90 m**				
		3.0									

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **D.Craven / C.Hardgrove**	Date: **20/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**TP32**
Project Number:	**14016**
Hole Depth:	**1.80 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307255.10**
		Northing:	**6193940.43**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests PID ppm	Samples / Tests ID No.	Observations / Comments
Excavation		0.5				Fill	**FILL** - Crushed COKE and Wash, loose, pieces up to 80mm. Becoming compacted and hard at 0.3m with coaliferous sandstone cobbles. Becoming moist at 0.9m above clay.	dry	0.0	TP32_0.2	
		0.90 1.0					**FILL** - Reworked Silty CLAY, brown, plastic, with coal and sandstone pebbles, minor coal.	moist	0.1	TP32_1.2	
		1.40 1.5			CL	Natural	**Silty CLAY** - brown, plastic. Rootlets at end of hole.	moist	0.6	TP32_1.8	
		1.80 2.0 2.5 3.0					**End of Hole at 1.80 m**				

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **Claire Hardgrove**	Date: **20/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:06:47 PM

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Hole ID.	**TP33**
Project Number:	**14016**
Hole Depth:	**2.30 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307272.91**
		Northing:	**6194066.52**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
Excavation	▼	0.5				Fill	**FILL** - Crushed COAL and RUBBLE, black, bricks.	slightly moist	0.1	TP33_0.2	
		0.70					**FILL** - Crushed COAL and COKE, black.	slightly moist			
		1.0									
		1.5						sat'd	0.2	TP33_1.6	Water in test pit. Sheen specks on water. No odour.
		2.00									
		2.30			CL	Natural	**CLAY** - grey, plastic.	wet	0.1	TP33_2.3	
		2.5					**End of Hole at 2.30 m**				
		3.0									

Additional Comments

Metal noted corroded in bucket.

▽ Strike Groundwater Level ▼ Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **Doug Craven**	Date: **20/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:06:48 PM

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Hole ID.	**TP34**
Project Number:	**14016**
Hole Depth:	**1.70 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307276.33**
		Northing:	**6194083.90**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests PID ppm	Samples / Tests ID No.	Observations / Comments
Excavation		0.5				Fill	**FILL** - Crushed COAL and COKE, black, slightly compacted, granular. Layer of large coal pieces 300 to 500mm.	slightly moist	0.1	TP34_0.2	
		1.0									
		1.10					**FILL** - COKE, BRICKS and CONCRETE.	slightly moist			
		1.30							0.1	TP34_1.3	
		1.5			CL	Natural	**CLAY** - dark brown, hard, plastic, organic material throughout.	slightly moist	0.2	TP34_1.4	
		1.70					**End of Hole at 1.70 m**				
		2.0									
		2.5									
		3.0									

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **Doug Craven**	Date: **20/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:06:49 PM

Test Pit Log

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www.environmentalstrategies.com.au

Hole ID.	**TP35**
Project Number:	**14016**
Hole Depth:	**3.30 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307210.49**
		Northing:	**6194082.32**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
Excavation		0.5				Fill	**FILL** - COKE, black, compacted, stockpile coke, bricks present to 1.5m.	slightly moist	0.0	TP35_0.2	
		1.0					With coal and coalifeours sandstone from 0.3m.				
		1.5					No bricks present below 1.5m.				
		2.0							0.0	TP35_2.2	
		2.5					With fine black clayey coal and coke fragments.				
		3.0									
		3.30							0.0	TP35_3.3	
		3.5					**FILL** - CLAY, brown / black, with coke wash / fines. **End of Hole at 3.30 m**	very moist			
		4.0									

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **Claire Hardgrove**	Date: **20/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**TP36**
Project Number:	**14016**
Hole Depth:	**3.50 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**20/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**20/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307205.00**
		Northing:	**6194116.27**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
Excavation		0.5				Fill	**FILL** - Crushed COKE, stockpile coke. With weathered sandstone and bricks below 0.1m.		0.0	TP36_0.2	
		1.0					Ash layer 400mm thick at 0.7m. Coke becoming finer with depth.				
		1.5					Fine coke and ash, finger crushable.		0.0	TP36_1.6	
		2.50					**FILL** - CLAY, black, soft, cohesive, with coke fines.	moist	0.0	TP36_2.5	
		3.50							0.1	TP36_3.5	
		4.0					**End of Hole at 3.50 m**				

Additional Comments

PID at end of day 117.5ppm.

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **Claire Hardgrove**	Date: **20/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**TP37**
Project Number:	**14016**
Hole Depth:	**2.20 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**21/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**21/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307262.19**
		Northing:	**6194086.83**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests PID ppm	Samples / Tests ID No.	Observations / Comments
Excavation		0.5				Fill	**FILL** - Crushed COKE and ASH, black, with coke pieces to 100mm, some cobble sized red brick pieces.	slightly moist	0.8	TP37_0.2	
		0.80									
		1.00				Fill	**FILL** - Crushed COKE and COAL, Bricks and Clay, black, coal pieces up to 150mm.	slightly moist	0.7	TP37_0.85	
						Fill	**FILL** - Reworked CLAY, patchy white, orange, brown and grey, plastic, with coke wash and coke pieces up to 60mm.	slightly moist	0.8	TP37_1.0	
		1.5					Rootlets present at 1.5m.				
		1.80					Wood fragment.		0.7	TP37_1.8	
		2.0			CL	Natural	**CLAY** - orange / brown mottled, plastic.	moist			
		2.20					Becoming cleaner and orange with depth.		0.8	TP37_2.2	
		2.5					**End of Hole at 2.20 m**				
		3.0									

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **Claire Hardgrove**	Date: **21/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**TP38**
Project Number:	**14016**
Hole Depth:	**3.10 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**21/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**21/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Top of Casing :	
Drill Method:	**Excavation (Backhoe, 450mm bucket)**	Easting:	**307231.01**
		Northing:	**6194095.17**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
Excavation		0.5				Fill	**FILL** - Crushed COKE, black, piece to 50mm, stockpile coke. With compacted coal below 0.3m.	slightly moist	0.0	TP38_0.2	
		0.90									
		1.0					**FILL** - Clayey SAND and Bricks, bricks broken and whole, red.	slightly moist	0.1	TP38_1.0	
		1.30					Wooden sleepers at 1.2m.	moist			
		1.5					**FILL** - COAL, black, poorly sorted, dominant size 30 to 70mm.	moist	0.1	TP38_1.4	
		2.0									
		2.5									
		3.00									
		3.10			CL	Nat.	**CLAY** - brown, plastic, with sand.	moist	0.2	TP38_3.1	
							End of Hole at 3.10 m				

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **Claire Hardgrove**	Date: **21/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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Hole ID.	**BH39**
Project Number:	**14016**
Hole Depth:	**2.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**
Location / Site:	**Railway Street, Corrimal NSW**
Client:	**Illawarra Coke Company**
Drilling Company:	**Ken Coles Excavations Pty Ltd**
Drill Method:	**Solid Flight Auger - 150mmØ**

Date Started:	**21/03/2014**
Date Completed:	**21/03/2014**
Ground Level :	
Top of Casing :	
Easting:	**307253.30**
Northing:	**6194241.21**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Samples / Tests: DUP TRIP	Observations / Comments
Solid Flight Auger		0.5				Fill	**FILL** - ASH, grey and black.	slightly moist	0.0	BH39_0.2		
		0.80										
		1.0					**FILL** - CLAY, orange, firm to stiff, with coke fragments to 20mm.	slightly moist	0.1	BH39_1.0	QS003 QS003a	
		1.30										
		1.5					**FILL** - CLAY, brown, slightly plastic, mixed with orange clay and ash.	moist	0.1	BH39_1.5		
		1.60										
					CL	Natural	**CLAY** - orange brown, orange mottling, stiff, cohesive.	dry	0.1	BH39_1.7		
		2.00										
		2.5					**End of Hole at 2.00 m**					
		3.0										

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By:	**Claire Hardgrove**
Contact:	laurie.white@reumad.com.au	Checked By:	
		Date:	**21/03/2014**
		Date:	

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Hole ID.	**BH40**
Project Number:	**14016**
Hole Depth:	**1.50 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**21/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**21/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Top of Casing :	
Drill Method:	**Solid Flight Auger - 150mmØ**	Easting:	**307311.51**
		Northing:	**6194327.07**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests PID ppm	Samples / Tests ID No.	Observations / Comments
Solid Flight Auger		0.30			CL	Natural	**Topsoil. Silty CLAY** - brown, rootlets present.	slightly moist	0.0	BH40_0.2	
		0.5			CL		**Silty CLAY** - orange brown, stiff, mixed plastic and friable (not homogenous), increasing cohesiveness with depth.	slightly moist	0.1	BH40_0.5	
		0.80			CL		**Sandy CLAY** - pale white / orange, fine grained.	slightly moist	0.0	BH40_0.8	
		1.0			CL				0.0	BH40_1.0	
		1.30			CL		**CLAY** - brown, mottled white orange, stiff, slightly plastic, cohesive.	dry			
		1.50					**End of Hole at 1.50 m**		0.1	BH40_1.5	
		2.0									
		2.5									
		3.0									

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **Claire Hardgrove**	Date: **21/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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Borehole Log

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Hole ID.	**BH41**
Project Number:	**14016**
Hole Depth:	**1.25 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**
Location / Site:	**Railway Street, Corrimal NSW**
Client:	**Illawarra Coke Company**
Drilling Company:	**Ken Coles Excavations Pty Ltd**
Drill Method:	**Solid Flight Auger - 150mmØ**

Date Started:	**24/03/2014**
Date Completed:	**24/03/2014**
Ground Level :	
Top of Casing :	
Easting:	**307276.65**
Northing:	**6194299.61**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Solid Flight Auger		0.50				Fill	**FILL** - COAL and COKE, black, loose, fine grit sized, grass roots present.	slightly moist	BH41_0.2	
		0.60					**FILL** - GRAVEL, loose, up to 40mm, with black clay, crumbly.	moist	BH41_0.5	
		0.80					**FILL** - CLAY and GRAVEL, black / brown / orange mottled, soft, with coke pieces.	moist	BH41_0.6	
		1.0			CL	Natural	**CLAY** - orange brown, slightly plastic, slow to penetrate compared to layer above.	moist	BH41_0.8	
		1.25							BH41_1.25	
		1.5					**Sandy CLAY** - orange, soft, well sorted, with some gravel. **End of Hole at 1.25 m**	slightly moist		
		2.0								
		2.5								
		3.0								

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **Claire Hardgrove**	Date: **24/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:06:57 PM

Borehole Log

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Hole ID.	**BH42**
Project Number:	**14016**
Hole Depth:	**1.50 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**
Location / Site:	**Railway Street, Corrimal NSW**
Client:	**Illawarra Coke Company**
Drilling Company:	**Ken Coles Excavations Pty Ltd**
Drill Method:	**Solid Flight Auger - 150mmØ**

Date Started:	**24/03/2014**
Date Completed:	**24/03/2014**
Ground Level :	
Top of Casing :	
Easting:	**307208.05**
Northing:	**6194213.42**

Method	Depth (mbgl)	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
Solid Flight Auger	0.5	**FILL** - COKE Wash, CLAY, COKE Pieces, orange black clay, crumbly, coke pieces to 60mm, some rootlets. (Fill)	slightly moist	0.4	BH42_0.2	
	0.60	**CLAY** - orange brown, mottled orange, hard, slightly plastic, cohesive, uniform. (CL, Natural)	slightly moist			
	1.0			0.4	BH42_1.0	
	1.50			0.3	BH42_1.5	
	2.0	**CLAY** - orange brown, soft, plastic, homogenous. **End of Hole at 1.50 m**	moist			
	2.5					
	3.0					

Additional Comments

Background PID 0.4ppm.

Strike Groundwater Level Static Groundwater Level

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Claire Hardgrove** Date: **24/03/2014**
Checked By: Date:

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Hole ID.	**BH43**
Project Number:	**14016**
Hole Depth:	**1.20 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**
Location / Site:	**Railway Street, Corrimal NSW**
Client:	**Illawarra Coke Company**
Drilling Company:	**Ken Coles Excavations Pty Ltd**
Drill Method:	**Solid Flight Auger - 150mmØ**

Date Started:	**24/03/2014**
Date Completed:	**24/03/2014**
Ground Level :	
Top of Casing :	
Easting:	**307237.15**
Northing:	**6194229.89**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Samples / Tests: DUP TRIP	Observations / Comments
Solid Flight Auger		0.40			Fill	Fill	**FILL** - Roadbase. Gravel with Clay, grey / brown, granular, unconsolidated.	dry	0.3	BH43_0.2	QS004 QS004a	
		0.45					**FILL** - CLAY, orange mottled brown, plastic, mixed with coke and/or coal.	moist	0.4	BH43_0.4		
		0.5			CL	Natural	**CLAY** - orange brown, with 2-3mm lithic fragments, <5% (approx.).	dry				
		1.0							0.3	BH43_1.0		
		1.20							0.3	BH43_1.2		
		1.5					**CLAY** - white orange, crumbly, weathered sandstone. **End of Hole at 1.20 m**	dry				
		2.0										
		2.5										
		3.0										

Additional Comments

Background PID 0.3ppm.

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **Claire Hardgrove**	Date: **24/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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Hole ID.	**BH44**
Project Number:	**14016**
Hole Depth:	**1.10 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**24/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**24/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Top of Casing :	
Drill Method:	**Solid Flight Auger - 150mmØ**	Easting:	**307267.48**
		Northing:	**6194235.95**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
Solid Flight Auger		0.30				Fill	**FILL** - COKE and/or COAL Grit, black, unconsolidated.	dry	0.3	BH44_0.2	
		0.50				Fill	**FILL** - ASH, grey, with coke grit and pebbles up to 20mm.	dry	0.3	BH44_0.3	
		1.0			CL	Natural	**CLAY** - brown with orange mottling (10% approx.), plastic.	slightly moist	0.3	BH44_0.5	
		1.10							0.3	BH44_1.1	
		1.5					**CLAY** - brown, orange mottling, stiff, crumbly, rootlets present. **End of Hole at 1.10 m**	dry			
		2.0									
		2.5									
		3.0									

Additional Comments

Background PID 0.3ppm.

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **Claire Hardgrove**	Date: **24/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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Hole ID.	**BH45**
Project Number:	**14016**
Hole Depth:	**1.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**
Location / Site:	**Railway Street, Corrimal NSW**
Client:	**Illawarra Coke Company**
Drilling Company:	**Ken Coles Excavations Pty Ltd**
Drill Method:	**Solid Flight Auger - 150mmØ**

Date Started:	**24/03/2014**
Date Completed:	**24/03/2014**
Ground Level :	
Top of Casing :	
Easting:	**307220.90**
Northing:	**6194317.54**

Method	Depth (mbgl)	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
Solid Flight Auger	0.40	**FILL** - Roadbase. Gravel and Clay, black / brown, gravel to 30mm, coke wash, unconsolidated. (Fill)	dry	0.4	BH45_0.2	
	0.5	**Silty CLAY** - brown, non plastic, crumbly, with rootlets. (CL, Natural)	dry	0.4	BH45_0.4	
	1.00	Becoming harder and less silty with depth, moist and mottled.			BH45_1.0	
	1.5	**CLAY** - brown with orange mottling (approx. 50%), stiff to hard, rootlets present. **End of Hole at 1.00 m**	very slightly moist			
	2.0					
	2.5					
	3.0					

Additional Comments

Background PID 0.4ppm.

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **Claire Hardgrove**	Date: **24/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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Hole ID.	**BH46**
Project Number:	**14016**
Hole Depth:	**1.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**
Location / Site:	**Railway Street, Corrimal NSW**
Client:	**Illawarra Coke Company**
Drilling Company:	**Ken Coles Excavations Pty Ltd**
Drill Method:	**Solid Flight Auger - 150mmØ**

Date Started:	**24/03/2014**
Date Completed:	**24/03/2014**
Ground Level :	
Top of Casing :	
Easting:	**307224.85**
Northing:	**6194299.98**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
CC		0.20				Fill	**CONCRETE**.				
Solid Flight Auger		0.40				Fill	**FILL** - Roadbase. Gravel and Clay, black / yellow brown clay, gravel 10-20mm, coke wash, unconsolidated.	wet	0.5	BH46_0.2	
		0.5			CL	Natural	**CLAY** - black brown, with orange mottling, soft, very plastic, consistency of plasticine.	moist	0.5	BH46_0.4	
		1.00							0.5	BH46_1.0	
		1.5					**CLAY** - green brown, with orange mottling, plastic, minor sand, some pebble sized weathered sandstone fragments. **End of Hole at 1.00 m**	slightly moist			
		2.0									
		2.5									
		3.0									

Additional Comments

Background PID 0.6ppm.

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **Claire Hardgrove**	Date: **24/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 16/4/14 12:07:02 PM

Borehole Log

Environmental Strategies Pty Ltd
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Hole ID.	**BH47**
Project Number:	**14016**
Hole Depth:	**2.70 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**24/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**24/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Top of Casing :	
Drill Method:	**Solid Flight Auger - 150mmØ**	Easting:	**307211.38**
		Northing:	**6194301.92**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
Solid Flight Auger		0.40				Fill	**FILL** - COKE Pieces & Fines, coke pieces up to 40mm, unconsolidated, minor grey black clay, crumbly.	dry	0.5	BH47_0.2	
		0.5					**FILL** - Sandy CLAY, orange brown, stiff, highly plastic, red brick fragments 1-2m, minor sandstone gravels 2-3mm (approx. 1-2%).	slightly moist	0.5	BH47_0.4	
		1.0					More weathered sandstone fragments below 1.0m (approx. 5%), red brick fragments.				
		1.10					**FILL** - Reworked CLAY with Coke, red brown, plastic, rootlets present, coke pieces predominantly sized 30mm.	moist	0.6	BH47_1.1	
		1.5									
		2.0							0.7	BH47_2.0	
		2.20			CL	Natural	**CLAY / Weathered SANDSTONE** - white grey / orange / grey, intense dark orange mottling, stiff.	slightly moist			
		2.5							0.7	BH47_2.5	
		2.70					**Weathered SANDSTONE**. **End of Hole at 2.70 m**				
		3.0									

Additional Comments

Background PID 0.6ppm.

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **Claire Hardgrove**	Date: **24/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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Hole ID.	**BH48**
Project Number:	**14016**
Hole Depth:	**3.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**
Location / Site:	**Railway Street, Corrimal NSW**
Client:	**Illawarra Coke Company**
Drilling Company:	**Ken Coles Excavations Pty Ltd**
Drill Method:	**Solid Flight Auger - 150mmØ**

Date Started:	**24/03/2014**
Date Completed:	**24/03/2014**
Ground Level :	
Top of Casing :	
Easting:	**307205.21**
Northing:	**6194292.92**

Method	Depth (mbgl)	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
Solid Flight Auger	0.5	**FILL** - CLAY, brown, with orange mottling, patches of decomposed orange white sand (weathered sandstone).	slightly moist	0.8	BH48_0.2	
	1.0	With some red brick fragments below 1.2m.		0.8	BH48_1.0	
	1.20	**FILL** - CLAY, grey, plastic, with coke fragments and red orange sandstone fragments.	moist	0.9	BH48_1.2	
	1.5					
	2.0					
	2.20	**CLAY** - dark green brown, very plastic, smooth, sticky, minor sandstone fragments 1-2mm.	slightly moist	0.9	BH48_2.2	
	2.5					
	3.00			0.9	BH48_3.0	
		End of Hole at 3.00 m				

Water Level: —
USCS Symbol: Fill; CL
Material Type: Fill; Natural
Graphic Log: Fill; Natural

Additional Comments

Background PID 0.9ppm.

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By:	**Claire Hardgrove**
Contact:	laurie.white@reumad.com.au	Checked By:	
		Date:	**24/03/2014**
		Date:	

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Borehole Log

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Hole ID.	**BH49**
Project Number:	**14016**
Hole Depth:	**2.50 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date Started:	**24/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Date Completed:	**24/03/2014**
Client:	**Illawarra Coke Company**	Ground Level :	
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Top of Casing :	
Drill Method:	**Solid Flight Auger - 150mmØ**	Easting:	**307215.11**
		Northing:	**6194290.24**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Samples / Tests: DUP TRIP	Observations / Comments
Solid Flight Auger		0.5				Fill	**FILL** - CLAY, grey with green and orange patches, highly plastic, very sticky, mixed with coke fragments 5-20mm, red brick fragments.	moist	1.0	BH49_0.2		
		1.0					Green increasing with depth.					
		1.50					**FILL** - CLAY, brown, very soft, plastic, with minor sandstone fragments 1-2mm.	moist	0.0 0.0	BH49_1.5 BH49_1.6	QS005 QS005a	Sheen visible in sample jar. No odour.
		2.0										
		2.10			CL	Natural	**CLAY** - CLAY, brown green, orange mottling (approx. 30%), plastic, with sand and sandstone fragments 2-3mm.	moist		BH49_2.3		
		2.50										
		3.0					**End of Hole at 2.50 m** Refusal on presumed Sandstone.					

Additional Comments

Background PID 1.0ppm (inside car) and 0.1ppm (outside car).

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **Claire Hardgrove**	Date: **24/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Borehole Log

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Hole ID.	**BH50**
Project Number:	**14016**
Hole Depth:	**0.50 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**
Location / Site:	**Railway Street, Corrimal NSW**
Client:	**Illawarra Coke Company**
Drilling Company:	**Ken Coles Excavations Pty Ltd**
Drill Method:	**Solid Flight Auger - 150mmØ**

Date Started:	**24/03/2014**
Date Completed:	**24/03/2014**
Ground Level :	
Top of Casing :	
Easting:	**307322.28**
Northing:	**6194161.86**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Samples / Tests: DUP TRIP	Observations / Comments
Solid Flight Auger		0.20				Fill	**CONCRETE**.					
		0.40					**FILL** - CLAY mixed with COKE Pieces, brown black, coke pieces up to 20mm.	slightly moist	0.0	BH50_0.2	QS006 QS006a	
		0.50					**FILL** - SANDSTONE, white, possible broken brickwork.	slightly moist				
							End of Hole at 0.50 m Refusal.					
		1.0										
		1.5										
		2.0										
		2.5										
		3.0										

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **Claire Hardgrove**	Date: **24/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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Borehole Log

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Hole ID.	**BH51**
Project Number:	**14016**
Hole Depth:	**1.30 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**
Location / Site:	**Railway Street, Corrimal NSW**
Client:	**Illawarra Coke Company**
Drilling Company:	**Ken Coles Excavations Pty Ltd**
Drill Method:	**Solid Flight Auger - 150mmØ**

Date Started:	**24/03/2014**
Date Completed:	**24/03/2014**
Ground Level :	
Top of Casing :	
Easting:	**307317.16**
Northing:	**6194173.62**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests: PID ppm	Samples / Tests: ID No.	Observations / Comments
CC		0.20				Fill	**CONCRETE**.				
Solid Flight Auger		0.5					**FILL** - Clayey SAND and COKE Fragments, brown, crumbly, gravel to grit sized coke fragments, sandstone grit (possible broken over bricks).	dry	0.0	BH51_0.4	
		1.00					**FILL** - SAND / SANDSTONE Fragments, pinkish to orange white.	dry	0.0	BH51_1.0	
		1.30					**End of Hole at 1.30 m** Terminated due to lightening.				
		1.5									
		2.0									
		2.5									
		3.0									

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **Claire Hardgrove**	Date: **24/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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Hole ID.	**MW1**
Project Number:	**14016**
Hole Depth:	**10.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date:	**26/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	
Client:	**Illawarra Coke Company**	Top of Casing :	
Drilling Company:	**BHC Drilling**	Easting:	**307324.42**
Drill Method:	**Solid Flight Auger**	Northing:	**6194298.71**
		Zone:	**56H**

Method	Depth (mbgl)	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
CC	0.20			**CONCRETE.**			
Solid Flight Auger		CL	Natural	**Sandy CLAY** - brown / yellow, stiff, non plastic, slightly cohesive.	dry	MW1_0.5 MW1_1.0	
				Siltstone / Sandstone gravels at 3.5m, becoming light grey / white mottled.			
	5.00			Cuttings becoming moist and cohesive at 4.5m.	moist		Steam observed from cuttings at 4.5m.
	5.30	CL		**CLAY** - grey, stiff, non plastic.	dry		Becoming very hot and steaming.
	10.00			Becoming orange / brown mottled at 10.0m.			
				End of Hole at 10.00 m			

Well Details / Well Construction: Gatic; Grout; Bentonite (5.50 – 6.50); Gravel Pack (6.50 – 7.00); Screen

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **26/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

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Hole ID.	**MW2**
Project Number:	**14016**
Hole Depth:	**7.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**
Location / Site:	**Railway Street, Corrimal NSW**
Client:	**Illawarra Coke Company**
Drilling Company:	**BHC Drilling**
Drill Method:	**Solid Flight Auger**

Date:	**26/03/2014**
Ground Level :	
Top of Casing :	
Easting:	**307331.53**
Northing:	**6194168.37**
Zone:	**56H**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments	Well Details	Well Construction
CC		0.16				Fill	**CONCRETE**.					Gatic
Solid Flight Auger		0.5					**FILL** - CLAY, brown, soft, non plastic, mixed with bricks.	dry	MW2_0.5			Grout
		1.0							MW2_1.0			
		1.5										
		1.70					**FILL** - Clayey SAND, with crushed bricks.	dry	MW2_2.0			
		2.0										
		2.20					**FILL** - Crushed BRICK, red.	dry				
		2.5									2.50	
		3.0							MW2_3.0			Bentonite
		3.5									3.50	
		3.60										
		4.0			CL	Natural	**CLAY** - red, stiff, slightly cohesive.	dry	MW2_4.0	Cuttings very hot, almost to hot to hold in hand.	4.00	Gravel Pack
		4.5										
		5.0								Cuttings cooled down by 4.5m.		
		5.5										Screen
		6.0					Becoming more cohesive at moist at 6.0m.	moist				
		6.5										
		7.00										
		7.5					**End of Hole at 7.00 m**					
		8.0										

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **David Jackson**	Date: **26/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 23/6/14 11:16:23 AM

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Hole ID.	**MW3**
Project Number:	**14016**
Hole Depth:	**7.80 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date:	**26/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	
Client:	**Illawarra Coke Company**	Top of Casing :	
Drilling Company:	**BHC Drilling**	Easting:	**307212.50**
Drill Method:	**Solid Flight Auger**	Northing:	**6194296.62**
		Zone:	**56H**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments	Well Details	Well Construction
CC		0.15				Fill	**CONCRETE**.					Gatic
Solid Flight Auger		0.5				Fill	**FILL** - CLAY, brown / grey, soft, slightly plastic, cohesive, with crushed rock and brick to 20-30mm.	dry	MW3_0.25			
		1.0				Fill	Reworked with some coalwash below 1.0m.		MW3_1.0			
		1.5				Fill						
		2.0				Fill						Grout
		2.25				Fill						
		2.5			CL	Natural	**CLAY** - grey / dark brown, stiff, plastic, cohesive.	dry	MW3_2.5			
		3.0				Natural						
		3.10				Natural					3.30	
		3.5			CL	Natural	**Sandy CLAY** - brown, non plastic, slightly cohesive.	dry				Bentonite
		4.00				Natural					4.30	
		4.5			CL	Natural	**Sandy CLAY** - brown / white / orange mottled, stiff, non plastic, cohesive. With angular to sub-angular ironstone gravels 8 to 12mm.	dry		Hard and soft bands encountered between 4 and 7m. Bands approximately 100 to 150mm thick.	4.80	Gravel Pack
		5.0				Natural						
		5.5				Natural						
		6.0				Natural						Screen
		6.5				Natural		moist		Very wet cuttings and steam observed 6.5m.		
		7.0				Natural						
		7.5				Natural						
		7.80				Natural						
		8.0					**End of Hole at 7.80 m**					

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **David Jackson**	Date: **26/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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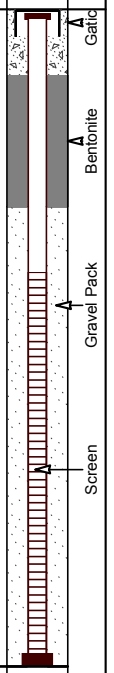
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Hole ID.	**MW4**
Project Number:	**14016**
Hole Depth:	**5.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date:	**27/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	
Client:	**Illawarra Coke Company**	Top of Casing :	
Drilling Company:	**BHC Drilling**	Easting:	**307272.17**
Drill Method:	**Solid Flight Auger**	Northing:	**6194173.58**
		Zone:	**56H**

Method	Depth (mbgl)	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
Solid Flight Auger	0.05	**BITUMEN**.	dry		
	0.15	**FILL** - Roadbase. Sandy CLAY, grey, with crushed blue metal gravel.	dry	MW4_0.5	
	0.5				
	0.80	**FILL** - Sandy CLAY, black, mixed with coal and coke.			
	1.0	**CLAY** - yellow / white / grey, stiff, non plastic, slightly cohesive.	dry	MW4_1.0	
	1.5			MW4_1.5	
	2.00				
	2.5	**CLAY** - grey / white, very stiff, extremely weathered siltstone.	dry		
	3.0			MW4_2.5	
	3.5				
	3.60				
	4.0	**Silty Sandy CLAY** - brown / orange, stiff, non plastic, extremely weathered shale.	dry		
	4.5				
	5.00				
	5.5	**End of Hole at 5.00 m**			
	6.0				
	6.5				
	7.0				
	7.5				
	8.0				



USCS Symbol	Material Type
	Fill
CL	Natural
CL	Natural
CL	Natural

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **David Jackson**	Date: **27/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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Hole ID.	**MW5**
Project Number:	**14016**
Hole Depth:	**6.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date:	**27/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	
Client:	**Illawarra Coke Company**	Top of Casing :	
Drilling Company:	**BHC Drilling**	Easting:	**307190.71**
Drill Method:	**Solid Flight Auger**	Northing:	**6194229.15**
		Zone:	**56H**

Method	Depth (mbgl)	USCS Symbol	Material Type	Material Description	Moisture	Samples / Tests ID No.	Observations / Comments
CC	0.15		Fill	**CONCRETE**.			
	0.25			**FILL** - Reworked CLAY, mixed with coal wash.	dry		
	0.5	CL		**CLAY** - brown / grey mottled, soft, slightly plastic, cohesive.	dry	MW5_0.5	
	1.0					MW5_1.0	
	1.60						
	2.0	CL	Natural	**CLAY** - brown / white mottled, stiff, non plastic, slightly cohesive, with white siltstone gravels 10 to 20mm.	dry		
	2.5						
	3.0			Becoming more moist with depth.			
	3.5						
	4.0						
	4.5						
	5.00						
	5.50	CL		**CLAY** - black / dark brown, plastic, cohesive.	moist		
	6.00			**Weathered SHALE / CLAY** - brown / black, very hard, with ironstone and shale fragments.	dry		
	6.5			**End of Hole at 6.00 m**			
	7.0						
	7.5						
	8.0						

Solid Flight Auger

Well Details: Gatic; Grout; 1.50; Bentonite; 2.50; 3.00; Gravel Pack; Screen

Well Construction

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By:	Laurie White	Logged By:	**David Jackson**
Contact:	laurie.white@reumad.com.au	Checked By:	
Date:	**27/03/2014**	Date:	

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Hole ID.	**MW6**
Project Number:	**14016**
Hole Depth:	**6.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date:	**27/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	
Client:	**Illawarra Coke Company**	Top of Casing :	
Drilling Company:	**BHC Drilling**	Easting:	**307157.25**
Drill Method:	**Solid Flight Auger**	Northing:	**6194241.11**
		Zone:	**56H**

Method	Depth (mbgl)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Observations / Comments	Well Details	Well Construction
Solid Flight Auger	0.0 – 3.50		Fill	Fill	**FILL** - COALWASH and COKE, black, with gravel to 20mm. Mixed with some Clay from 2.0m, soft.	moist		2.70	Gatic, Grout, Bentonite
	3.50 – 4.50		CL	Natural	**CLAY** - grey / dark brown, cohesive.	moist		3.70 3.80	Gravel Pack
	4.50 – 6.00		CL	Natural	**CLAY** - brown, plastic, cohesive.	moist to wet			Screen
	6.00				**End of Hole at 6.00 m**				

Additional Comments

Strike Groundwater Level Static Groundwater Level

Log Drawn By: Laurie White		Logged By: **David Jackson**	Date: **27/03/2014**
Contact: laurie.white@reumad.com.au		Checked By:	Date:

ES LOG LT ICC CORRIMAL 14016.GPJ ES.GDT 23/6/14 11:16:29 AM

Monitoring Well Log

Environmental Strategies Pty Ltd
Suite 15201, Locomotive Workshop
2 Locomotive Street
Eveleigh NSW 2012
Tel: +61 (0)2 9690 2555
www.environmentalstrategies.com.au

Hole ID.	**MW7**
Project Number:	**14016**
Hole Depth:	**6.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date:	**27/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	
Client:	**Illawarra Coke Company**	Top of Casing :	
Drilling Company:	**BHC Drilling**	Easting:	**307143.97**
Drill Method:	**Solid Flight Auger**	Northing:	**6194037.78**
		Zone:	**56H**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Samples / Tests: Moisture	Observations / Comments	Well Details	Well Construction
Solid Flight Auger	▽	0.50				Fill	**FILL** - COKE and COALWASH.	dry			Gatic
		1.0			CL	Natural	**Sandy Silty CLAY** - brown, soft, slightly plastic, fine grained, uniform.	moist			Grout
		1.5								1.50	
		2.0					Becoming more moist with depth.				Bentonite
		2.5								2.50	
		3.0								3.00	Gravel Pack
		3.50									
	▽	4.0			CL		**Silty CLAY** - brown, stiff, plastic.	moist			Screen
		4.5					Becoming more moist with depth.				
		5.0									
		5.5									
		6.00									
		6.5					**End of Hole at 6.00 m**				
		7.0									
		7.5									
		8.0									

Additional Comments

▽ Strike Groundwater Level ▼ Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **David Jackson**	Date: **27/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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Monitoring Well Log

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Hole ID.	**MW8**
Project Number:	**14016**
Hole Depth:	**6.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date:	**27/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	
Client:	**Illawarra Coke Company**	Top of Casing :	
Drilling Company:	**BHC Drilling**	Easting:	**307191.43**
Drill Method:	**Solid Flight Auger**	Northing:	**6194092.02**
		Zone:	**56H**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Samples / Tests: Moisture	Observations / Comments	Well Details	Well Construction
Solid Flight Auger	▽	0.5 1.0 **1.50**				Fill	**FILL** - COKE and COALWASH.	dry		1.20	Gatic Grout
		2.0 2.5 3.0 3.5 4.0			CL	Natural	**Sandy Silty CLAY** - grey / dark brown, soft, plastic, cohesive. Becoming more moist with depth. Becoming slightly more stiff with depth. Becoming wet at 4.0m.	moist wet		2.20 2.70	Bentonite Gravel Pack Screen
		4.5 5.0 5.5 **6.00**								5.60	Cave-in
		6.5 7.0 7.5 8.0					**End of Hole at 6.00 m**				

Additional Comments

▽ Strike Groundwater Level ▼ Static Groundwater Level

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Contact: laurie.white@reumad.com.au

Logged By: **David Jackson** Date: **27/03/2014**
Checked By: Date:

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Hole ID.	**MW9**
Project Number:	**14016**
Hole Depth:	**5.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**	Date:	**27/03/2014**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	
Client:	**Illawarra Coke Company**	Top of Casing :	
Drilling Company:	**BHC Drilling**	Easting:	**307210.44**
Drill Method:	**Solid Flight Auger**	Northing:	**6193931.57**
		Zone:	**56H**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Samples / Tests: Moisture	Observations / Comments	Well Details	Well Construction
Solid Flight Auger	▽	0.5				Fill	**FILL** - COKE and COALWASH.	dry			Grout Gatic
		1.0								0.80	
		1.50									Bentonite
		1.60					**FILL** - Crushed BRICKS.	dry		1.80	
		2.0			CL	Natural	**Silty CLAY** - brown, plastic, cohesive.	dry		2.00	
		2.5						moist to wet			Gravel Pack
		3.0									
		3.5									Screen
		4.0									
		4.5									
		5.00					**End of Hole at 5.00 m**				
		5.5									
		6.0									
		6.5									
		7.0									
		7.5									
		8.0									

Additional Comments

▽ Strike Groundwater Level ▼ Static Groundwater Level

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au
Logged By: **David Jackson** Date: **27/03/2014**
Checked By: Date:

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Hole ID.	**MW10**
Project Number:	**14016**
Hole Depth:	**6.00 m**
Sheet:	**1 of 1**

Project Name:	**ICC Corrimal Phase 2 ESA**
Location / Site:	**Railway Street, Corrimal NSW**
Client:	**Illawarra Coke Company**
Drilling Company:	**BHC Drilling**
Drill Method:	**Solid Flight Auger**

Date:	**27/03/2014**
Ground Level :	
Top of Casing :	
Easting:	**307257.31**
Northing:	**6194082.38**
Zone:	**56H**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Samples / Tests: Moisture	Observations / Comments	Well Details	Well Construction
Solid Flight Auger	▽	0.5 1.00 1.5 2.0 2.5 3.0 3.50 4.0 4.5 5.0 5.5 6.00 6.5 7.0 7.5 8.0			CL CL	Fill Natural	**FILL** - COKE and COALWASH, with large coke gravels 20-80mm. **CLAY** - brown / grey, stiff, slightly plastic, cohesive. **Sandy Silty CLAY** - light grey / white / brown, stiff, slightly cohesive, extremely weathered rock. **End of Hole at 6.00 m**	dry dry moist wet		2.00 2.50 3.00	Gatic Grout Bentonite Gravel Pack Screen

Additional Comments

▽ Strike Groundwater Level ▼ Static Groundwater Level

Log Drawn By:	Laurie White	Logged By: **David Jackson**	Date: **27/03/2014**
Contact:	laurie.white@reumad.com.au	Checked By:	Date:

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Test Pit Log

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Hole ID.	**TP1**
Project Number:	**16088**
Hole Depth:	**4.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**10/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Observations / Comments
EX		0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.00				Fill	**FILL** - SILTS and COALWASH fines, light grey silt, mixed with light brown silts and sand, medium grained.	0.1	TP1_0.5 TP1_1.0 TP1BASE	No odour. No PACM noted. Brick pieces (mixed colours), concrete, terracotta.
		4.5 5.0					**End of Hole at 4.00 m** on similar. Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **C.Biggs / T.Keatley** Date: **10/01/2017**
Checked By: Date:

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Test Pit Log

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Hole ID.	**TP2**
Project Number:	**16088**
Hole Depth:	**2.50 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**10/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.5 1.0 1.5 2.0 2.50				Fill	**FILL** - BUILDING RUBBLE fragments, fine grey sands (dogging sand), some fine silts.		0.1	TP2_0.5 TP2_1.0 TP2BASE	No odour. ACM (bonded sheet) fragment in excavated material. Brick and concrete pieces to 50mm, air lines, ball bladder
		3.0 3.5 4.0 4.5 5.0					**Natural: Silty CLAY** - brown, no cohesion. **End of Hole at 2.50 m** Target depth.	dry			

Additional Comments

ACM (bonded sheet) fragment in excavated material.

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **C.Biggs / T.Keatley** Date: **10/01/2017**
Checked By: Date:

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Hole ID.	**TP3**
Project Number:	**16088**
Hole Depth:	**1.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**10/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.5 1.00				Fill	**FILL** - Silty Gravelly mixed FILL, fine silts, coke fines, rootlets.	0.0	TP3_0.5 TP3_1.0 TP3BASE	No odour. No PACM noted. Brick pieces (mixed colours), melted / glassified fragments to 50mm, ash (burnt sands). Sheeted plastic at 0.8m. 50mm steal 'I' beam along base, and plastic.
		1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0					**End of Hole at 1.00 m** on similar. Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **C.Biggs / T.Keatley** Date: **10/01/2017**
Checked By: Date:

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Hole ID.	**TP4**
Project Number:	**16088**
Hole Depth:	**2.50 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**10/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.5				Fill	**FILL** - SILT and COKE fines, some occasional sands, medium grained, rootlets.	0.0	TP4_0.5	No odour. No PACM noted. Brick pieces (mixed colours), occasional concrete pieces including a 50mm thick slab piece, wood.
		1.00					**FILL** - Silty CLAY, brown, some occasional sands, medium grained, rootlets.		TP4_1.0	No odour. No PACM noted. Brick pieces (mixed colours), occasional concrete pieces including a 50mm thick slab piece, wood.
		1.5								
		2.0								
		2.50							TP4BASE	
		3.0					**End of Hole at 2.50 m** in clay. Target depth.			
		3.5								
		4.0								
		4.5								
		5.0								

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Logged By: **C.Biggs / T.Keatley** Date: **10/01/2017**
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Hole ID.	**TP5**
Project Number:	**16088**
Hole Depth:	**2.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**10/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.50				Fill	**FILL** - SILT and COAL fines to 2mm, fine silts, roots.		TP5_0.5	No odour. No PACM noted.
		1.0					**FILL** - COAL, coarse pieces to 100mm, angular to sub angular.	0.0	TP5_1.0	No odour. No PACM noted.
		1.5								
		2.00							TP5BASE	
		2.5					**End of Hole at 2.00 m** on similar. Target depth.			
		3.0								
		3.5								
		4.0								
		4.5								
		5.0								

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Log Drawn By: Laurie White
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Hole ID.	**TP6**
Project Number:	**16088**
Hole Depth:	**2.50 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**10/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.50				Fill	**FILL** - SILT, COKE fragments, fine silt, coke fragments to 2mm, rootlets.		TP6_0.5	No odour. No PACM noted.
		1.0					**FILL** - COAL, coarse pieces to 100mm, occasional shale gravels, angular to sub angular, fine coal silt, occasional white grey sandstone to 100mm.	0.0	TP6_1.0	No odour. No PACM noted.
		1.5								
		2.0								
		2.50							TP6BASE	
		3.0					**End of Hole at 2.50 m** on similar. Target depth.			
		3.5								
		4.0								
		4.5								
		5.0								

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **C.Biggs / T.Keatley** Date: **10/01/2017**
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Hole ID.	**TP7**
Project Number:	**16088**
Hole Depth:	**3.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**10/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Observations / Comments
EX		0.50				Fill	**FILL** - SILT and COAL fines, light brown silt, occasional coal gravel to 20mm, rootlets.			No odour. No PACM noted.
		1.00					**FILL** - COAL fines, occasional gravels, tree roots.		TP7_0.5	No odour. No PACM noted.
		1.5					**FILL** - COAL fines, some fine brown silts, occasional coal pieces to 100mm, sub angular.	0.0	TP7_1.0	No odour. No PACM noted. Occasional concrete pieces to 50mm.
		2.0								
		2.5								
		3.00							TP7BASE	
		3.5					**End of Hole at 3.00 m** Target depth.			
		4.0								
		4.5								
		5.0								

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **C.Biggs / T.Keatley** Date: **10/01/2017**
Checked By: Date:

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Hole ID.	**TP8**
Project Number:	**16088**
Hole Depth:	**3.50 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**10/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Observations / Comments
EX		0.5 1.0 1.5 2.0 2.5 3.0 *3.50*				Fill	**FILL** - COAL fines, occasional cobble >200mm, roots, occasional bands of fine brown silts. - plastic at 0.4m. - occasional concrete piece to 50mm at 0.6m. - occasional concrete piece to 50mm at 2.2m.	0.2	TP8_0.5 TP8_1.0 TP8BASE	No odour. No PACM noted.
		4.0 4.5 5.0					**End of Hole at 3.50 m** on similar. Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetrometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **C.Biggs / T.Keatley** Date: **10/01/2017**
Checked By: Date:

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Hole ID.	**TP9**
Project Number:	**16088**
Hole Depth:	**3.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**10/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Sample ID: DUP TRIP	Observations / Comments
EX		0.5 1.0 1.5 2.0 2.5 3.00				Fill	**FILL** - SILT and COKE fines (coalwash?), some brown plastic clay inclusions, some fine light grey sands.	0.0	TP9_0.5 TP9_1.0 TP9BASE	DUP 170110 TRIP 170110	No odour. No PACM noted.
		3.5 4.0 4.5 5.0					**End of Hole at 3.00 m** in brown plastic clays. Target depth.				

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **C.Biggs / T.Keatley** Date: **10/01/2017**
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Test Pit Log

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Hole ID.	**TP10**
Project Number:	**16088**
Hole Depth:	**3.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**10/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.5				Fill	**FILL** - SILTS and COALWASH fines.	0.2	TP10_0.5	No odour. No PACM noted.
		0.80								
		1.0					**FILL** - SILTS and COALWASH fines.		TP10_1.0	No odour. No PACM noted. Occasional brick inclusions.
		1.5								
		2.0								
		2.50								
		2.80					**FILL** - SAND, brown, coarse.			No odour. No PACM noted.
		3.00					**FILL** - SAND, brown, coarse.		TP10BASE	No odour. No PACM noted. Occasional brick inclusions.
		3.5					**End of Hole at 3.00 m** in brown sands. Target depth.			
		4.0								
		4.5								
		5.0								

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

REUMAD

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Hole ID.	**TP11**
Project Number:	**16088**
Hole Depth:	**5.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**10/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Observations / Comments
EX		0.5 0.60				Fill	**FILL** - Silty SAND, light grey, medium to coarse.		TP11_0.5	No odour. No PACM noted. Brick pieces (mixed colours), concrete, tile, terracotta, steel inclusions.
		1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5					**FILL** - Silty SAND, light brown, medium to coarse.	0.0	TP11_1.0	No odour. No PACM noted. Brick pieces (mixed colours), concrete, tile, terracotta, steel inclusions.
		5.00					**End of Hole at 5.00 m** in dark grey black coalwash. Target depth.		TP11BASE	

Additional Comments

Concrete blocks and concrete lagging (no ACM) like material on surface of stockpile.
Possible ACM lagging material.

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP12**
Project Number:	**16088**
Hole Depth:	**5.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**10/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.00				Fill	**FILL** - SILTS and COALWASH fines, with coke gravel inclusions to 100mm, angular. - some brown plastic clay inclusions at 4.8m.	0.0	TP12_0.5 TP12_1.0 TP12BASE	No odour. No PACM noted.
							End of Hole at 5.00 m Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP13**
Project Number:	**16088**
Hole Depth:	**4.50 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**10/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Observations / Comments
EX		0.5				Fill	**FILL** - SILTS and COALWASH fines, some large coal / coke inclusions.		TP13_0.5	No odour. No PACM noted.
		1.0							TP13_1.0	
		1.5					- bands of brown silty clay at 1.2m.			
		2.0					- bands of brown silty clay at 1.9m.	0.10		
		2.5					- steel pipe (irrigation spray line) at 2.5m.			
		3.0								
		3.5								
		4.0								
		4.50							TP13	
		5.0					**End of Hole at 4.50 m** on similar. Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetrometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP14**
Project Number:	**16088**
Hole Depth:	**2.50 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**10/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.5 1.0 1.5 2.0 2.50				Fill	**FILL** - SILTS and COALWASH fines, brown grey, fine to medium grained, with fine brown silt and clay, rootlets. - dark grey coke fines at 2m, loose.	0.0	TP14_0.5 TP14_1.0 TP14BASE	No odour. No PACM noted. With batteries (AAA), brick pieces, coal / coke gravels to 20mm.
		3.0 3.5 4.0 4.5 5.0					**End of Hole at 2.50 m** on similar. Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP15**
Project Number:	**16088**
Hole Depth:	**2.50 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**11/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.30				Fill	**FILL** - SILTS and COALWASH fines, dark grey black, angular gravel to 5mm, roots.			No odour. No PACM noted.
		0.5					**FILL** - SILTS and COALWASH fines, light grey, occasional coke to 50mm.		TP15_0.5	No odour. No PACM noted.
		1.0							TP15_1.0	
		1.5					- some clay and angular gravel to 25mm at 1.2m.	0.0		Brick inclusions at 1.2m.
		2.0					- plastic at 1.5m.			
		2.50							TP15BASE	
		3.0					**End of Hole at 2.50 m** on similar. Target depth.			
		3.5								
		4.0								
		4.5								
		5.0								

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP16**
Project Number:	**16088**
Hole Depth:	**1.50 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**11/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.5 1.0 1.50				Fill	**FILL** - SILTS and COALWASH fines, dark grey and brown, with sand, mixed gravel to 50mm, angular rocks to brick size, no defined layers.	0.0	TP16_0.5 TP16_1.0 TP16BASE	No odour. No PACM noted. Bricks (mixed colours), concrete.
		2.0 2.5 3.0 3.5 4.0 4.5 5.0					**End of Hole at 1.50 m** Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP17**
Project Number:	**16088**
Hole Depth:	**5.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**11/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 *5.00*				Fill	**FILL** - SILTS and COALWASH fines, dark grey black, occasional sub angular gravel to 50mm, roots, no defined layers.	0.0	TP17_0.5 TP17_1.0 TP17BASE	No odour. No PACM noted.
							End of Hole at 5.00 m on similar. Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP18**
Project Number:	**16088**
Hole Depth:	**0.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**11/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Observations / Comments
		0.00					**Unable to Test Pit. Berm sprayed with shotcrete for engineering support of road and building above**.	

0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP19**
Project Number:	**16088**
Hole Depth:	**2.50 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**11/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.5 1.0 1.5 2.0 2.50				Fill	**FILL** - SILTS and COALWASH fines, gravel, roots. - some large brown plastic clay inclusions from 2m.	0.0	TP19_0.5 TP19_1.0 TP19BASE	No odour. No PACM noted. Steel, plastic.
		3.0 3.5 4.0 4.5 5.0					**End of Hole at 2.50 m** in brown clays. Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetrometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP20**
Project Number:	**16088**
Hole Depth:	**5.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**11/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Observations / Comments
EX		0.5				Fill	**FILL** - SILTS and COALWASH fines, occasional brown plastic clay inclusions, no defined layers.		TP20_0.5	No odour. No PACM noted. Occasional brick (mixed colours).
		1.0							TP20_1.0	
		1.5								
		2.0								
		2.5						0.0		
		3.0					becoming SILT, brown, occasional inclusions.			
		3.5								
		4.0								
		4.5								
		5.00							TP20BASE	
							End of Hole at 5.00 m on similar. Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetrometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP21**
Project Number:	**16088**
Hole Depth:	**2.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**12/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Observations / Comments
EX		0.5 1.0 1.5 2.00				Fill	**FILL** - SILTS, SANDS and COALWASH fines, occasional gravel to 20mm, rootlets.	0.0	TP21_0.5 TP21_1.0 TP21BASE	No odour. No PACM noted. Buried steel pipe.
		2.5 3.0 3.5 4.0 4.5 5.0					**End of Hole at 2.00 m** on stiff light brown silty clay. Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP22**
Project Number:	**16088**
Hole Depth:	**2.50 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**12/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.5 1.0 1.5 **2.00**				Fill	**FILL** - QUENCH ASH, large roots and rootlets, few angular gravel inclusions.	0.0	TP22_0.5 TP22_1.0	No odour. No PACM noted.
		2.50			CL	Natural	**Silty CLAY** - light brown, stiff to very stiff, no plasticity.		TP22BASE	No odour.
		3.0 3.5 4.0 4.5 5.0					**End of Hole at 2.50 m** Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Logged By: **C.Biggs** Date: **12/01/2017**
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Hole ID.	**TP23**
Project Number:	**16088**
Hole Depth:	**2.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**12/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.5 1.0 1.5 2.00				Fill	**FILL** - QUENCH ASH, light grey, very fine to fine particles, silt to sand like. - coarse angular gravel inclusions from 1.2m.	0.0	TP23_0.5 TP23_1.0 TP23BASE	No odour. No PACM noted.
		2.5 3.0 3.5 4.0 4.5 5.0					**End of Hole at 2.00 m** Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetrometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

REUMAD

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Contact: laurie.white@reumad.com.au

Logged By: **C.Biggs** Date: **12/01/2017**
Checked By: Date:

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Hole ID.	**TP24**
Project Number:	**16088**
Hole Depth:	**3.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**12/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.5 *0.80* 1.0 1.5 2.0 2.5 *3.00*				Fill	**FILL** - QUENCH ASH, light grey, very fine to fine particles, silt to sand like.	0.0	TP24_0.5	No odour. No PACM noted.
							FILL - SILT and COALWASH fines, some angular gravel to 80mm, some occasional red brown plastic clay.		TP24_1.0	No odour. No PACM noted.
		3.5 4.0 4.5 5.0					**End of Hole at 3.00 m** on similar. Target depth.		TP24BASE	

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Logged By: **C.Biggs** Date: **12/01/2017**
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Hole ID.	**TP25**
Project Number:	**16088**
Hole Depth:	**3.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**12/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Observations / Comments
EX		0.5 1.0 1.5 2.0 2.5 3.00				Fill	**FILL** - SILTS and COALWASH fines, with gravels to 50mmØ, some red, some red brown clay.	0.0	TP25_0.5 TP25_1.0 TP25BASE	No odour. No PACM noted. Brick pieces (mainly white and grey), concrete.
		3.5 4.0 4.5 5.0					**End of Hole at 3.00 m** in silty clay. Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP26**
Project Number:	**16088**
Hole Depth:	**4.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**11/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Sample ID: DUP TRIP	Observations / Comments
EX		0.5 1.0 1.5 **2.00**				Fill	**FILL** - SILTS and COALWASH fines, with gravels to 50mmØ, some red, some red brown clay.	0.0	TP26_0.5 TP26_1.0	DUP1 170111 TRIP1 170111	No odour. No PACM noted. Brick pieces (mainly white and grey), concrete.
		2.40					**FILL** - Silty CLAY, with gravels to 50mmØ, some red, some red brown clay.				No odour. No PACM noted. Brick pieces (mainly white and grey), concrete.
		2.5 3.0 3.5 **4.00**					**FILL** - SILT and COALWASH fines, with gravels to 50mmØ, some red, some red brown clay.		TP26BASE		No odour. No PACM noted. Brick pieces (mainly white and grey), concrete.
		4.5 5.0					**End of Hole at 4.00 m** in red brown silty clay. Target depth.				

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP27**
Project Number:	**16088**
Hole Depth:	**5.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**11/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.5				Fill	**FILL** - SILTS and COALWASH fines, with gravel to 20mm.		TP27_0.5	No odour. No PACM noted. With brick pieces to 20mm, steel sheeting.
		0.80								
		1.0					**FILL** - CLAY bands, brown.		TP27_1.0	No odour. No PACM noted.
		1.20								
		1.30					**FILL** - Chalky White ROCK.			No odour. No PACM noted.
		1.40					**FILL** - SILTS and COALWASH fines, with gravel to 20mm.			No odour. No PACM noted. With brick pieces to 20mm, steel sheeting.
		1.5					**FILL** - CLAY bands, brown.			No odour. No PACM noted.
		2.00								
		2.5					**FILL** - SILTS and COALWASH fines, with gravel to 20mm.	0.0		No odour. No PACM noted. With brick pieces to 20mm, steel sheeting.
		3.0								
		3.5								
		4.0								
		4.5								
		5.00							TP27BASE	
							End of Hole at 5.00 m in brown silty clay. Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP28**
Project Number:	**16088**
Hole Depth:	**4.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**11/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Sample ID: DUP TRIP	Observations / Comments
EX		0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.00				Fill	**FILL** - SILTS, SANDS and COALWASH fines, angular gravel to 100mm, no defined layers.	0.0	TP28_0.5 TP28_1.0 TP28BASE	DUP 170111 TRIP 170111	No odour. No PACM noted. Brick (mixed colours), sandstone, plastic.
		4.5 5.0					**End of Hole at 4.00 m** Target depth.				

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP29**
Project Number:	**16088**
Hole Depth:	**2.50 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**12/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.5				Fill	**FILL** - SILTS and COALWASH fines, dark grey, some gravel to 50mm.		TP29_0.5	No odour. No PACM noted. Sheet plastic, wooden stake, silt fence material, wood.
		1.00					**FILL** - Silty SAND, brown, medium grained, quench ash layers mixed throughout but not defined in layers.	0.0	TP29_1.0	No odour. No PACM noted.
		1.5								
		2.0								
		2.50							TP29BASE	
		3.0					**End of Hole at 2.50 m** on similar. Target depth.			
		3.5								
		4.0								
		4.5								
		5.0								

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP30**
Project Number:	**16088**
Hole Depth:	**2.30 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**12/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Observations / Comments
EX		0.30				Fill	**FILL** - Sandy Silty CLAY, light brown, stiff, slight plasticity, rootlets.			No odour. No PACM noted.
		0.50					**FILL** - Silty SAND, with angular gravel inclusions to 15mm.			No odour. No PACM noted.
		1.0					**FILL** - Silty SAND, grey brown, with angular gravel inclusions to 25mm.		TP30_0.5	No odour. No PACM noted.
		1.5					- gravels increasing, ash gravel to 25mm.	0.0	TP30_1.0	
		1.90					- gravels increasing, less sand and silt.			
		2.0					**FILL** - CLAY, brown, stiff.			No odour. No PACM noted.
		2.30							TP30BASE	
		2.5					**End of Hole at 2.30 m** on similar. Target depth.			
		3.0								
		3.5								
		4.0								
		4.5								
		5.0								

Additional Comments

Berm height: 5m approximately.

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP31**
Project Number:	**16088**
Hole Depth:	**4.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**12/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Observations / Comments
EX		0.30				Fill	**FILL** - COALWASH fines, with gravel to 20mm.			No odour. No PACM noted.
		0.50					**FILL** - Silty CLAY, brown grey, with gravel to 25mm.		TP31_0.5	No odour. No PACM noted. Glass bottle.
							FILL - COALWASH fines, with few gravels.			No odour. No PACM noted.
		1.0							TP31_1.0	
		1.5								
		2.0						0.0		
		2.5								
		3.0								
		3.5								
		4.00							TP31BASE	
		4.5					**End of Hole at 4.00 m** on similar. Target depth.			
		5.0								

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP32**
Project Number:	**16088**
Hole Depth:	**1.50 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**12/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Observations / Comments
EX		0.5 1.0 1.50				Fill	**FILL** - QUENCH ASH, some gravel to 50mm.	0.0	TP32_0.5 TP32_1.0 TP32BASE	No odour. No PACM noted. Lead steel inclusion.
		2.0 2.5 3.0 3.5 4.0 4.5 5.0					**End of Hole at 1.50 m** on similar. Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP33**
Project Number:	**16088**
Hole Depth:	**2.50 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**12/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Observations / Comments
EX		0.5				Fill	**FILL** - SILTS and COALWASH fines, dark grey, some gravel to 50mm.	0.0	TP33_0.5	No odour. No PACM noted. Rubber sheeting, 'I' beam, plastic.
		0.60					**FILL** - Silty SAND, brown, medium grained.			No odour. No PACM noted.
		0.80					**FILL** - QUENCH ASH.		TP33_1.0	No odour. No PACM noted.
		1.00					**FILL** - SILTS and COALWASH fines, dark grey, some gravel to 50mm.			No odour. No PACM noted. Brick (grey), plastic, less rubber sheeting, less iron.
		1.20					**FILL** - Silty SAND, brown, medium grained.			No odour. No PACM noted.
		1.30					**FILL** - QUENCH ASH.			No odour. No PACM noted.
		1.40					**FILL** - SILTS and COALWASH fines, dark grey, some gravel to 50mm.			No odour. No PACM noted. Less inclusions.
		1.5								
		2.0								
		2.50							TP33BASE	
		3.0					**End of Hole at 2.50 m** on similar. Target depth.			
		3.5								
		4.0								
		4.5								
		5.0								

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP34**
Project Number:	**16088**
Hole Depth:	**2.50 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**12/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID: PID ppm	Sample ID: ID No.	Observations / Comments
EX		0.5 1.0 1.5 2.0 2.50				Fill	**FILL** - QUENCH ASH, with gravel to 50mm, large roots and rootlet system, no defined layers.	0.0	TP34_0.5 TP34_1.0 TP34BASE	No odour. No PACM noted.
		3.0 3.5 4.0 4.5 5.0					**End of Hole at 2.50 m** on similar. Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Hole ID.	**TP35**
Project Number:	**16088**
Hole Depth:	**4.00 m**
Sheet:	**1 of 1**

Project Name:	**Berm Assessment**	Date:	**12/01/2017**
Location / Site:	**Railway Street, Corrimal NSW**	Ground Level :	**N/A**
Client:	**Illawarra Coke Company (ICC)**	Top of Casing :	**N/A**
Drilling Company:	**Ken Coles Excavations Pty Ltd**	Easting:	**N/A**
Drill Method:	**Excavation (20t excavator)**	Northing:	**N/A**
		Zone:	**N/A**

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID PID ppm	Sample ID ID No.	Observations / Comments
EX		0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.00				Fill	**FILL** - SILTS and COALWASH fines, gravels to 80mmØ (coal / coke), no defined layers.	0.0	TP35_0.5 TP35_1.0 TP35BASE	No odour. No PACM noted. 2 x 100mmØ concrete pipes at base.
		4.5 5.0					**End of Hole at 4.00 m** on silty clay. Target depth.			

Additional Comments

Method

HA	Hand Auger
CC	Concrete Corer
CB	Concrete Breaker
SFA	Solid Flight Auger
HFA	Hollow Flight Auger
SPT	Standard Penetometer Test
PT	Push Tube
AH	Air Hammer
EX	Excavator

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Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **C.Biggs** Date: **12/01/2017**
Checked By: Date:

ES ARCADIS ICC CORRIMAL 16088.GPJ ES.GDT 9/2/17 9:52:03 AM

Test Pit Log

ARCADIS Design & Consultancy for natural and built assets

Hole ID.	F1
Project Number:	17325
Hole Depth:	0.40 m
Sheet:	1 of 1

Project Name:	ICC Corrimal Additional Phase 2	Date:	9/02/2018
Location / Site:	Railway Street, Corrimal NSW	Ground Level :	N/A
Client:	Illawarra Coke Company	Top of Casing :	N/A
Drilling Company:	-	Easting:	N/A
Drill Method:	Excavation	Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Sample ID		Observations / Comments
									ID No.	DUP TRIP	
EX		0.10				Fill	**CONCRETE SLAB**.				
		0.2					**FILL** - BRICK, red.	dry			
		0.30					**FILL** - SAND, brown / white, fine grained.	dry	F1_0.3	Dup Trip	No odour. No staining. No ACM.
		0.40					**End of Hole at 0.400 m** Top of Flue.				
		0.6									
		0.8									
		1.0									
		1.2									
		1.4									
		1.6									
		1.8									
		2.0									
		2.2									
		2.4									

Additional Comments

Flue has straight sides 1.5m deep.

Method

HA	Hand Auger	MR	Mud Rotary
CC	Concrete Corer	PT	Push Tube
CB	Concrete Breaker	AH	Air Hammer
SFA	Solid Flight Auger	EX	Excavator
HFA	Hollow Flight Auger	DC	Diamond Coring
SPT	Standard Penetometer Test		

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Jack O'Shaughnessy** Date: **9/02/2018**
Checked By: Date:

ARCADIS 17325 ICC CORRIMAL FEB 18.GPJ ES.GDT 14/2/18 10:13:47 AM - drawn by laurie white at www.reumad.com.au

Illawarra Coke Company - 27 Railway Street - Jessica Fang - Legacy Property - 3/8/2018 10:47:35 PM - 144.139.166.84

4.2.16 2018-03-08 Arcadis Corrimal Flue Stack and Powerhouse testing FINAL.pdf - Page 35

Test Pit Log

ARCADIS Design & Consultancy for natural and built assets

Hole ID.	F2
Project Number:	17325
Hole Depth:	0.40 m
Sheet:	1 of 1

Project Name:	ICC Corrimal Additional Phase 2	Date:	9/02/2018
Location / Site:	Railway Street, Corrimal NSW	Ground Level :	N/A
Client:	Illawarra Coke Company	Top of Casing :	N/A
Drilling Company:	-	Easting:	N/A
Drill Method:	Excavation	Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Sample ID / ID No.	Observations / Comments
EX		0.10				Fill	**CONCRETE SLAB**.			
		0.20					**FILL** - ASH, grey, fine grained.	dry		No odour. No staining. No ACM.
		0.30					**FILL** - Crushed BRICK / MORTAR, light red.	dry		No odour. No staining. No ACM.
		0.40					**FILL** - SAND, brown / white, loose, fine grained.	dry	F2_0.3	No odour. No staining. No ACM.
							End of Hole at 0.400 m Top of Flue.		F2_Wall	Sample collected from inside wall.
		0.6								
		0.8								
		1.0								
		1.2								
		1.4								
		1.6								
		1.8								
		2.0								
		2.2								
		2.4								

Additional Comments

Method

HA	Hand Auger	MR	Mud Rotary
CC	Concrete Corer	PT	Push Tube
CB	Concrete Breaker	AH	Air Hammer
SFA	Solid Flight Auger	EX	Excavator
HFA	Hollow Flight Auger	DC	Diamond Coring
SPT	Standard Penetometer Test		

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: Jack O'Shaughnessy Date: 9/02/2018
Checked By: Date:

ARCADIS 17325 ICC CORRIMAL FEB 18.GPJ ES.GDT 14/2/18 10:13:48 AM - drawn by laurie white at www.reumad.com.au

Illawarra Coke Company - 27 Railway Street - Jessica Fang - Legacy Property - 3/8/2018 10:47:35 PM - 144.139.166.84

Test Pit Log

ARCADIS Design & Consultancy for natural and built assets

Hole ID.	F3
Project Number:	17325
Hole Depth:	0.40 m
Sheet:	1 of 1

Project Name:	ICC Corrimal Additional Phase 2	Date:	9/02/2018
Location / Site:	Railway Street, Corrimal NSW	Ground Level :	N/A
Client:	Illawarra Coke Company	Top of Casing :	N/A
Drilling Company:	-	Easting:	N/A
Drill Method:	Excavation	Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Sample ID / ID No.	Observations / Comments
EX		0.10				Fill	**CONCRETE SLAB**.			
		0.20					**FILL** - ASH, grey, fine grained.	dry		No odour. No staining. No ACM.
		0.30					**FILL** - Crushed BRICK, red.	dry		No odour. No staining. No ACM.
		0.40					**FILL** - SAND, brown / white, loose, fine grained.	dry		No odour. No staining. Potential ACM ID of rubber.
		0.6					**End of Hole at 0.400 m** Top of Flue.		F3_0.4 F3_Flue Wall	Flue Wall sampled collected from top of flue ceiling.
		0.8								
		1.0								
		1.2								
		1.4								
		1.6								
		1.8								
		2.0								
		2.2								
		2.4								

Additional Comments

Method

HA	Hand Auger	MR	Mud Rotary
CC	Concrete Corer	PT	Push Tube
CB	Concrete Breaker	AH	Air Hammer
SFA	Solid Flight Auger	EX	Excavator
HFA	Hollow Flight Auger	DC	Diamond Coring
SPT	Standard Penetometer Test		

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Jack O'Shaughnessy** Date: **9/02/2018**
Checked By: Date:

ARCADIS 17325 ICC CORRIMAL FEB 18.GPJ ES.GDT 14/2/18 10:13:48 AM - drawn by laurie white at www.reumad.com.au

Illawarra Coke Company - 27 Railway Street - Jessica Fang - Legacy Property - 3/8/2018 10:47:35 PM - 144.139.166.84

4.2.16 2018-03-08 Arcadis Corrimal Flue Stack and Powerhouse testing FINAL.pdf - Page 37

Test Pit Log

ARCADIS Design & Consultancy for natural and built assets

Hole ID.	F4
Project Number:	17325
Hole Depth:	0.45 m
Sheet:	1 of 1

Project Name:	ICC Corrimal Additional Phase 2	Date:	9/02/2018
Location / Site:	Railway Street, Corrimal NSW	Ground Level :	N/A
Client:	Illawarra Coke Company	Top of Casing :	N/A
Drilling Company:	-	Easting:	N/A
Drill Method:	Excavation	Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Sample ID / ID No.	Observations / Comments
							CONCRETE SLAB.			
EX		0.10 / 0.2 / 0.4 / 0.45				Fill	**FILL** - BRICK, red.	dry	F4_0.3	No odour. No staining. No ACM.
		0.6 / 0.8 / 1.0 / 1.2 / 1.4 / 1.6 / 1.8 / 2.0 / 2.2 / 2.4					**End of Hole at 0.450 m** Top of Flue.		F4_Flue Wall	Sample collected from flue wall.

Additional Comments

Method

HA	Hand Auger	MR	Mud Rotary
CC	Concrete Corer	PT	Push Tube
CB	Concrete Breaker	AH	Air Hammer
SFA	Solid Flight Auger	EX	Excavator
HFA	Hollow Flight Auger	DC	Diamond Coring
SPT	Standard Penetometer Test		

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Jack O'Shaughnessy** Date: **9/02/2018**
Checked By: Date:

ARCADIS 17325 ICC CORRIMAL FEB 18.GPJ ES.GDT 14/2/18 10:13:49 AM - drawn by laurie white at www.reumad.com.au

Illawarra Coke Company - 27 Railway Street - Jessica Fang - Legacy Property - 3/8/2018 10:47:35 PM - 144.139.166.84

Test Pit Log

ARCADIS Design & Consultancy for natural and built assets

Hole ID.	PH1
Project Number:	17325
Hole Depth:	2.00 m
Sheet:	1 of 1

Project Name:	ICC Corrimal Additional Phase 2	Date:	9/02/2018
Location / Site:	Railway Street, Corrimal NSW	Ground Level :	N/A
Client:	Illawarra Coke Company	Top of Casing :	N/A
Drilling Company:	-	Easting:	N/A
Drill Method:	Excavation	Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID / ID No.	Observations / Comments
EX		0.20				Fill	**CONCRETE SLAB.**		
							FILL - COAL WASH.	PH1_0.3	No odour. No staining. No ACM.
		2.00					**End of Hole at 2.000 m** Target depth.	PH1_2.0	

Additional Comments

Method

HA	Hand Auger	MR	Mud Rotary
CC	Concrete Corer	PT	Push Tube
CB	Concrete Breaker	AH	Air Hammer
SFA	Solid Flight Auger	EX	Excavator
HFA	Hollow Flight Auger	DC	Diamond Coring
SPT	Standard Penetometer Test		

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Jack O'Shaughnessy** Date: **9/02/2018**
Checked By: Date:

ARCADIS 17325 ICC CORRIMAL FEB 18.GPJ ES.GDT 14/2/18 10:13:50 AM - drawn by laurie white at www.reumad.com.au

Illawarra Coke Company - 27 Railway Street - Jessica Fang - Legacy Property - 3/8/2018 10:47:35 PM - 144.139.166.84

Test Pit Log

ARCADIS Design & Consultancy for natural and built assets

Hole ID.	PH2
Project Number:	17325
Hole Depth:	2.10 m
Sheet:	1 of 1

Project Name:	ICC Corrimal Additional Phase 2	Date:	9/02/2018
Location / Site:	Railway Street, Corrimal NSW	Ground Level :	N/A
Client:	Illawarra Coke Company	Top of Casing :	N/A
Drilling Company:	-	Easting:	N/A
Drill Method:	Excavation	Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Sample ID / ID No.	Observations / Comments
EX		0.20				Fill	**FILL** - TOPSOIL.			No odour. No staining. No ACM.
		0.4					**FILL** - Silty CLAY, grey, organics.	dry		Slight sweet odour. No staining. No ACM. Brick, wire.
		0.50					**FILL** - Silty CLAY, mottled orange / brown / grey, slight plasticity.	dry	PH2_0.5	Slight hydrocarbon odour. No staining. No ACM. Brick, wire.
		0.6								
		0.8								
		1.0								
		1.2								
		1.4								
		1.60								
		1.8			CH	Natural	**Silty CLAY** - brown mottled, firm.	dry	PH2_2.0	No odour. No staining.
		2.0								
		2.10							PH2_2.1	
		2.2					**End of Hole at 2.100 m** Target depth.			
		2.4								

Additional Comments

Method

HA	Hand Auger	MR	Mud Rotary
CC	Concrete Corer	PT	Push Tube
CB	Concrete Breaker	AH	Air Hammer
SFA	Solid Flight Auger	EX	Excavator
HFA	Hollow Flight Auger	DC	Diamond Coring
SPT	Standard Penetometer Test		

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Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: Jack O'Shaughnessy Date: 9/02/2018
Checked By: Date:

ARCADIS 17325 ICC CORRIMAL FEB 18.GPJ ES.GDT 14/2/18 10:13:51 AM - drawn by laurie white at www.reumad.com.au

Illawarra Coke Company - 27 Railway Street - Jessica Fang - Legacy Property - 3/8/2018 10:47:35 PM - 144.139.166.84

Surface Sample Log

ARCADIS Design & Consultancy for natural and built assets

Hole ID.	SS1
Project Number:	17325
Hole Depth:	0.10 m
Sheet:	1 of 1

Project Name:	ICC Corrimal Additional Phase 2	Date:	9/02/2018
Location / Site:	Railway Street, Corrimal NSW	Ground Level :	N/A
Client:	Illawarra Coke Company	Top of Casing :	N/A
Drilling Company:	-	Easting:	N/A
Drill Method:	Excavation	Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Sample ID / ID No.	Observations / Comments
EX		0.10				Fill	**FILL** - ASH / Crushed COAL, some grey silty clay.	slightly moist	SS1	No odour. No staining. No ACM.
							End of Hole at 0.100 m Target depth.			

Additional Comments

Method

HA	Hand Auger	MR	Mud Rotary
CC	Concrete Corer	PT	Push Tube
CB	Concrete Breaker	AH	Air Hammer
SFA	Solid Flight Auger	EX	Excavator
HFA	Hollow Flight Auger	DC	Diamond Coring
SPT	Standard Penetometer Test		

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Jack O'Shaughnessy** Date: **9/02/2018**
Checked By: Date:

ARCADIS 17325 ICC CORRIMAL FEB 18.GPJ ES.GDT 14/2/18 10:13:52 AM - drawn by laurie white at www.reumad.com.au

Illawarra Coke Company - 27 Railway Street - Jessica Fang - Legacy Property - 3/8/2018 10:47:35 PM - 144.139.166.84

Surface Sample Log

ARCADIS Design & Consultancy for natural and built assets

Hole ID.	SS2
Project Number:	17325
Hole Depth:	0.10 m
Sheet:	1 of 1

Project Name:	ICC Corrimal Additional Phase 2	Date:	9/02/2018
Location / Site:	Railway Street, Corrimal NSW	Ground Level :	N/A
Client:	Illawarra Coke Company	Top of Casing :	N/A
Drilling Company:	-	Easting:	N/A
Drill Method:	Excavation	Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Sample ID / ID No.	Observations / Comments
EX		0.10				Fill	FILL - ASH / Crushed COAL on surface over Silty SAND, organics.	slightly moist	SS2	No odour. No staining. No ACM.
							End of Hole at 0.100 m Target depth.			

Additional Comments

Method

HA	Hand Auger	MR	Mud Rotary
CC	Concrete Corer	PT	Push Tube
CB	Concrete Breaker	AH	Air Hammer
SFA	Solid Flight Auger	EX	Excavator
HFA	Hollow Flight Auger	DC	Diamond Coring
SPT	Standard Penetometer Test		

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Jack O'Shaughnessy** Date: **9/02/2018**
Checked By: Date:

ARCADIS 17325 ICC CORRIMAL FEB 18.GPJ ES.GDT 14/2/18 10:13:52 AM - drawn by laurie white at www.reumad.com.au

Illawarra Coke Company - 27 Railway Street - Jessica Fang - Legacy Property - 3/8/2018 10:47:35 PM - 144.139.166.84

Surface Sample Log

ARCADIS Design & Consultancy for natural and built assets

Hole ID.	SS3
Project Number:	17325
Hole Depth:	0.10 m
Sheet:	1 of 1

Project Name:	ICC Corrimal Additional Phase 2	Date:	9/02/2018
Location / Site:	Railway Street, Corrimal NSW	Ground Level :	N/A
Client:	Illawarra Coke Company	Top of Casing :	N/A
Drilling Company:	-	Easting:	N/A
Drill Method:	Excavation	Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Moisture	Sample ID	DUP TRIP	Observations / Comments
EX		0.10				Fill	**FILL** - Silty GRAVEL, organics.	slightly moist	SS3	Dup1 Trip1	No odour. No staining. No ACM.
							End of Hole at 0.100 m Target depth.				

0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4

Additional Comments

Collected from area behind onsite coal holding area.

Method

HA	Hand Auger	MR	Mud Rotary
CC	Concrete Corer	PT	Push Tube
CB	Concrete Breaker	AH	Air Hammer
SFA	Solid Flight Auger	EX	Excavator
HFA	Hollow Flight Auger	DC	Diamond Coring
SPT	Standard Penetometer Test		

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Jack O'Shaughnessy** Date: **9/02/2018**
Checked By: Date:

ARCADIS 17325 ICC CORRIMAL FEB 18.GPJ ES.GDT 14/2/18 10:13:53 AM - drawn by laurie white at www.reumad.com.au

Illawarra Coke Company - 27 Railway Street - Jessica Fang - Legacy Property - 3/8/2018 10:47:35 PM - 144.139.166.84

Surface Sample Log

ARCADIS Design & Consultancy for natural and built assets

Hole ID.	SS4
Project Number:	17325
Hole Depth:	0.10 m
Sheet:	1 of 1

Project Name:	ICC Corrimal Additional Phase 2	Date:	9/02/2018
Location / Site:	Railway Street, Corrimal NSW	Ground Level :	N/A
Client:	Illawarra Coke Company	Top of Casing :	N/A
Drilling Company:	-	Easting:	N/A
Drill Method:	Excavation	Northing:	N/A
		Zone:	N/A

Method	Water Level	Depth (mbgl)	RL (mAHD)	Graphic Log	USCS Symbol	Material Type	Material Description	Sample ID / ID No.	Observations / Comments
EX		0.10				Fill	**FILL** - Silty GRAVEL, grey, organics.	SS4-0.1	No odour. No staining. No ACM.
		0.2					**End of Hole at 0.100 m** Target depth.		
		0.4							
		0.6							
		0.8							
		1.0							
		1.2							
		1.4							
		1.6							
		1.8							
		2.0							
		2.2							
		2.4							

Additional Comments

Collected from collection drain where water is expected to run-off into.

Method

HA	Hand Auger	MR	Mud Rotary
CC	Concrete Corer	PT	Push Tube
CB	Concrete Breaker	AH	Air Hammer
SFA	Solid Flight Auger	EX	Excavator
HFA	Hollow Flight Auger	DC	Diamond Coring
SPT	Standard Penetometer Test		

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Jack O'Shaughnessy** Date: **9/02/2018**
Checked By: Date:

ARCADIS 17325 ICC CORRIMAL FEB 18.GPJ ES.GDT 14/2/18 10:13:54 AM - drawn by laurie white at www.reumad.com.au

Illawarra Coke Company - 27 Railway Street - Jessica Fang - Legacy Property - 3/8/2018 10:47:35 PM - 144.139.166.84

TEST PIT LOG

CLIENT: LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
PROJECT: Combustibility Assessment
LOCATION: Corrimal Cokeworks Site

SURFACE LEVEL: 16.1 AHD
EASTING: 307246
NORTHING: 6194311

PIT No: 201
PROJECT No: 78653.07
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
16	0.15	FILLING - brown mottled black silty sandy clay with some gravels, coalwash cobbles and root fibres, FMC<PL							
		FILLING - black mottled brown silty sandy clay with coalwash gravels and cobbles		D	0.5				
	0.7	SILTY CLAY - stiff, brown silty clay, FMC~PL			0.7		pp = 150		
	0.9			D	0.8				
		Pit discontinued at 0.9m Limit of investigation							
15	1								1
14	2								2

5 10 15 20

RIG: Hitachi Zaxis 55U - 300mm toothed bucket

LOGGED: FH

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free groundwater observed

REMARKS: FMC = field moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
PROJECT: Combustibility Assessment
LOCATION: Corrimal Cokeworks Site

SURFACE LEVEL: 15.4 AHD
EASTING: 307151
NORTHING: 6194318

PIT No: 202
PROJECT No: 78653.07
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
15	0.2	FILLING - black mottled dark grey silty sandy clay with coalwash gravels and root fibres, FMC<PL							
		FILLING - brown mottled dark grey and orange silty clay with coalwash gravels and cobbles, anthropogenic items throughout (brick)		D	0.5				
	0.7	FILLING - black coalwash gravels with some cobbles and some anthropogenic items (brick)							
	1			D	1.0				1
14				D	1.5				
	2			D	2.0				2
13				D	2.5				
	2.6	Pit discontinued at 2.6m Limit of reach							

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: Hitachi Zaxis 55U - 300mm toothed bucket

LOGGED: FH

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free groundwater observed

REMARKS: FMC = field moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
PROJECT: Combustibility Assessment
LOCATION: Corrimal Cokeworks Site

SURFACE LEVEL: 15.0 AHD
EASTING: 307148
NORTHING: 6194281

PIT No: 203
PROJECT No: 78653.07
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
15		FILLING - brown mottled black silty sandy clay with gravels and coalwash cobbles and root fibres							
	0.2	FILLING - black silty sandy clay with coalwash gravel and cobbles, some anthropogenic items (bricks)		D	0.5				
14	1			D	1.0				1
	1.2	FILLING - black coalwash gravels with some cobbles and anthropogenic items (brick)		D	1.5				
13	2			D	2.0				2
	2.5	Pit discontinued at 2.5m Limit of reach		D	2.5				

5 10 15 20

RIG: Hitachi Zaxis 55U - 300mm toothed bucket

LOGGED: FH

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free groundwater observed

REMARKS: FMC = field moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
PROJECT: Combustibility Assessment
LOCATION: Corrimal Cokeworks Site

SURFACE LEVEL: 12.8 AHD
EASTING: 307055
NORTHING: 6194187

PIT No: 204
PROJECT No: 78653.07
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		FILLING - dark brown black silty sandy clay with coalwash gravel and cobbles, trace anthropogenic items (bricks, plastic pipe), some root fibres		D	0.5				
	0.6	SILTY SANDY CLAY - very stiff, grey mottled brown orange silty sandy clay, FMC<PL			0.6		pp = 300		
	0.7	Pit discontinued at 0.7m Limit of investigation							
12	1								1
11	2								2
10									

RIG: Hitachi Zaxis 55U - 300mm toothed bucket

LOGGED: FH

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free groundwater observed

REMARKS: FMC = field moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
PROJECT: Combustibility Assessment
LOCATION: Corrimal Cokeworks Site

SURFACE LEVEL: 12.8 AHD
EASTING: 307165
NORTHING: 619188

PIT No: 205
PROJECT No: 78653.07
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		FILLING - black silty sandy clay with coal wash gravels and some root fibres							
	0.2	FILLING - coalwash gravels and cobbles							
12				D	0.5				
	1			D	1.0				1
		- anthropogenic items (bricks) and some brown silty clay bands at 1.1m - anthropogenic items (metal plate) at 1.2m							
				D	1.5				
11	2			D	2.0				2
	2.3	SILTY CLAY - firm to stiff brown silty clay, FMC~PL							
	2.5	Pit discontinued at 2.5m Limit of reach		D	2.5		pp = 100		
10									

RIG: Hitachi Zaxis 55U - 300mm toothed bucket

LOGGED: FH

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free groundwater observed

REMARKS: FMC = field moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
PROJECT: Combustibility Assessment
LOCATION: Corrimal Cokeworks Site

SURFACE LEVEL: 11.2 AHD
EASTING: 307046
NORTHING: 6194123

PIT No: 206
PROJECT No: 78653.07
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
11	0.2	FILLING - black silty sand with coalwash gravels and cobbles, trace anthropogenic items (bricks) and some root fibres							
		SILTY CLAY - very stiff to hard, light brown mottled orange silty clay, FMC<PL							
	0.5	Pit discontinued at 0.5m Limit of investigation		D	0.5		pp = 500-600		
10	1								1
9	2								2

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: Hitachi Zaxis 55U - 300mm toothed bucket

LOGGED: FH

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free groundwater observed

REMARKS: FMC = field moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
PROJECT: Combustibility Assessment
LOCATION: Corrimal Cokeworks Site

SURFACE LEVEL: 11.5 AHD
EASTING: 307143
NORTHING: 6194121

PIT No: 207
PROJECT No: 78653.07
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
11	0.2	FILLING - black silty sandy clay with coalwash gravel and cobbles, some root fibres							
		SILTY CLAY - very stiff, light brown mottled orange silty clay, FMC~pl		D	0.5		pp = 400-500		
	0.6	Pit discontinued at 0.6m Limit of investigation							
	1								1
10									
	2								2
9									

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: Hitachi Zaxis 55U - 300mm toothed bucket

LOGGED: FH

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free groundwater observed

REMARKS: FMC = field moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
PROJECT: Combustibility Assessment
LOCATION: Corrimal Cokeworks Site

SURFACE LEVEL: 12.6 AHD
EASTING: 307296
NORTHING: 6194117

PIT No: 208
PROJECT No: 78653.07
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
12		FILLING - black coalwash gravel and cobbles		D	0.5				
	0.7	SILTY CLAY - stiff brown silty clay, FMC~PL		D	0.7		pp = 150		
	0.8	Pit discontinued at 0.8m Limit of investigation							
	1								1
11									
	2								2
10									

5 10 15 20

RIG: Hitachi Zaxis 55U - 300mm toothed bucket

LOGGED: FH

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free groundwater observed

REMARKS: FMC = field moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
PROJECT: Combustibility Assessment
LOCATION: Corrimal Cokeworks Site

SURFACE LEVEL: 12.9 AHD
EASTING: 307220
NORTHING: 6194118

PIT No: 209
PROJECT No: 78653.07
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
12	0	FILLING - black coalwash gravels and cobbles							
		- black siltstone cobbles below 0.5m		D	0.5				
	1			D	1.0				1
	1.4	Pit discontinued at 1.4m Refusal on filling							
11	2								2
10									

RIG: Hitachi Zaxis 55U - 300mm toothed bucket

LOGGED: FH

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free groundwater observed

REMARKS: FMC = field moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
PROJECT: Combustibility Assessment
LOCATION: Corrimal Cokeworks Site

SURFACE LEVEL: 13.0 AHD
EASTING: 307291
NORTHING: 6194098

PIT No: 210
PROJECT No: 78653.07
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
13		FILLING - black slightly sandy silt with coalwash gravels and anthropogenic items (brick)		D	0.5				
	0.6	FILLING - black coalwash gravels and cobbles with some anthropogenic items (brick and plastic)							
12	1			D	1.0				1
	1.3	SILTY CLAY - stiff brown silty clay, FMC~PL							
	1.5	Pit discontinued at 1.5m Refusal on filling							
11	2								2

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: Hitachi Zaxis 55U - 300mm toothed bucket

LOGGED: FH

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Possible rail line encountered at 1.3m enarged pit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
PROJECT: Combustibility Assessment
LOCATION: Corrimal Cokeworks Site

SURFACE LEVEL: 10.7 AHD
EASTING: 307055
NORTHING: 6194024

PIT No: 211
PROJECT No: 78653.07
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
10	0	FILLING - black coalwash gravels with some cobbles		D	0.5				
	1			D	1.0				1
	1.2	SILTY CLAY - firm dark grey mottled brown silty clay, FMC>PL		D	1.5		pp = 50		
9	1.6	Pit discontinued at 1.6m Limit of investigation							
	2								2
8									

RIG: Hitachi Zaxis 55U - 300mm toothed bucket

LOGGED: FH

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free groundwater observed

REMARKS: FMC = field moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
PROJECT: Combustibility Assessment
LOCATION: Corrimal Cokeworks Site

SURFACE LEVEL: 10.6 AHD
EASTING: 307118
NORTHING: 6194013

PIT No: 212
PROJECT No: 78653.07
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
10	0	FILLING - black coalwash gravels and cobbles		D	0.5				
		- with some sandstone cobbles and boulders below 0.7m		D	1.0				1
	1.3	SANDY CLAY - firm to stiff brown sandy clay, FMC>PL		D	1.5		pp = 100		
9	1.6	Pit discontinued at 1.6m Limit of investigation							
	2								2
8									

RIG: Hitachi Zaxis 55U - 300mm toothed bucket

LOGGED: FH

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free groundwater observed

REMARKS: FMC = field moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
PROJECT: Combustibility Assessment
LOCATION: Corrimal Cokeworks Site

SURFACE LEVEL: 12.4 AHD
EASTING: 307193
NORTHING: 6194044

PIT No: 213
PROJECT No: 78653.07
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
12		FILLING - black coalwash gravel with some coalwash and black siltstone cobbles		D	0.5				
	1			D	1.0				1
11				D	1.5				
	1.7	Pit discontinued at 1.7m Limit of investigation							
	2								2
10									

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: Hitachi Zaxis 55U - 300mm toothed bucket

LOGGED: FH

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Excavation experienced continual cave in at 1.7m

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
PROJECT: Combustibility Assessment
LOCATION: Corrimal Cokeworks Site

SURFACE LEVEL: 11.5 AHD
EASTING: 307270
NORTHING: 6194009

PIT No: 214
PROJECT No: 78653.07
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
11	0.0	FILLING - black slightly sandy silt with some coalwash gravels and root fibres							
	0.3	FILLING - black coalwash gravels and cobbles with some anthropogenic items (bricks)		D	0.5				
	1			D	1.0				1
	1.3	SILTY CLAY - stiff, dark grey silty clay, FMC~PL							
10	1.5	Pit discontinued at 1.5m Limit of investigation		D	1.5		pp = 150		
	2								2
9									

RIG: Hitachi Zaxis 55U - 300mm toothed bucket

LOGGED: FH

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free groundwater observed

REMARKS: FMC = field moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
PROJECT: Combustibility Assessment
LOCATION: Corrimal Cokeworks Site

SURFACE LEVEL: 10.7 AHD
EASTING: 307241
NORTHING: 6193928

PIT No: 215
PROJECT No: 78653.07
DATE: 22/2/2019
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
10	0	FILLING - black coalwash gravel and cobbles with some black siltstone cobbles		D	0.5				
	1			D	1.0				1
	1.4	SILTY CLAY - firm to stiff, dark brown grey silty clay, FMC~PL		D	1.5		pp = 100		
9	1.6	Pit discontinued at 1.6m Limit of investigation							
	2								2
8									

RIG: Hitachi Zaxis 55U - 300mm toothed bucket

LOGGED: FH

SURVEY DATUM: MGA94

WATER OBSERVATIONS: No free groundwater observed

REMARKS: FMC = field moisture content, PL = plastic limit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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REDITUS

ENVIRONMENTAL BOREHOLE / TEST PIT RCTP1

PROJECT NUMBER 19149	**DRILLING DATE** 25/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Excavator	**LOGGED BY** CS
	TOTAL DEPTH 5	**CHECKED BY** LD

COMMENTS

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			Fill		Coal rocks, black	
0.5						
1						
1.5						
2						
2.5						
3						
3.5						
4	4.0m					
4.5						
5					Hole kept collapsing End of hole at 5.0m	

Disclaimer This log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 15 Jun 2020

REDITUS

ENVIRONMENTAL BOREHOLE / TEST PIT RCTP2

PROJECT NUMBER 19149	**DRILLING DATE** 25/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Excavator	**LOGGED BY** CS
	TOTAL DEPTH 4.3	**CHECKED BY** LD

COMMENTS

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			Fill		top soil, organic matter, roots	
					coal, black, bis of grey clay with grey pieces	bricks at 1.4m
0.5						
1	1.0m					
1.5			Natural		weathered rock, sand, light brown color, some gravels, plastic clay aggregates, has red/orange rock pieces	Concrete Pipe at 1.8m
2						
2.5	2.5m					
3						
3.5						
4						
	4.3m					
4.5						
5					End of hole at 4.3m	

Disclaimer This log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 15 Jun 2020

REDITUS

ENVIRONMENTAL BOREHOLE / TEST PIT RCTP3

PROJECT NUMBER 19149	**DRILLING DATE** 25/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Excavator	**LOGGED BY** CS
	TOTAL DEPTH 4.7	**CHECKED BY** LD

COMMENTS

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			Fill		black coal, some gravel	
0.5						
1	1.0m					
1.5			Natural		silty clay, cohesive, dark to light brown	
2	2.0m					
2.5			Natural		weathered rock, sand, light brown to white color, some fine sands, some silty clay, boulders (5-7cm), orange pieces	
3	3.0m					
3.5						
4						
4.5	4.7m					
5					End of hole at 4.7m	

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ENVIRONMENTAL BOREHOLE / TEST PIT RCTP4

PROJECT NUMBER 19149	**DRILLING DATE** 26/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Excavator	**LOGGED BY** CS
	TOTAL DEPTH 5.7	**CHECKED BY** LD

COMMENTS

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0	0.3m		topsoil		black coal, roots, some rock coal	coal rocks were present above the topsoil
0.5			Natural		silty brown clay, some sand, cohesive, stiff with few roots	
1	1.0m					
1.5			Natural		weathered rock, silty, sands, light brown with brown clay aggregates	Some white silty weathered rock aggregates
2						
2.5						
3	3.0m					
3.5						
4						
4.5	4.5m					
5			Natural		silty clay, red/yellow light color, cohesive, mottled stiff, some grey clays as well	
5.5	5.7m					
6					End of hole at 5.7m	

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ENVIRONMENTAL BOREHOLE / TEST PIT RCTP5

PROJECT NUMBER 19149	**DRILLING DATE** 26/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Excavator	**LOGGED BY** CS
	TOTAL DEPTH 5.8	**CHECKED BY** LD

COMMENTS

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			topsoil		black coal, roots, some rock coal	coal rocks were present above the topsoil
0.5	0.5m		Natural		some clay, dark grey, silty, some sands, cohesive, slightly to non-plastic, moist	tree trucks, and timber, around 15 cm in diameter, and smaller parts
1						
1.5	1.5m					
2						
2.2m	2.2m		Natural		some clay, light yellow brown color, silty, some sands, cohesive, plastic, mottled red/orange	
2.5			Natural		brown and red/orange mottled clay, some weathered rock, light grey to white silt, with some sands	Some timber
3	3.0m					
3.5						
4	4.0m					
4.5						
5						
5.5						
5.8m	5.8m				rock: light brown to white, looks like sandstone	Used jack hammer for 0.2m only
6						
					End of hole at 5.8m	

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ENVIRONMENTAL BOREHOLE / TEST PIT RCTP6

PROJECT NUMBER 19149	**DRILLING DATE** 25/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Excavator	**LOGGED BY** CS
	TOTAL DEPTH 6	**CHECKED BY** LD

COMMENTS

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			topsoil		topsoil	
0.5	0.6m		Natural		brown to light grey silty clay, gravels, some roots some sands	
1						
1.5			Natural		white with red/orange silty clay, plastic, cohesive, some gravels and fine sands	
2	2.0m					
2.5			Natural		weathered rock, white and red/orange, some sand, some silty clay aggregates, soft	
3						
3.5						
4	4.0m					
4.5			Natural		weathered rock, light brown, some sand, some silty clay aggregates, soft	
5						
5.5						
6	6.0m				End of hole at 6m	

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REDITUS

ENVIRONMENTAL BOREHOLE / TEST PIT RCTP7

PROJECT NUMBER 19149	**DRILLING DATE** 25/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Excavator	**LOGGED BY** CS
	TOTAL DEPTH 5.6	**CHECKED BY** LD

COMMENTS

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0.5			Natural		black and brown silty clay with some roots, sands	
1	1.0m					
1.5						
2			Natural		white with red/orange weathered rock, clay aggregates with some sand, soft	
2.5						
3	3.0m					
3.5						
4			Natural		white weathered rock, some sand, silty cohesive soft, clay aggregates	
4.5						
5						
5.5	5.6m					
6					End of hole at 5.6m	

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ENVIRONMENTAL BOREHOLE / TEST PIT RCTP8

PROJECT NUMBER 19149	**DRILLING DATE** 25/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Excavator	**LOGGED BY** CS
	TOTAL DEPTH 5.2	**CHECKED BY** LD

COMMENTS

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			topsoil		brown organic top soil, roots, some clay	
0.5	0.5m					
			Natural		red/brown clayey sand, some gravel, some aggregates and some clay	some roots
1						
1.5						
2						
	2.3m					
2.5						
3			Natural		grey and red weathered rock (sandstone), some sand, coarse to medium grains, aggregates of clay, soft	
3.5						
4						
4.5						
5						
	5.2m					
5.5						
6					End of hole at 5.2m	

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ENVIRONMENTAL BOREHOLE / TEST PIT RCTP9

PROJECT NUMBER 19149	**DRILLING DATE** 25/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Excavator	**LOGGED BY** CS
	TOTAL DEPTH 4.1	**CHECKED BY** LD

COMMENTS

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			fill		coal rocks, black, fine grain, some gravel	
0.5	0.5m					
1						
1.5						
2	2.1m		Natural		some clays, dark grey/brown, cohesive, moist, some sands	
2.5						
3			Natural		hard clay with gravel, few sands, light brwon to grey color, weathered rock with red and some grey blue silty clay	
3.5	3.3m					
4	4.1					
4.5						
5						
5.5						
6					End of hole at 4.1m	

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ENVIRONMENTAL BOREHOLE / TEST PIT RCTP10

PROJECT NUMBER 19149	**DRILLING DATE** 25/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Excavator	**LOGGED BY** CS
	TOTAL DEPTH 2.6	**CHECKED BY** LD

COMMENTS

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			fill		top soil, peat, roots, soft, moist, black, some sand, some silty clay	
0.5	0.5m					
			Natural		silty clay, light brown with tough dark brown, sands with red/orange aggregates	Metal plate degrading (rusted and weak)
1	1.0m					
			Natural		weathered rock, white and light brown, silty clay, some sands, some roots, slightly moist	might have iron in the soil
1.5	1.5m					
2	2.0m					
2.5	2.6m				rock boulders	
3						
3.5						
4						
4.5						
5						
5.5						
6					End of hole at 2.6m	

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ENVIRONMENTAL BOREHOLE / TEST PIT RCTP11

PROJECT NUMBER 19149	**DRILLING DATE** 25/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Excavator	**LOGGED BY** CS
	TOTAL DEPTH 5	**CHECKED BY** LD

COMMENTS

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			Fill		black coal, fine grained some gravel, stone shards	collapsing hole
0.5						
1						
1.5						
2						
2.5						
3	3.0m					
3.5						
4						
4.5						
5	5.0				clay, gravel, lots of rocks, some sands	
					Hole kept collapsing End of hole at 5.0m	

REDITUS

ENVIRONMENTAL BOREHOLE / TEST PIT RCTP10

PROJECT NUMBER 19149	**DRILLING DATE** 25/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Excavator	**LOGGED BY** CS
	TOTAL DEPTH 5.5	**CHECKED BY** LD

COMMENTS

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			fill		black coal	
0.5						
1	1.0m					
1.5						
2			Natural		dark grey/brown stiff clay, moist, some gravels, some sand plastic	
2.2m						
2.5						
3						
3.5			Natural		lighter grey clay, wet, few gravels, non-plastic to slightly plastic	some steel sheets
4	4.0m					
4.5						
5						
5.5	5.5m					water coming in
6					End of hole at 5.5m	

REDITUS

ENVIRONMENTAL BOREHOLE / BORE HOLE RCBH1

PROJECT NUMBER 19149	**DRILLING DATE** 18/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Auger	**LOGGED BY** CS
	TOTAL DEPTH 5	**CHECKED BY** LD

COMMENTS Acid Sulfate Soil Sample Log

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
					Concrete	
			Fill		black coal, some gravels	
0.5						
1	1.0m					
1.5			Fill		grey/brown clays, silty cohesive, has some black coal, slightly moist	
2	2.0m					
2.5						
3	3.0m					
3.5						
4	4.0m					
			Natural		light brown silty clay, plastic, moist, homogeneous, soft, fine grained sand	
4.5						
5	5.0m					
					End of hole at 5.0m	

REDITUS

ENVIRONMENTAL BOREHOLE / BORE HOLE RCBH2

PROJECT NUMBER 19149	**DRILLING DATE** 18/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Auger	**LOGGED BY** CS
	TOTAL DEPTH 5	**CHECKED BY** LD

COMMENTS Acid Sulfate Soil Sample Log

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
					Concrete	
0.5			Fill		black coal, some gravels, some sands, some rocks (3-3.5 cm)	
1	1.0m					
1.5			Fill		black/orange sands, some gravels, some clay aggregates, small gravels	
2	2.0m					
2.5	2.5m					
3	3.0m					
3.5						
4	4.0m					
4.5			Natural		light grey silty clay, slightly plastic, soft to stiff, cohesive,	
5					End of hole at 5.0m	

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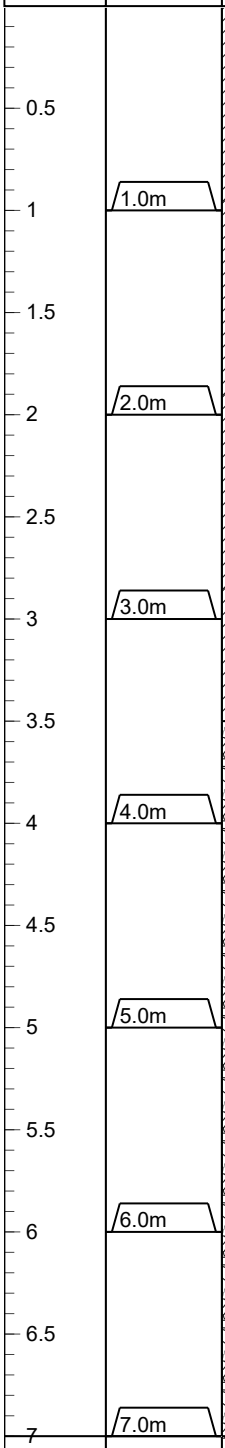
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ENVIRONMENTAL GROUNDWATER MONITORING WELL RCMW1

PROJECT NUMBER 19149	**DRILLING DATE** 19/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Auger	**LOGGED BY** CS
	TOTAL DEPTH 7	**CHECKED BY** LD

COMMENTS Acid Sulfate Soil Sample Log



Material Type	Graphic Log	Material Description	Additional Observations
Fill		Coal, black, fine grain	
Natural		Clay: silty, soft to firm, cohesive, non-plastic, some sands, slightly moist, dark grey with orange	
		Very light brown to yellow silty clay, soft to firm, some fine gravel, non-plastic	
		Dark to light brown, sandy clay, fine grained, stiff, non-plastic, cohesive	
		Weathered rock, sand fine to coarse grained, bit of silt, slightly cohesive, light brown, some clay aggregates	Water Strike
			0.4 casing Above Ground Level
		End of hole at 7.0m	

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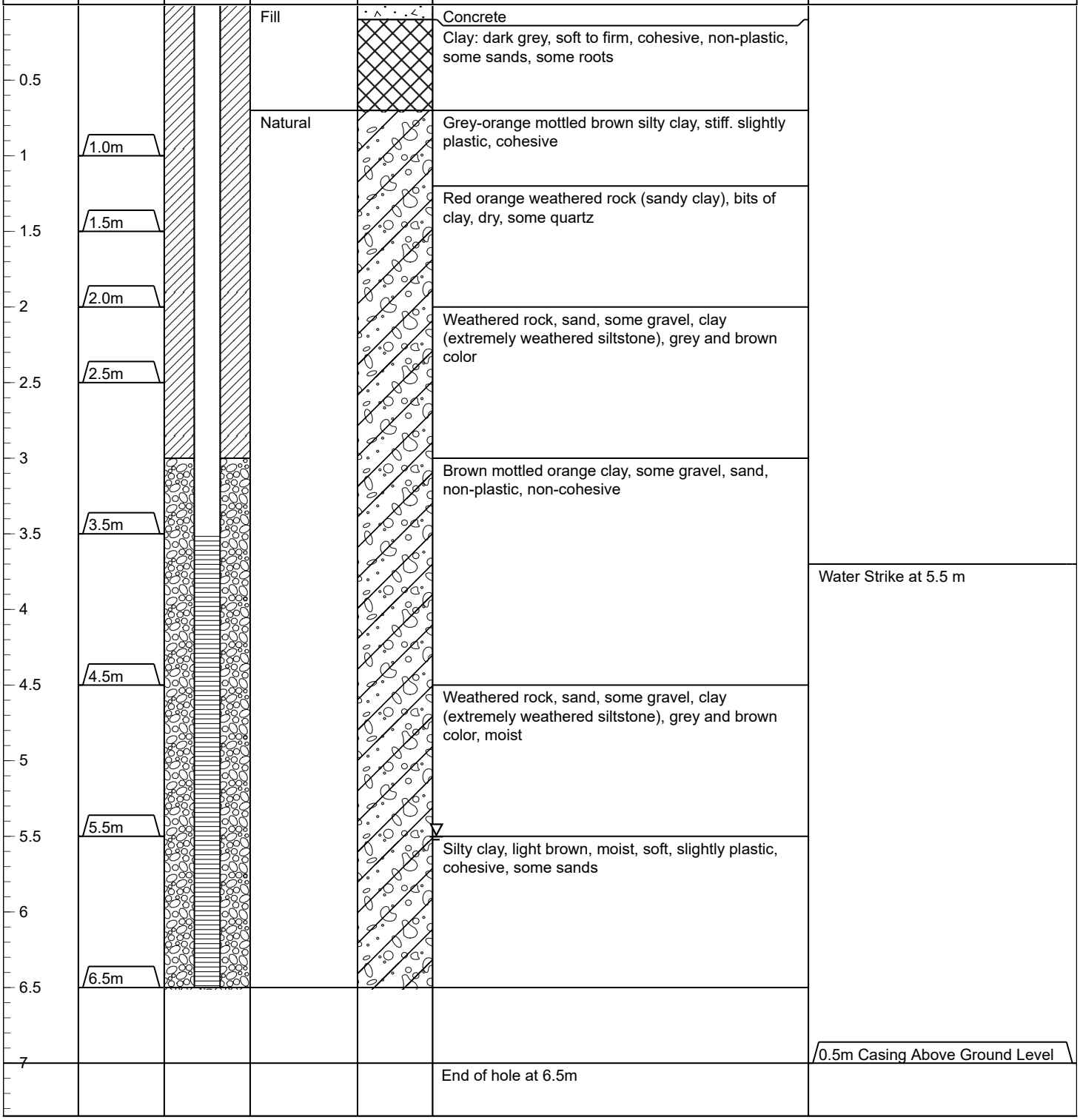
ENVIRONMENTAL GROUNDWATER MONITORING WELL RCMW2

PROJECT NUMBER 19149
PROJECT NAME Former Corrimal Cokeworks
CLIENT
ADDRESS 27 Railway St, Corrimal, NSW

DRILLING DATE 18/03/2020
DRILLING COMPANY
DRILLER
DRILLING METHOD Auger
TOTAL DEPTH 6.5

COORDINATES
COORD SYS
SURFACE ELEVATION
LOGGED BY CS
CHECKED BY LD

COMMENTS Acid Sulfate Soil Sample Log



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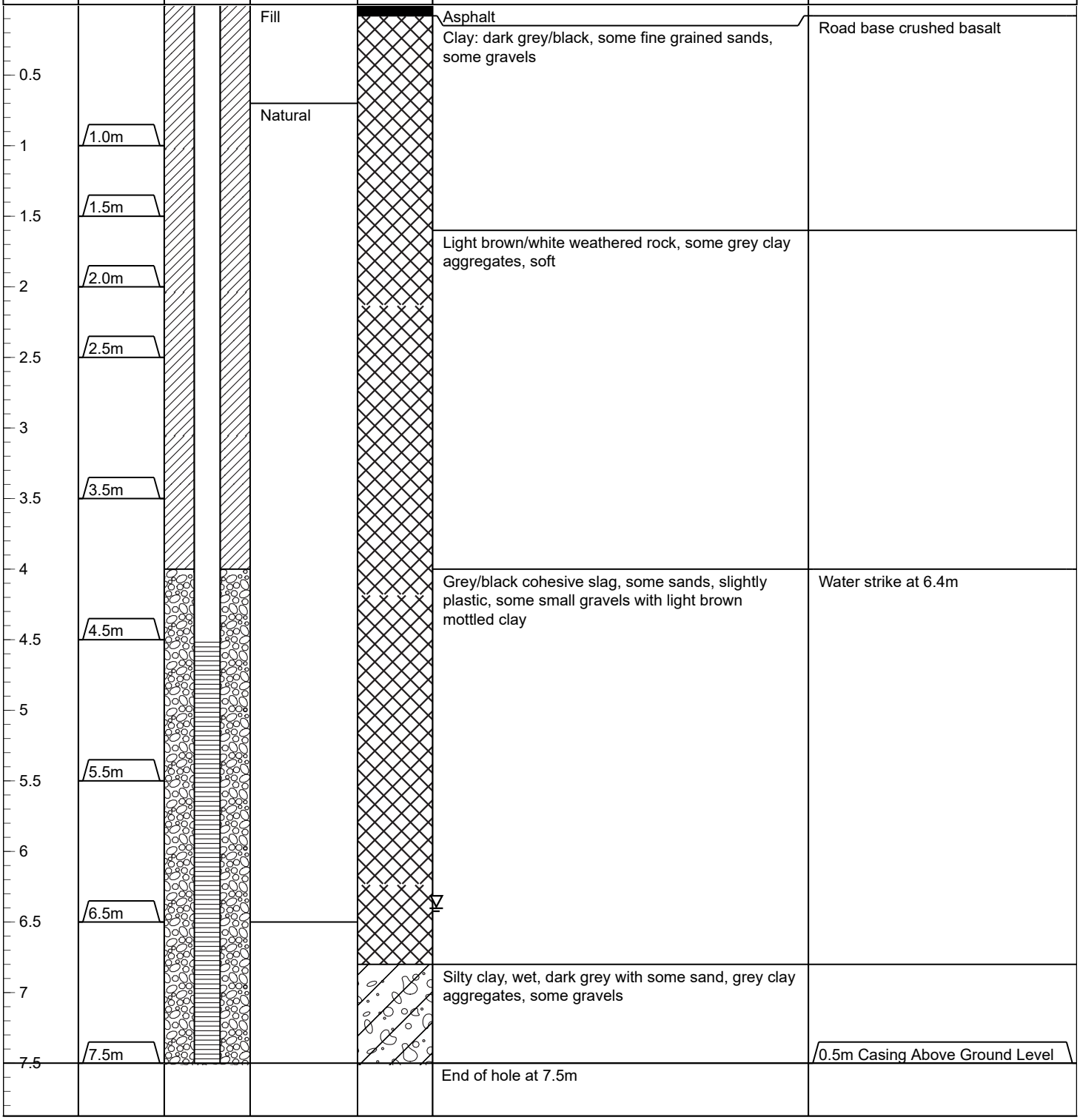
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ENVIRONMENTAL GROUNDWATER MONITORING WELL RCMW3

PROJECT NUMBER 19149	**DRILLING DATE** 18/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Auger	**LOGGED BY** CS
	TOTAL DEPTH 7.5	**CHECKED BY** LD

COMMENTS Acid Sulfate Soil Sample Log



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ENVIRONMENTAL BOREHOLE / BORE HOLE ASS 1

PROJECT NUMBER 19149	**DRILLING DATE** 20/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Auger	**LOGGED BY** CS
	TOTAL DEPTH 5.8	**CHECKED BY** LD

COMMENTS Acid Sulfate Soil Sample Log

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			Fill		black coal with small rocks (2-3cm), fine grain	
0.5			Natural		weathered rock , sand, with white rock and clay aggregates, stiff, non-cohesive), light brown	
1	1.0m					
1.5						
2	2.0m					
2.5						
3	3.0m					
3.5					weathered rock , sand, with white rock and silty clay aggregates, very stiff, non-cohesive), light brown	
4	4.0m					
4.5	4.5					Water strike at 4.5m
5						
5.5					white grey weathered rock, soft silty clay, grey/brown bits	
6					Refusal @ 5.8 m	

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REDITUS

ENVIRONMENTAL BOREHOLE / BORE HOLE ASS 2

PROJECT NUMBER 19149	**DRILLING DATE** 20/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Auger	**LOGGED BY** CS
	TOTAL DEPTH 4.5	**CHECKED BY** LD

COMMENTS Acid Sulfate Soil Sample Log

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			Fill		black coal with small rocks (2-3cm), fine grain	
0.5			Natural		brown silty clay, sands, some grey aggregates, with orange/red, soft to stiff, with some black rocks (2-3cm)	
1	1.0m					
1.5						
2	2.0m					
2.5						
3	3.0m					water strike at 3.1m
					brown silty clay, sands, some grey aggregates, wet	
3.5						
4	4.0m					
4.5	4.5				Refusal @ 4.5 m	

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REDITUS

ENVIRONMENTAL BOREHOLE / BORE HOLE ASS 3

PROJECT NUMBER 19149	**DRILLING DATE** 20/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Auger	**LOGGED BY** CS
	TOTAL DEPTH 8	**CHECKED BY** LD

COMMENTS Acid Sulfate Soil Sample Log

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0.5			fill		black coal with small rocks (2-3cm), fine grain, some sands	
1	1.0m					
1.5			Natural		brown weathered rock, moist, cohesive, silty, with sand, non-plastic	
2	2.0m					
2.5						
3	3.0m					
3.5						
4	4.0m					
4.5						
5	5.0m					
5.5						
6	6.0m					
6.5					red/dark pink silty clay, some sands, firm to stiff, cohesive, moist,	
7	7.0m					
7.5						
8	8.0m					
					End of hole at 8.0m	

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REDITUS

ENVIRONMENTAL BOREHOLE / BORE HOLE ASS 4

PROJECT NUMBER 19149	**DRILLING DATE** 20/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Auger	**LOGGED BY** CS
	TOTAL DEPTH 8	**CHECKED BY** LD

COMMENTS Acid Sulfate Soil Sample Log

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			Fill		black coal with small rocks (2-3cm), fine grain, some sands	
0.5			Natural		brown silty clay with aggregates, slightly moist, cohesive, with sand	
1	1.0m					
1.5						
2	2.0m					
2.5					grey clay, stiff, mottled brown/orange, some sands, cohesive, non-plastic	
3	3.0m					
3.5						
4	4.0m					
4.5					grey/black clay (silty) with little orange gravel stiff, cohesive, slightly moist	might contain iron sulfides
5	5.0m					
5.5					red/dark pink silty clay, aggregated, cohesive, stiff, some sands	
6	6.0m					
6.5						
7	7.0m				brown silty clay, aggregated, cohesive stiff, slightly moist	
7.5						
8	8.0m					
					End of hole at 8.0m	

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ENVIRONMENTAL BOREHOLE / BORE HOLE ASS 5

PROJECT NUMBER 19149	**DRILLING DATE** 20/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Auger	**LOGGED BY** CS
	TOTAL DEPTH 8	**CHECKED BY** LD

COMMENTS Acid Sulfate Soil Sample Log

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			Fill		black coal, fine grain, slightly moist	
0.5			Natural		dark grey/brown clay, soft to stiff, moist, silty, some sand, fine grain	
1	1.0m					
1.5						
2	2.0m					
2.5					red/brown silty clay with sands, stiff, aggregates, some white weathered rock	at around 3.6m 10 cm of white weathered rock
3	3.0m					
3.5						
4	4.0m					
4.5					light brown weathered rock with sand, some clay grey aggregates	
5	5.0m					
5.5						water strike at 5.5m
6	6.0m					
6.5						
7	7.0m					at 7.0m sample was wet
					Refusal at 7.0m	

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ENVIRONMENTAL BOREHOLE / BORE HOLE ASS 6

PROJECT NUMBER 19149	**DRILLING DATE** 20/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Auger	**LOGGED BY** CS
	TOTAL DEPTH 8	**CHECKED BY** LD

COMMENTS Acid Sulfate Soil Sample Log

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0.5			Natural		dark grey clay, some sand, cohesive, stiff	
1	1.0m					
1.5					light orange to yellow clayey sand, some gravel, some grey aggregated clay, weathered rock	
2	2.0m					
2.5						
3	3.0m					
3.5						
4	4.0m					
4.5						
5	5.0m					
5.5					Refusal at 5.5m	

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ENVIRONMENTAL BOREHOLE / BORE HOLE ASS 7

PROJECT NUMBER 19149	**DRILLING DATE** 19/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Auger	**LOGGED BY** CS
	TOTAL DEPTH 8	**CHECKED BY** LD

COMMENTS Acid Sulfate Soil Sample Log

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			Natural		dark brown clayey sands, moist to wet, soft, non plastic	
0.5						
1	1.0m				light brown to yellow silty clay, fine grained sands, soft to firm	
1.5					white weathered rock, hard, non-plastic, non-cohesive, some sands with red/orange mottled clay, some aggregates	
2	2.0m					
2.5						
3	3.0m					
3.5						
4	4.0m				brown silty weathered rock with sands, small clay aggregates	
4.5					brown silty weathered rock with sands, white weathered rock aggregates	
5	5.0m					water strike at 5.3m
5.5						
6	6.0m				orange soft sandy clay, sand coarse to fine grain, non-plastic, cohesive, moist	
6.5						
7	7.0m				sand brown, wet, some silty clay, fine to coarse grain, with some grey coloured banding	
7.5						
8	8.0m					
					End of hole at 8.0m	

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REDITUS

ENVIRONMENTAL BOREHOLE / BORE HOLE ASS 8

PROJECT NUMBER 19149
PROJECT NAME Former Corrimal Cokeworks
CLIENT
ADDRESS 27 Railway St, Corrimal, NSW

DRILLING DATE 19/03/2020
DRILLING COMPANY
DRILLER
DRILLING METHOD Auger
TOTAL DEPTH 8

COORDINATES
COORD SYS
SURFACE ELEVATION
LOGGED BY CS
CHECKED BY LD

COMMENTS Acid Sulfate Soil Sample Log

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0.5			Natural		brown/light brown weathered rock, clayey sand, cohesive, slightly plastic, moist	
1	1.0m					
1.5					red clay, non-cohesive, silty, stiff, some fine sand, non-plastic	
2	2.0m					
2.5					red clayey sand,coarse to fine grains, small grey clay aggregates, firm, slightly cohesive	
3	3.0m					
3.5					red clayey sand,coarse to fine grains, small grey clay aggregates with white silty weathered rock, cohesive, some sands, non-plastic, with brown/clays	looks like chalk
4	4.0m					
4.5					light yellow to brown weathered rock, silty clays, some sands, some gravels, with and brown clay aggregates, soft non plastic,	
5	5.0m					
5.5					brown weathered rock, small aggregates, white, cohesive with sands	
6	6.0m					
6.5						
7	7.0m					
7.5					hard brown clay, mottled red, some sands and gravel	
8	8.0m					
					End of hole at 8.0m	

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REDITUS

ENVIRONMENTAL BOREHOLE / BORE HOLE ASS 9

PROJECT NUMBER 19149
PROJECT NAME Former Corrimal Cokeworks
CLIENT
ADDRESS 27 Railway St, Corrimal, NSW

DRILLING DATE 19/03/2020
DRILLING COMPANY
DRILLER
DRILLING METHOD Auger
TOTAL DEPTH 8

COORDINATES
COORD SYS
SURFACE ELEVATION
LOGGED BY CS
CHECKED BY LD

COMMENTS Acid Sulfate Soil Sample Log

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			Natural		sandy clay, silty, red mottled brown aggregates, moist, slightly cohesive	
0.5						
1	1.0m					
1.5					brown weathered sandstone rock, clayey texture, some bigger clay aggregates, red and grey/orange mottled stiff, some roots	
2	2.0m					
2.5						
3	3.0m					
3.5					weathered sandstone red/brown, mottled grey clay aggregates, coarse to fine grain	
4	4.0m					
4.5						
5	5.0m					
5.5						
6	6.0m					
6.5					weathered rock, silty, fine to coarse grained sands, light brown, grey clay aggregates	
7	7.0m					water strike at 7.2m
7.5						
8	8.0m					wet sample
					End of hole at 8.0m	

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REDITUS

ENVIRONMENTAL BOREHOLE / BORE HOLE ASS 10

PROJECT NUMBER 19149	**DRILLING DATE** 19/03/2020	**COORDINATES**
PROJECT NAME Former Corrimal Cokeworks	**DRILLING COMPANY**	**COORD SYS**
CLIENT	**DRILLER**	**SURFACE ELEVATION**
ADDRESS 27 Railway St, Corrimal, NSW	**DRILLING METHOD** Auger	**LOGGED BY** CS
	TOTAL DEPTH 7.1	**CHECKED BY** LD

COMMENTS Acid Sulfate Soil Sample Log

Depth (m)	Sample ID	PID	Material Type	Graphic Log	Material Description	Additional Observations
0			Natural		red/grey sandy clay, stiff, fine to coarse grain	
0.5						
1	1.0m					
1.5					weathered rock with sand, clay agglomerates, silt, light grey with mottled red	
2	2.0m					
2.5						
3	3.0m					
3.5					weathered rock with fine sand, few clay agglomerates, silt, light grey	
4	4.0m					
4.5					light brown weathered rock,clay, moist to wet, some sand	water strike at 4.5m
5	5.0m					
5.5						
6	6.0m					
6.5						
7	7.0m				grey weathered sandstone, with some silt	
					Refusal at 7.1m	

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REDITUS

Remediation Action Plan

Bulk Earthworks - Stage 2-4 Redevelopment

Former Corrimal Coke Works

Railway Street, Corrimal NSW

Prepared for LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust c/- Legacy Property Pty Ltd

24 September 2024

22158RP07

Version 4

reditusconsulting.com

Remediation Action Plan
Bulk Earthworks - Stage 2-4 Redevelopment

Railway Street, Corrimal NSW

Prepared for LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust c/- Legacy Property Pty Ltd

Document Control

Author:	**Mathew Burcher** Senior Environmental Scientist (CEnvP – General)	
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This report has been prepared for LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust c/- Legacy Property Pty Ltd in accordance with the terms and conditions of appointment for proposal P22158_v2 dated 23 August 2022 and approved variations.

Reditus Consulting Pty Ltd (ABN 34 631 168 502) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

Report No:	22158RP07	22158RP07	22158RP07	22158RP07
Report Date:	26 May 2023	22 June 2023	10 August 2023	24 September 2024
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Executive Summary

Reditus Consulting Pty Ltd (Reditus) was engaged by LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust c/- Legacy Property Pty Ltd (the client) to prepare a revised Remediation Action Plan (RAP) for the Bulk Earthworks (BEW) - Stage 2-4 redevelopment of the former Corrimal Coke Works site located at Railway Street, Corrimal NSW (herein referred to as 'the site').

The site was formerly a non-regenerative Metallurgical Coke Works with an operational lifespan of approximately 100 years and was decommissioned in 2014. There have been numerous environmental investigations conducted by various consultants both during and following decommissioning, including preparation of a RAP for the re-zoning application. Previous investigations did not identified gross contamination across the site and the areas requiring remediation and management are relatively limited in nature. A broad strategy to render the site suitable for the proposed land use was detailed within a previous RAP (Arcadis 2019) that was developed for re-zoning purposes.

Now that the site has been re-zoned and the development layout and schedule has been prepared the previous RAP is required to be updated. The updates reflect the new layout plans and more importantly the proposed staged redevelopment schedule.

Previous environmental assessments have identified isolated areas of hydrocarbon and heavy metal impacted soil that have the potential to pose a risk to human health and ecological receptors under the proposed land use. Asbestos fragments were also identified in soil at isolated portions of the site within the BEW Stage 2-4 development footprint.

The site is intended to be redeveloped into a mixed-use residential precinct inclusive of roadways, basement carparking (residential buildings), street scape heritage areas and open space zones. The construction phase of the redevelopment is proposed to occur in various stages with multiple Development Applications planned to facilitate the process. Bulk earth works, that are relevant to the remediation works stages, will include two broad stages:

- **BEW Stage 1.** This will involve the construction of between 5-6 high density residential apartment buildings. Each will have a basement. The basements are assumed to be one level and will be only partially buried below the final finished surface level. The heritage streetscape will also be included within this stage. It is understood that the entire "power station" building and part of the eastern coke oven infrastructure will be maintained. Entrance and access roads will also form part of this stage. The remedial works within this stage are detailed within the report entitled Remediation Action Plan – Stage 1 Redevelopment (version 7) prepared by Reditus dated 20 March 2024 (Reditus 2024a) and should be read in conjunction within this RAP for BEW Stage 2-4.

- **BEW Stage 2-4.** This will include the construction of additional high density residential apartment buildings and several blocks of medium to low-density townhouse and duplex style properties and the major earthworks component of the redevelopment. Further roadways and open space areas will be formed within this stage. There is also a significant bulk excavation component dedicate to the re-alignment of the creek within the Stage 2-4 BEW area.

This RAP details the remediation works to be completed as part of the BEW Stage 2-4 development and will be provided to Wollongong City Council (WCC) as part of the Stage 2-4 BEW development submission.

The remedial strategy has been prepared with consideration to available information, existing reports, development consent conditions and applicable regulatory provisions. The preferred remediation strategy is summarised as follows:

- Perform data gap investigation and human health and subsequent environmental risk assessment (HHERA) (if required) to further refine and confirm the remediation extent.
- Excavation of areas where contaminants have the potential to pose an unacceptable risk to human health and ecological receptors.
- Validation of the resulting excavations through the collection of soil validation samples and where necessary groundwater samples.
- Either:
    - reuse of the site sourced material that has been appropriately characterised and meets relevant NEPC (2013) NEPM criteria for the proposed development land use.

      AND/OR
    - Off-site disposal of material requiring remediation should feasibility assessments consider this to provide a greater net benefit.

      AND/OR
    - Formation of dedicated cells during earthworks and encapsulate unsuitable soils in areas identified as land not proposed to be designated to Council post-development.
- Should asbestos containing material (ACM) fragments be identified within materials that are otherwise suitable for onsite re-use, the fragments are to be appropriately removed and validated for the presence of ACM through implementation of a suitable remediation technique detailed within the WA DOH (2009) Asbestos Guidelines.
- If friable forms of asbestos are identified impacted materials will be either removed offsite or encapsulated within an appropriately designed containment cell and validated through implementation of a suitable sampling method detailed within the WA DOH (2009) Asbestos Guidelines.
- Creation of a long-term environmental management plan (EMP) to appropriately manage encapsulated soils into the future if the concentrations of contaminants warrant ongoing institutional controls.

- If required, classification of unsuitable or excess material for lawful off-site disposal or off-site treatment.

Following completion of the development specific data gap investigation and the HHERA, if required, the RAP will be amended prior to completing the adopted remedial strategy. If the RAP is required to be amended all amendments will require review by the appointed Site Auditor and Council prior to implementation.

In the event that an encapsulation cell is required a revised RAP will be prepared then reviewed by the Site Auditor and WCC prior to its implementation.

The proposed remediation is considered appropriate to render the Stage 2-4 BEW development area site suitable for the proposed mixed-use low-high density residential and public open space land use.

1. Introduction

Reditus Consulting Pty Ltd (Reditus) was engaged by LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust c/- Legacy Property Pty Ltd (the client) to prepare a revised Remediation Action Plan (RAP) for the Bulk Earthworks Stage 2-4 redevelopment of the former Corrimal Coke Works site located at Railway Street, Corrimal NSW (herein referred to as 'the site').

A previous RAP was prepared for the site by Arcadis (2019) as part of the sites planning submission for re-zoning. The proposed remedial strategies have not been altered from the Arcadis (2019) RAP. Now that the site has been re-zoned, the development layout and schedule has been prepared the RAP is required to be updated. The updates are required to reflect the new layout plans and more importantly the proposed staged redevelopment schedule.

The site is situated on Lot 1 of Deposited Plan (DP) 795791, Lot 5 & 11 of DP 749492 and Lot 126 of DP 598190 and occupies an approximate area of 18.1637 hectares (ha). This RAP has been prepared to address the remedial works and land suitability relating to the footprint of the Stage 2-4 Bulk Earthworks Development and subsequent built form redevelopment only. This area is located within western and southern portion of the site and is shown within **Figure 4, Appendix A.**

The site was formerly a Metallurgical Coke Works with an operational lifespan of approximately 100 years and was decommissioned in 2014. There have been numerous environmental investigations conducted by various consultants both during and following decommissioning, including preparation of a RAP for the re-zoning application. The most recent set of investigations have been completed by Arcadis and Reditus. A summary of the investigation findings is provided in Section 4 of this report and in the Reditus Consulting Pty Ltd *Consolidated Detailed Site Investigation, Railway Street, Corrimal NSW* dated 22 November 2022. Arcadis *Remedial Action Plan, 27 Railway Street*.

The location and layout of the site is presented in **Figure 1** and **Figure 2**, **Appendix A**.

1.1. Development Staging

The site is intended to be redeveloped into a mixed-use residential precinct inclusive of roadways, basement carparking (residential buildings), street scape heritage areas and open space zones. The construction phase of the redevelopment is proposed to occur in various stages with multiple Development Applications planned to facilitate the process. The bulk earthworks (BEW), that are relevant to the remediation works stages, will include two broad stages:

- **BEW Stage 1.** This will involve the construction of between 5-6 high density residential apartment buildings. Each will have a basement. The basements are assumed to be one level and will be only partially buried below the final finished surface level. The heritage streetscape will also be included within this stage. It is understood that the entire "power station" building and part of the eastern coke oven infrastructure will be maintained. Entrance and access roads will also form part of this stage. The remedial works within this stage are detailed within the report entitled Remediation Action Plan – Stage 1 Redevelopment (version 7) prepared by Reditus dated 20 March 2024

(Reditus 2024a) and should be read in conjunction within this RAP for BEW Stage 2-4.

- **BEW Stage 2-4.** This will include the construction of a additional high density residential apartment buildings and several blocks of medium to low-density townhouse and duplex style properties and the major earthworks component of the redevelopment. Further roadways and open space areas will be formed within this stage. There is also a significant bulk excavation component dedicate to the re-alignment of the creek within the Stage 2-4 BEW area. This RAP details the remediation works to be completed as part of the Stage 2-4 bulk earthworks development and will be provided to Wollongong City Council as part of the development submission. A separate RAP has been prepared for the Stage 1 BEW and submitted for planning approval. This approach will allow a staged suitability "sign-off" to be enforceable by WCC, while still allowing the staged redevelopment process to progress.

1.2. Background

Previous investigations did not identify gross contamination across the site and the areas requiring remediation and management have been limited in nature. A broad strategy to render the site suitable for the proposed land use is detailed within the RAP (Arcadis 2019) that was developed for re-zoning purposes. Following from the Consolidated DSI (Reditus 2022) and to maintain consistency with the staged development application process, Reditus will submit a RAP for each of the specific development applications for the Stage 1 and Stage 2-4 bulk earthworks. Given the in-fill nature of the site and significant earthworks proposed, each RAP will require co-ordination between the environmental consultant and the civil and urban design engineers. Whilst implementation will require appropriate supervision by the environmental consultant and engagement of an appropriately experienced civil/remediation contractor.

The chosen remedial strategy outlined within the existing RAP (Arcadis 2019) is a combination of targeted excavation of contaminated materials, validation of the excavations and then encapsulation of the material within dedicated cells.

Based on this strategy the requirement for excavation and encapsulation (remediation) is dependent upon the following:

- The location of the soil exceedance relative to the final land use i.e., low or medium density residential, high density residential, commercial space or open space including the proposed creek corridor.
- The lateral and vertical extent of the contamination.
- The chemical properties of the contaminant proposed for encapsulation, i.e., leachability and volatility.
- The final levels of the proposed development.
- The type of finished surface level, i.e., hard stand or unsealed.

The first stage of remedial works assumes a Sampling Analysis and Quality Plan (SAQP) will be prepared with regard to the proposed land-uses (including cut/fill

plan) and the historical investigation results to determine what areas require additional sampling. This would be a data gap investigation step to further inform the finer detail of the civil and urban designs. The Consolidated DSI (Reditus 2022) overlays the proposed site layout onto the existing investigation locations and provides a summary of the existing land use exceedances. The areas requiring further investigation are mostly limited to areas that will not be accessible until the site structures are demolished and/or made safe.

To facilitate the project schedule and proposed staging plan a revised RAP for each bulk earthwork stage of the development is to be prepared and reviewed by the appointed Site Auditor. The Audit review process is proposed to occur whilst the RAP is being reviewed by Council as part of the DA submissions. While the additional investigations are proposed to occur following demolition of the structures. Following the additional investigations and if required the RAP for each bulk earthwork stage will be updated and any changes endorsed by the site Auditor.

The demolition works are not proposed to include any remediation and have been submitted under a separate planning application. Demolition of the structures and removal of the hazardous building materials will likely occur as a separate contractor engagement. Remediation works will commence following demolition works and relevant hazardous materials clearance.

Proposed redevelopment concept plans provided in **Appendix C**.

To inform the DA conditions of consent for the Stage 2-4 Bulk Earthworks, Reditus have prepared this RAP to render the Stage 2-4 Bulk Earthworks Validation boundary suitable as a mixed-use residential precinct inclusive of roadways, basement carparking (within residential buildings), street scape heritage areas and open space recreational zones.

1.3. Objective

The objective of this RAP is to document the activities, procedures, control measures, contingencies, and validation requirements to facilitate effective remediation of the BEW Stage 2-4 area for the proposed mixed-use residential precinct development and ensure protection of human health and the environment.

The RAP has also been prepared with the purpose of demonstrating compliance with Chapter 4 the State Environment Protection Policy (Resilience and Hazards) 2021 and Chapter E20 of the WCC Development Control Plan (DCP 2009).

1.4. Scope of Works

The following scope of works was completed by Reditus:

- Review of previous contamination reports.
- Summarise the site investigation history and conceptual site model (CSM) to identify viable remediation options.
- Document the identified contamination risks to human health and/or the environment.

- Identify the relevant data gaps that will be addressed during the preliminary stages of the remediation scope to allow specific refinement of this RAP.
- Define the extent of remediation required within the BEW Stage 2-4 area of the site.
- Define the site remediation objectives that will be achieved by the RAP to ensure that the site will be made suitable for its proposed land use, and which will result in no unacceptable risk to human health or to the environment.
- Assess options and Remediation technologies to achieve the remediation objectives and justify a preferred approach, which includes the consideration of the principles of ecologically sustainable development.
- Document all procedures and plans to reduce risks posed by contamination to acceptable levels for the proposed site use.
- Establish the environmental safeguards required to complete the remediation in an acceptable manner, including consideration of the potential for off-site impacts (such as air quality, odour, and aesthetics).
- Address contingencies and unexpected finds protocols.
- Identify the necessary approvals and licences required by regulatory authorities including any items contained in development consent conditions.
- Outline waste classification, handling and tracking requirements in accordance with the Guidelines for the NSW Site Auditor Scheme and Waste Classification Guidelines (EPA 2014).
- Document Site Validation requirements with clearly defined acceptance validation criteria, including a Validation Sampling and Analysis Quality Plan.
- Preparation of a RAP in general accordance with the NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Sites and NEPC (2013) *National Environmental Protection (Assessment of Site Contamination) Measure (NEPM)* and other relevant NSW EPA Guidelines.

2. Site Identification

The location of the site is provided in **Figure 1** and the site layout is shown in **Figure 2**, **Appendix A.** A summary of the site identification details is provided in **Table 2-1** below.

Table 2-1: Site Identification Summary

Site Characteristics	Details
Street Address	Railway Street, Corrimal, NSW
Lot & Deposited Plan	Lot 1 of DP 795791, Lot 5 & 11 of DP 749492 and Lot 126 of DP 598190 *The BEW Stage 2-4 area encompasses the above allotments however only Part Lot 1 of DP 795791 and Part Lot 5 of DP 749492.*
Total Site Area	Approximately 18.1637 hectares (ha)
Stage 2-4 Remediation	Approximately 15.0937 ha.
Site Coordinates *Approximate Centre of Site (WGS84)*	Latitude: -34.376 Longitude: 150.903
Local Government Area	Wollongong City Council
Zoning	SP2: Infrastructure (Railway). R3: Medium Density Residential RE1: Public Recreation As specified in the Wollongong Local Environmental Plan (LEP) 2009.
Current Owner	LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust
Current Land Use	Vacant – former industrial coke works facility
Proposed Land Use	Mixed-use residential precinct inclusive of roadways, basement carparking (residential buildings), street scape heritage areas and open space zones. The proposed conceptual redevelopment plans are provided in **Appendix C.**
Trigger for Assessment	Development Application (DA)
Surrounding Land Uses	Land uses surrounding the site include: ▪ **North:** Railway Street and low to high density residential properties. ▪ **South:** A riparian corridor associated with Towradgi Creek with low density residential properties and Carr St beyond.

	▪ **West:** Memorial Drive, low to medium density residential properties, with Ziems Park, low density residential properties and Corrimal Pool beyond. ▪ **East:** Corrimal railway station, railway line with low density residential properties and Corrimal East Public School beyond.

2.1. Site Conditions and History

The following description of site conditions is based on information summarised within the Arcadis (2019) RAP and Reditus (2022) Consolidated DSI. It is noted that the following refers to the entire site, inclusive of the proposed BEW Stage 1 and BEW Stage 2-4 areas.

The site was used between 1912 until 2013 for the production of metallurgical and foundry coke using a non-regenerative process. The coke production area, including the coke ovens and peripheral activities occupied the northeast quarter of the site. Coke storage and loading activities occupied the remaining portions of the operational sections of the site.

North Corrimal Creek flows generally north to south through the middle of the site. There were two dams created on site to capture the water for quenching the coke during production and dust suppression. The two dams are described as follows:

- Recycle Dam for collection and recycling of process (mostly quench) water.
- South Dam for provision of make-up water to the Recycle Dam.
- North Corrimal Creek was a tributary of Towradgi Creek which flowed east and was located at the southern boundary. A section of vacant land was located at the southern third of the subject Site.
- The southern sections (south of North Corrimal Creek) of the site were not utilised as part of the Coking operation and were left vacant and sporadically used for Horse agistment.
- Vegetated berms consisting of site fill material were located along the periphery of operational areas and acted as visual screens and noise barriers.
- The site was accessed from Railway Street, Corrimal, NSW, and was approximately rectangular in shape and aligned north-south, bound by the main southern railway line to the east and a dual carriageway (Memorial Drive) to the west.

The site boundary conditions are described as follows:

- The entire site perimeter was secured through various types of fencing.
- The northern site boundary off Railway Street is the main site access point.
- The eastern site boundary is formed by the railway corridor and maintained by Sydney Trains.
- Southern site boundary is formed by open spaces and riparian corridor surrounding Towradgi Creek.

- The north-western site boundary is formed by low to medium density residential properties.
- The western site boundary is formed by Memorial Drive.

The site operations ceased in June 2013, and comprised the following operations areas/site uses as illustrated in **Figure 2** and detailed in the ES (2014) Preliminary Site Investigation (PSI):

- (A) Production Facility – This area comprised coal storage, coke oven batteries and ancillary operations including car parking, workshops, plant storage sheds, office spaces, loading areas and a weigh bridge.
- (B) Waste Storage Areas – These areas were used for the stockpiling of redundant machinery and equipment.
- (C) Coke Stockpile Areas – These areas were used for stockpiling of coke. Stockpile areas were fitted with irrigation sprays for dust suppression. The areas were also used to store refractory bricks and as a quench ash stockpile for a period.
- (D) Vacant Land – Comprised areas of vacant land that had no or minimal history of production activity and generally served as screening and vegetated areas.
- (E) Waterways – Comprises the creek line of North Corrimal Creek, including the south dam that flows into Towradgi Creek, immediately beyond the site's southern boundary.

2.1.1. Soil

Previous investigations described the site geology as overburden to 10.3m below ground level (m bgl) overlying inter-bedded natural strata of shale, coal, sandstone and siltstone.

It was reported that the overburden within the production, stockpile and waste storage areas was generally coke and coke fines overlying natural grey-yellow, yellow-brown, brown, orange, orange-grey and grey clays.

Within the southern vacant land, the overburden was described as orange-grey and grey clays, with no coke reported.

The western half of the site was generally logged as coke-like fill (carbonaceous fill) of varying depth overlying orange/grey clay. Assessed areas of vacant land in the north were described as brown loamy soil overlying orange/grey clay. Coke was observed in one borehole located near the northern berm.

Arcadis formed thirty-five (35) test pits through the berms across the site. The material within the berms can be described as follows:

- The surface was predominantly made up of silts, coal wash fines and quench ash.
- Fill material consisted of silt, silty clay, medium grained sands, coarse and medium sized coal fragments building rubble fragments and plastic.

- Natural material underlying the berms consisted of non-plastic, dry, light brown silty clay.
- Photoionisation detector (PID) measurements that were recorded did not detect measurable concentrations of volatile organic compounds (VOCs).
- Asbestos containing materials (ACM) were encountered in soil material at one test pit (TP2) adjacent to waste storage area 'B2'.
- At some locations the height of the berm was up to 5.0m above surface level.

Previous investigations observed the presence of coal, coke and other carbonaceous materials within fill material across the site. Douglas Partners (DP 2018) conducted a preliminary desktop-based assessment of material at the site to provide guidance on which portions of the site are likely to require blending to allow compliance with Chapter D19 of the WCC DCP (2009) for earthworks. After the preliminary investigation DP (2018) conducted an intrusive investigation to determine the actual percentage content of combustible materials within fill at the site. The findings of the combustibility assessment (DP 2019) indicated there was a variable range of combustibles present on site between 11.6% and 87.8%. The average combustibility of samples tested was 49.7%. This was in excess of the 30% allowable average and 40% absolute maximum criteria set out in the EPA Resource Recovery Order (2014). Sulfur content was considered to be in compliance of the EPA Resource Recovery Order (2014) for all samples tested.

2.1.2. Groundwater

Reditus recently completed groundwater monitoring well gauging event on 18th January 2023 to inform proposed design considerations. Six (6) select existing monitoring wells in the central and northern portion of the site were gauged, with standing water levels recorded ranging between 1.73 m to 3.54 m below top of casing (m btoc). Reditus note the gauged wells were predominantly located in the central-northern portion of the site, which is elevated between 2-12 m in parts above the lower lying areas within the Stage 2-4 BEW boundary. Standing water levels are likely to be encountered at depths of <1.73 m bgl in such areas. Arcadis (2019) reported standing water levels of existing monitoring wells on site ranging from 3.03 m to 4.69 m btoc.

The inferred local groundwater flow direction on the site is to the south to southeast. This opinion of Arcadis (2019) (and Reditus) is based on a review of the predominant slope of the natural topography to the south, the southerly surface water flow direction of North Corrimal tributary across the Site and the easterly flow direction of Towradgi Creek towards the coastline.

Additional groundwater investigations were completed around the coking production area and reported by Arcadis (January 2018). The results were consistent with those previously reported by ES (2014).

Both groundwater and surface water quality (North Corrimal Creek) at the at site are considered to be typical of an urban environment. The upgradient monitoring wells (ES 2014 and Arcadis January 2018) and upgradient creek samples (ES 2014) indicated the presence of dissolved heavy metals.

Given the location of the site within an urbanised environment and proximity to local Collieries and heavy industry which both date back over 100 years, it is anticipated that mobile contaminants such as dissolved heavy metals and nutrients (ammonia, nitrate and phosphate) is likely to be present within ambient surface and groundwater surrounding the site.

2.1.3. Acid Sulfate Soil Risk

A desktop review of the acid sulfate soil (ASS) risk of the site was completed in the PSI (ES 2014) which should be read in full in conjunction with this report. A summary of the ASS risk is provided below:

The Wollongong Local Environmental Plan (2009) maps much of the subject site including both Stage 1 and Stage 2-4 BEW areas as Acid Sulphate Soils Class 5. Approximately 3% of the subject site, approximately 6,000 m^2, is mapped as Class 3 land. The class 3 land is located along the southern boundary of the site adjacent to Towradgi Creek in the southern portion of the Stage 2-4 BEW area. Refer to **Figure 3** for the locations of the ASS Class across the site.

The Wollongong Local Environmental Plan (2009) defines Class 3 and Class 5 ASS as follows:

Class 3:

- Development consent is required for the carrying out of works more than 1 metre below the natural ground surface and works by which the watertable is likely to be lowered more than 1 metre below the natural ground surface.

Class 5:

- Development consent is required for the carrying out of works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum and by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.

The proposed bulk earthworks will disturb soils deeper than 1m below the current natural ground surface and has the potential to generate acid sulfate soils (if present). The results of the Reditus (2020) DGI reported four (4) soil and residual soil samples to marginally exceed the Acid Sulfate Soil action criteria. There were no indications of actual acid sulfate soils (AASS) and the exceedances of the action criteria were considered to be potential acid sulfate soils (PASS) only. The positive PASS results ranged between a depth of 2 and 7 metres and were identified within Stage 2-4 BEW area and within the proposed cutting of the new creek alignment.

PASS appeared to be limited to the northern and southern extents of the creek realignment and were associated with a grey colourisation of the weathered silt-stone/sandstone formation. Vertical characterisation indicates most of the soils to be disturbed are not ASS or PASS. These results are consistent with the ASS mapping which place most of the site on a Class 5 zone with a minor section within a Class 3 ASS zone.

The Stage 2-4 development footprint comprises ASS Class 3 and 5 and based on historical investigations and the depth of the proposed soil disturbance an Acid Sulfate Soil Management Plan (ASSMP) is required to be developed. The first stage of the ASSMP will be to perform a detailed assessment of the deep cutting areas (new creek alignment) of the site with regard to the final proposed civil earthworks plan.

2.2. Proposed Development

Legacy intends to redevelop the site into a mixed-use residential precinct inclusive of roadways, basement carparking (residential buildings), street scape heritage areas and open space zones. The construction phase of the redevelopment is proposed to occur in various stages with multiple Development Applications planned to facilitate the process. The stages of the BEW development will include two broad stages:

- **BEW Stage 1.** This will involve the construction of between 5-6 high density residential apartment buildings. Each will have a basement. The basements are assumed to be one level and will be only partially buried below the final finished surface level. The heritage streetscape will also be included within this stage. It is understood that the entire "power station" building and part of the eastern coke oven infrastructure will be maintained. Entrance and access roads will also form part of this stage.
- **BEW Stage 2-4.** This will include the construction of additional high density residential apartment buildings and several blocks of medium to low-density townhouse and duplex style properties and the major earthworks component of the redevelopment. Further roadways and open space areas will be formed within this stage. There is also a significant bulk excavation component dedicate to the re-alignment of the creek within the Stage 2-4 BEW area. This RAP details the remediation works to be completed as part of the Stage 2-4 bulk earthworks development and will be provided to Wollongong City Council as part of the development submission. A separate RAP has been prepared for the Stage 1 BEW and submitted for planning approval. This approach will allow a staged suitability "sign-off" to be enforceable by WCC, while still allowing the staged redevelopment process to progress.

3. Site Setting and Surrounding Environment

The following summary of the condition and environmental setting of the site and surrounding areas is predominantly based on information provided with the Arcadis (2019) RAP as summarised in **Table 3-1** below. It is noted that the following refers to the entire site, inclusive of the proposed BEW Stage 1 and BEW Stage 2-4 areas.

Table 3-1: Site Setting and Surrounding Environment

Item	Detail
Topography	The subject site is generally flat to gently undulating. There is a general incline south towards Towradgi Creek which occurs at the southern boundary. Filling and levelling has occurred in the past and the production and stockpile are flat, though there is local incline towards the creek (North Corrimal Creek) which flows north to south through the site. The majority of the site is between 9 to 15 metres Australian Height Datum (m AHD).
Hydrology	North Corrimal Creek flows north to south through the site and is steeply incised. Water north to south through the site and discharges into Towradgi Creek which is located immediately beyond the southern site boundary. The standing water level within the existing wells onsite ranged between 3.03 m to 4.69 m btoc during the Arcadis (2019) DSI and between 1.73 m to 3.54 m btoc during the recent Reditus (2023) gauging event. The inferred local groundwater flow direction on the site is to the south to southeast. This opinion of Arcadis (2019) (and Reditus) is based on a review of the predominant slope of the natural topography to the south, the southerly surface water flow direction of North Corrimal tributary across the site and the easterly flow direction of Towradgi Creek towards the coastline.
Regional Geology	The 1:250,000 Geological Survey of NSW Map for Wollongong (Geological Series Sheet S1 56-9, 2nd Ed. 1966) describes the regional geology at the site as Quaternary alluvium, gravel, swamp deposits and sand dunes. The Illawarra Coal Measures (shale, sandstone, conglomerate, tuff, chert, coal and torbanite seams) occurs within the Illawarra Escarpment around 2km west of the subject site.
Soil Lithology	Previous investigations described the site geology as overburden to 10.3m bgl overlying inter-bedded natural strata of shale, coal, sandstone and siltstone. Overburden within the production, stockpile and waste storage areas was reported to generally comprise coke and coke fines overlying natural grey-yellow, yellow-brown, brown, orange, orange-grey and grey clays. Within the southern vacant land, the overburden was described as orange-grey and grey clays, with no coke reported.
Acid Sulfate Soils (ASS)	The Wollongong Local Environmental Plan (2009) maps the majority of the subject site (approximately 97%) as Acid Sulphate Soils Class 5. Approximately 3% of the subject site (approximately 6,000 m^2) is mapped as Class 3 land. The results of the Reditus (2020) DGI reported four (4) soil samples to marginally exceed the Acid Sulfate Soil action criteria. There were no

Item	Detail
	indications of AASS and the exceedances of the action criteria were considered to be PASS only. The positive PASS results ranged between a depth of 2 and 7 metres and were identified within the areas of the site proposed to be cut to form the new creek alignment. PASS appeared to be limited to the northern and southern extents of the creek realignment and were associated with a grey colourisation of the weathered silt/sandstone formation. Vertical characterisation indicates the majority of the soils to be disturbed are not ASS or PASS. These results are consistent with the ASS mapping which place the site on the edge of a Class 3 ASS zone. ASS Class zones for the site are outlined in **Appendix A, Figure 4**, the location of the mapped zones and historical investigations indicate the Stage 2-4 works will likely require management of ASS materials and subsequent development of an ASSMP. The first stage of the ASSMP will be to perform a detailed assessment of the deep cutting areas (new creek alignment) of the site with regard to the final proposed civil earthworks plan.
Hydrogeology	Groundwater is likely to be present within the deeper bedrock that consists of the Illawarra Coal Measures. The depth to the bedrock has been mapped at greater than 10 m. Groundwater storage within the bedrock sequence would be dominated by fractures. The intensity, connectivity and orientation of the fracture network would determine the groundwater flow direction and velocity. The anticipated regional groundwater flow direction would be east towards the coast. A detailed review of the hydrogeology of the site was provided in ES PSI (2013) and ES DSI (2014) which should be read in full in conjunction with this report. The hydrogeology is summarised below: ▪ The standing water level within the existing wells onsite ranged between 3.03m to 4.69m below top of casing. The inferred local groundwater flow direction on the site is to the south to south east. This opinion is based on a review of the predominant slope of the natural topography to the south, the southerly surface water flow direction of North Corrimal tributary across the site and the easterly flow direction of Towradgi Creek towards the coastline. Additional groundwater investigations were completed around the coking production area and reported in by Arcadis (January 2018). The results were consistent with those previously reported by ES (2014).
PFAS Assessment	The potential risk to the site presented by per- and polyfluoroalkyl substances (PFAS) has been evaluated in general accordance with Tables B1 and B2 in Appendix B PFAS National Environmental Management Plan (NEMP) Version 2.0 following a review of site history and observations made during inspections of the site by Reditus and others. A summary of the potential risk to the site presented by PFAS is provided below: ▪ **Has fire training occurred on-site?** – it is unlikely that firefighting training has occurred at the site. (Low probability).

Item	Detail
	▪ **Is an airport or fire station located within close proximity to the site?** – The site is not located within close proximity to an airport. Corrimal Fire & Rescue NSW station is located approximately 500m north-west of the site. (Low probability). ▪ **Have fuel fires ever occurred on-site?** – No evidence of fuel fires occurring on site. (Low probability). ▪ **Have PFAS been manufactured at the site, or stored on-site?** – The site has no evidence of any manufacturing or storage of PFAS as per a review of historical investigations and site inspection by Reditus and other. (Low probability). ▪ **Is the site subject to potential migration of surface waters impacted by PFAS from off-site, upgradient sources?** – North Corrimal Creek flows north to south through the site and is considered a potential source of off-site PFAS contamination. (Low to moderate probability). The outcomes of the PFAS assessment summarised above indicates there is a low to moderate potential for the site to be impacted by PFAS generated from off-site, upgradient activities. The most likely migration of PFAS to the site is via upgradient surface waters along North Corrimal Creek and associated onsite creek sediments.
Sensitive Receptors	The nearest sensitive environments are summarised as follows: ▪ North Corrimal Creek and Towradgi Creek. ▪ Surrounding residential properties. ▪ Corrimal East Public School.

4. Previous Investigations & Contamination Status

The following section provides a summary of the following previous investigations conducted at the site and the known contamination status as revised within the Arcadis (2019) RAP and Reditus (2022) Consolidated DSI:

- ADI Limited (1996) – Stage 1 Investigation Report, Station Street, Corrimal (ADI 1996).
- EnviroRisk (2005) – Phase 1 Environmental Assessment (EnviroRisk 2005).
- EnviroRisk (2006) – Phase 2 Environmental Assessment (EnviroRisk 2006).
- Environmental Strategies (March 2014) – Preliminary Site Investigation, 27 Station Street, Corrimal (ES March 2014).
- Environmental Strategies (July 2014) – Detailed Site Investigation, 27 Station Street, Corrimal (ES July 2014).
- Arcadis (2017) – Additional Environmental Assessment Coke Works, 27 Station Street, Corrimal (Arcadis 2017).
- Arcadis (January 2018) – Additional Environmental Assessment, Production Area, 27 Station Street, Corrimal (Arcadis January 2018).
- Arcadis (March 2018) – Flue, Stack and Powerhouse Assessment, 27 Station Steet, Corrimal (Arcadis March 2018).
- Douglas Partners (2018) – Preliminary Combustibility Assessment (DP 2018).
- Douglas Partners (2019) – Combustibility Assessment, Corrimal Coke Works Site, Corrimal (DP 2019).
- Arcadis (2019) – Remediation Action Plan, 27 Railway Street, Corrimal, NSW (Arcadis 2019).
- Reditus Consulting Pty Ltd (2020) – Data Gap Investigation, 27 Railway Street, Corrimal NSW (Reditus 2020).

Not all of the reports listed above were provided to Reditus for review as part of this RAP, as such the Arcadis (2019) review of these reports will be relied up on. Details of sample exceedances of the adopted site assessment criteria (SAC) are summarised below, noting that soil and sediment samples only from available data have been compared to the current SAC. It is noted that the following refers to the entire site, inclusive of the proposed BEW Stage 1 and BEW Stage 2-4 areas.

The reports are summarised in **Table 4-1** below.

Table 4-1: Previous Environmental Assessments

Item	Detail
Stage 1 Site Investigation Report – ADI 1996	
Summary of Works Undertaken	The ADI (1996) investigation comprised: ▪ The site was divided into five (5) areas for the assessment based on current and historical land uses. The investigation

Item	Detail
	was completed while the site was operational and no investigation beneath the former buildings was completed. ▪ The sampling program for the investigation of 70 soil sampling locations, 7 sediment locations, 7 surface water locations and eight groundwater monitoring wells. This included the excavation of 45 test pits using a backhoe, drilling of 12 boreholes and installation of five groundwater monitoring wells.
Summary of Findings	**Soil** ▪ Reported concentrations of metals in all areas investigated by ADI were generally low and did not exceed NEPM (2013) health-based investigation levels (HILs). Zinc was reported exceeding the adopted ecological investigation limit (EIL) at one location within the production area (P26). ▪ Elevated concentrations of petroleum hydrocarbons (>C15 chain length) above the comparable NEPM (2013) TRH fraction ecological screening level (ESL) criteria were reported by ADI at 2 locations within the production area, 4 locations within the waste storage area and 3 locations within the stockpile areas. S11 and W5 also reported $C_{10} – C_{14}$ fraction above the comparable NEPM (2013) ESL criteria and Management Limits (ML). ▪ Concentrations of total polycyclic aromatic hydrocarbons (PAH) were reported at several locations across the site within the waste storage area, stockpile areas and the production area. Reported concentrations did not exceed NEPM (2013) health-based screening levels (HSLs). Concentrations of constituent PAHs were not provided in the report, with only total concentrations are available. ▪ No significant concentrations of BTEX (benzene, toluene, ethylbenzene and xylenes) compounds or total phenols were reported. ▪ No organochlorinated pesticides (OCPs) or polychlorinated biphenyls (PCBs) and 3 minor detections of volatile halogenated compounds (VHCs) were reported in the selected samples assessed. ▪ Assessment for asbestos was limited to a total of five (5) samples (one from the production area, two from the stockpile areas, one from waste storage area and one from the southern vacant land). No asbestos was reported. **Sediment** ▪ Detectable metals, petroleum hydrocarbons and metals were reported by ADI. ▪ Copper, lead and zinc exceeded ANZECC (2000) interim sediment quality guidelines (ISQG) at 1 location (H54 – Creek up-gradient of South Dam at bridge) of 7 sampled. *This data was not available for review*. **Surface Water**

Item	Detail
	▪ Elevated zinc was reported in 2 surface water samples collected from South Dam but not in samples collected from the Recycle Dam or the creek (up and down gradient). ▪ Elevated PAHs were reported in 2 samples collected from the Recycle Dam, however, it was not clear in the ADI report whether samples were filtered, so the result may be due to entrained particulate (coke). *This data was not available for review*. **Groundwater** ▪ ADI reported elevated metals particularly zinc and copper in several of the 8 wells installed. The subsequent assessment by CES (2006) as subcontractor to EnviroRisk (2006) reported much lower concentrations of metals in groundwater. ▪ No significant concentrations of petroleum hydrocarbons, BTEX compounds, PAHs, or phenols were reported in groundwater. ▪ ADI assessed one surface water and 2 groundwater samples for ammonia. Ammonia was reported at elevated concentrations however no conclusions can be drawn from a limited data set.
Conclusions / Recommendations	ADI (1996) reported coke and coke fines in the sub-surface across identified production, waste storage and coke stockpile areas. Contamination from site activities was limited to long chain length petroleum hydrocarbons at areas of surface staining in the waste storage, stockpile and production areas. There appeared to be minimal impact to surface water and groundwater. Only soil analytical data was available for review, as such the results of the ADI assessment have been incorporated into this consolidated DSI for background context only.

Item	Detail
Phase 1 Environmental Assessment – EnviroRisk 2005	
Summary of Works Undertaken	The EnviroRisk (2005) investigation comprised: ▪ The EnviroRisk assessment focussed on Lot 5 DP 749492 (western and southern parts) which was then leased by Illawarra Coke Company (ICC) from the Corrimal Leagues Club. The assessment included a historical review and site walk over. ▪ EnviroRisk predominantly used the ADI (1996) report as a basis for the review and developed a Phase 2 assessment program.
Summary of Findings/ Conclusions	The key aspects identified by EnviroRisk as requiring further investigation were the waste storage area, which was used for storage of redundant equipment, and rubble/fill stockpiles, the coke stockpile area, and previous filling in those areas.

Item	Detail
Phase 2 Environmental Assessment – EnviroRisk 2006	
Summary of Works Undertaken	The EnviroRisk (2006) investigation comprised: ▪ EnviroRisk undertook two rounds of assessment; comprehensive assessment was completed during December 2005 and an additional sampling round involving limited soil sampling and additional sampling of the waterways was completed during February 2006. ▪ Installation of monitoring wells and groundwater assessment was completed by CES (2006) under subcontract to EnviroRisk. The groundwater assessment report by CES was included as Appendix 1 to EnviroRisk (2006). ▪ EnviroRisk generally maintained the same investigation areas as identified by ADI (1996). ▪ The sampling program for the investigation consisted of 45 soil sampling locations, 3 sediment locations, 9 surface water locations and 4 groundwater monitoring wells and included the excavation of 45 test pits using a backhoe, drilling of 12 boreholes and installation of 5 groundwater monitoring wells.
Summary of Findings	▪ Elevated soil concentrations above the adopted EILs for metals (As, Cu, Pb, Zn), at 1 location in vacant land north of the waste storage area and 8 locations within the waste storage area. ▪ Lead was reported in the Arcadis (2019) summary in BH18 at 2m (4,370mg/kg) (*Note: This data was not available for review)* above the adopted HIL and EILs. Step-out delineation sampling (TP18A-TP18E) reported lead at BH18E-2.5m of 1,580 mg/kg above the adopted HIL and EILs ▪ Elevated soil Benzo(a)pyrene (BaP) was reported above the adopted ESL criteria in 3 locations within vacant land north of the waste storage area. ▪ B(a)P (as toxic equivalency quotient (TEQ Half)) was reported above the adopted HIL criteria in 1 location within vacant land north of the waste storage area. ▪ Concentrations of BTEX compounds, phenols, OCPs, organophosphate pesticides (OPPs), PCBs and VHCs were reported below the adopted SAC in the selected samples assessed. ▪ TRH C_{10} – C_{14} and C_{15} – C_{28} fraction was reported above the comparable NEPM (2013) ESL criteria in 2 locations within vacant land north of the waste storage area. TRH C_{15} – C_{28} fraction was reported above the comparable NEPM (2013) ESL criteria in 5 locations within vacant land north of the waste storage area, 1 location within the waste storage area, 3 locations within the stockpile area and 1 location within the bund wall.

Item	Detail
	▪ No elevated metals, PAHs, petroleum hydrocarbons or BTEX compounds were reported in sediment samples. ▪ Elevated metals (copper and zinc) were reported in selected creek water samples. These more likely reflected the urban/industrial setting of the region rather than specific contribution from the site. ▪ Ammonia was detected in two creek water samples assessed. The concentrations were low and not considered to be significant. ▪ No petroleum hydrocarbons, BTEX compounds, PAHs or phenols were reported in either groundwater or the two creek samples assessed. ▪ Marginally elevated concentrations of copper, zinc and cadmium were reported above the ANZECC guidelines. The concentration were considered reflective of the regional urban/industrial setting rather than contribution from site activities.
Conclusions / Recommendations	▪ EnviroRisk reported a lead exceedance in soil at sample points BH18 and BH18E located south of the Waste Storage Area and within the footprint of the former rail spur. Field logs of EnviroRisk reported "coke-like" fill to a depth of at least 2.4mbgl in this area. ▪ The lead impacted soil at these two locations was considered to be the only substance of concern in the fill based on leachability testing and was remediated (excavated) by Qualified ICC staff with assistance from EnviroRisk by way of provision of written guidance, procedures and directions. ▪ Statistical analysis completed by EnviroRisk of the validation data from walls and base of the excavated area was considered to be satisfactorily remediated. The excavated material was appropriately disposed of as solid waste at an appropriately licensed waste management facility. (EnviroRisk Summary Report, for works conducted October 2005-May 2006, received from ICC, 14 February, 2014.)

Item	Detail
Preliminary Site Investigation – ES March 2014	
Summary of Works Undertaken	ES conducted a preliminary site investigation of the site and identified 5 broad areas of interest (Areas A to E), based on previous and current use and site observations.
Summary of Findings/ Conclusions	ES noted the following aspects during site inspection: ▪ Surface staining around the diesel above ground storage tank near the Coke Screening Plant (Area A). ▪ Surface staining around the waste oil storage tank and dosing pump located near the Grinding Plant (Area A).

Item	Detail
	▪ Stockpile areas were black from coke storage (Area B). ▪ Build-up of sediment in Recycle Dam (Area E). ▪ A stockpile of used refractory bricks and a quench ash stockpile were present in the east most portion of the Stockpile Area (Area C). ▪ Site operations practiced considerable resource recovery, particularly of coke and water. Steam generation during coke quenching resulted in high water consumption. Water accumulating within active areas was recovered, treated (sedimentation) and reused in quenching. ▪ The subject site appeared to be well managed, and employees had a high degree of environmental awareness. ▪ Perimeter areas berms, the creek line and vacant areas were extensively vegetated (Areas D, E).

Item	Detail
Detailed Site Investigation – ES July 2014	
Summary of Works Undertaken	The ES (July 2014) investigation comprised: ▪ Excavation of 63 test pits and/or bores within the open space (i.e., non-paved) areas of the site around identified areas of activity to a maximum depth of 3 mbgl. Collection of 9 sediment samples using a hand auger or sediment sampler to a maximum depth of 0.6m. ▪ Collection of soil samples at the near surface, within the fill material at regular intervals, at locations with obvious signs of contamination (that is staining or odorous soils) and at the interface between soil formations. ▪ Drilling, installation and development of 10 bores and conversion into groundwater monitoring wells to max. 9 mbgl. ▪ Sampling of each of the 10 new groundwater wells in addition to an existing bore (identified between the coke oven batteries during the site visit which has been assumed to be operational. ▪ Collection of surface water samples on the site at 9 locations "up-stream", various "mid-stream" locations and "down-stream" of North Corrimal Creek.
Summary of Findings	A total of 5 major Areas of Environmental Concern (AEC) were assessed on the site (A to E), detailed in Section 2.1 of this report. The findings of the investigation are as follows. **Soil** ▪ Elevated soil concentrations above the adopted EILs for metals Zinc and/or Copper at 4 locations within the production area. ▪ TRH C_{16} – C_{34} fraction was reported above the NEPM (2013) ESL criteria in 4 locations within the production area, 1

Item	Detail
	location in vacant land north of the waste storage area, 3 locations within the waste storage area and 3 locations within the stockpile area. ▪ Benzo(a)pyrene was reported above the NEPM (2013) ESL criteria at 1 location within each of the production, waste storage and stockpile areas. ▪ All the exceedances of the soil SAC were reported in fill material. ▪ Asbestos was also detected in 2 fill samples within the production area out of a total of 53 samples screened for the presence of asbestos. **Groundwater** ▪ A total of 10 samples exceeded the adopted Groundwater Assessment Criteria (GAC) for copper, zinc, nickel and ammonia. ▪ Overall, ES considered that the likely net contribution of contamination in groundwater from site activities is likely to be low. Groundwater concentrations were reported to be within expected regional background concentrations ranges for copper, zinc and nickel. ▪ There were no exceedances of the human health GAC reported at the site. Exceedances of the ecological GAC for copper at 5 locations and zinc at 8 locations in groundwater were reported in the vicinity of Coke Production Area A. ▪ Exceedances of the ecological GAC were also reported for ammonia at 1 location and nickel at 1 location. ▪ Exceedances of the drinking water criteria were reported for sulphate at 4 locations in groundwater at the site. ▪ All of other analytes tested were below the groundwater assessment criteria. **Surface Water** ▪ A total of 8 samples exceeded the adopted Surface Water Assessment Criteria in Corrimal Creek which is a typical urban creek. ▪ Copper and zinc were reported to exceed the ecological surface water assessment criteria at all surface water sample locations across the Site. A comparison of the concentrations of heavy metals at the upgradient and downgradient sample locations indicated that there was no net contribution of copper and zinc in surface water leaving the Site. ▪ Mercury and antimony were reported to exceed the surface water assessment criteria at the Recycle Dam. Mercury and antimony were not detected in surface water at the downgradient site boundary. ▪ All other analytes tested were below the surface water assessment criteria. **Sediment**

Item	Detail
	▪ A total of 2 samples exceeded the adopted ANZG DGV Sediment Assessment Criteria from a total of 6 sediment sample locations in Area E. ▪ Lead and zinc exceeded adopted criteria relevant to immobile aquatic ecological receptors at SED3CR downstream of the culvert at South Dam. The concentration of lead and zinc at SED3CR was considered related to concentrations of heavy metals at the dam wall, which has been anecdotally reported (by site personnel) to have overtopped during heavy rain events. ES considered this indicates the potential presence of other heavy metal hotspots associated with Dam infrastructure, which were not detected by the current investigation. ▪ A negligible risk to onsite ecological receptors was indicated by concentrations of zinc which exceeded the adopted criteria at SED1CR at the upgradient site boundary. ▪ ES considered that concentrations of contaminants of potential concern in onsite sediments did not indicate a risk to offsite ecological receptors.
Conclusions / Recommendations	The Phase 2 assessment findings indicate that contamination impacts to soil were not gross in nature, were localised to specific areas of the former operation and are predominantly isolated to site fill materials. Localised sediment impacts associated with the site's operational use were reported south of the on-site dams. Surface water and groundwater were impacted by low-moderate concentrations of heavy metals which appeared to be related to elevated concentrations in the soils in Coke Production Area A. No reported exceedances of the SAC were reported in AECs D1, D2 or D3 (with the exception of aesthetics in fill). The AECs identified where reported exceedances of Human Health Site Assessment Criteria currently preclude residential and recreational and public open space land uses included Area A only (where asbestos containing material was identified in fill). The AECs identified where exceedances of Ecological Site Assessment Criteria for urban residential and public open space land use included Areas A, B (all areas), C (all areas) and E (all areas). **Recommendations** ES recommended that minor soil and sediment remediation works be undertaken at areas of the site where contamination impacts have been identified to exceed the SAC for the proposed site area use. The purpose of undertaking the remediation and validation program would be to make each area suitable for its proposed use, specifically, Areas A, B, C (2, 3 and 4) and E. Details of the key contamination findings in each AEC, the proposed use and an outline of the recommended works required to remove and/or manage contamination at each AEC are outlined in Table 38 of the ES (2014) report. ES also recommended the following additional assessment work:

Item	Detail
	▪ Additional groundwater and surface monitoring after closure of the coke production facilities in Area A to further assess the elevated concentrations of heavy metals against the groundwater and surface water assessment criteria. ▪ Additional asbestos delineation works where asbestos was identified around the coke production facility to further assess the extent of asbestos fibres in soil and determine requirements for asbestos management during site decommissioning works which are likely to disturb the soil. ▪ Additional investigation would be required to assess the potential for additional impacts from contaminants targeted in this assessment to exist in soil beneath existing site structures following site decommissioning.

Item	Detail
Additional Environmental Assessment – Arcadis 2017	
Summary of Works Undertaken	The Arcadis (2017) investigation comprised: ▪ Collection of soil from 35 test pits through the onsite berm material, 6 sediment samples, 8 surface water locations and 10 ground gas monitoring well locations across the site.
Summary of Findings	▪ ACM were visually identified in soil material at 1 test pit (TP2) within the berm adjacent the waste storage area on the eastern site boundary; however laboratory analysis reported no ACM within the remaining 34 test pits conducted within the above ground berm materials. ▪ TRH C_{16} – C_{34} fraction was reported above the NEPM (2013) ESL criteria in 1 location within the waste storage area, 1 location adjacent to the waste storage area, 5 locations adjacent the stockpile area, 2 locations within the stockpile area and 1 location within the production area. ▪ There were no other reported analytical exceedances of the SAC in soil samples submitted for analysis, except for test pit TP14 (1.0m) with a reported benzo(a)pyrene concentration of 1.3mg/kg. This sample was also submitted to the laboratory for a toxicity characteristic leaching procedure (TCLP), which indicated all PAHs including benzo(a)pyrene were below detection within the effluent. When assessed statistically, the 95% upper confidence interval is below the SAC for benzo(a)pyrene (which is a PAH compound) at TP14. This suggests that the exceedance is not significant in relation to the overall suitability of the berm material for onsite re-use. ▪ Some surface water samples marginally exceeded the Surface Water Assessment Criteria (SWAC). The concentrations detected however were considered to be indicative of an urban environment. Furthermore, they did not exceed the recreational or Australian Drinking Water Guidelines (ADWG) and therefore not considered to pose an

Item	Detail
	unacceptable risk to human health or an impediment to site redevelopment. ▪ TRH (sum of total) was reported exceeding the adopted sediment ANZG DGV SAC in 3 locations within the Recycle Dam (upstream) and 1 location within the South Dam (downstream). ▪ Based on the assigned gas screening value (GSV) ground gas concentration collected from across the site, indicated that the risks associated with the hazardous ground gasses are very low.
Conclusions / Recommendations	Based on the results of this assessment, Arcadis deemed both the berm material and dam sediments were considered likely to be suitable for re-use onsite with the exception for the soil around TP2. This material will require further validation prior to reuse. The soil around TP2 contained bonded ACM which was visually identified at the time of excavation. This soil should be screened and appropriately validated at the time of removal by a suitably qualified person who is suitably experienced in the identification of potential ACM. The presence of ACM at this one location should not be considered a significant impediment to site redevelopment. It was recommended that the material within the berms should be appropriately screened of deleterious, anthropogenic and oversize materials and re-used appropriately onsite. In addition, a construction environment management plan (CEMP) should be prepared to ensure the material within the berms are re-used appropriately. The CEMP should be developed specific to any future proposed development and also contain an unexpected finds protocol.

Item	Detail
Additional Environmental Assessment, Production Area – Arcadis January 2018	
Summary of Works Undertaken	The Arcadis (January 2018) investigation comprised: ▪ Collection of soil and groundwater data from locations within the former coke oven and production area. This included the soil sampling of ten (10) locations and conversion of four (4) locations into groundwater monitoring bores. Soil samples were collected directly adjacent to the underground flues and former coal storage areas.
Summary of Findings	▪ Fill material consisted of silty clay, dark brown to banded red, medium plasticity with some fine gravel and crushed sandstone, quartz pieces and crushed brick. ▪ Natural material consisted of non-plastic, residual shale described as silty clay of medium stiffness. ▪ No ACM were visually identified in soil material or detected in samples submitted to the laboratory.

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	▪ There were no exceedances of the residential soil acceptance criteria in any samples submitted for analysis of the COPC. ▪ There were no exceedances of the groundwater acceptance criteria in any samples submitted for analysis of the COPC with the exception of the following: o Concentration of dissolved arsenic, cadmium, chromium, copper nickel and zinc in a number of wells within the production area. These are considered to be indicative of background concentrations within the urban environment. o Concentrations of ammonia at MW11 (3.5mg/l) and MW12 (2.6mg/l) located directly adjacent to the western and eastern coke batteries exceeded the ANZECC (2000) fresh water 95% (ANZG 2018 DGV) species protection of 0.9 mg/l. ▪ As detailed within ANZECC (2000) the source of the ammonia is likely to be a mixture of the wider urban environment contributing background concentrations from common sources such as fertilisers, decomposing vegetation and domestic sewerage systems. ▪ The site itself is also likely to have contributed to the concentrations of ammonia. The vapour scrubbing and quenching process can mobilise ammonia within the quench water and any particulates including the quench ash. The overall process of water and ash recycling and re-use however is likely to have limited the impact of ammonia. Monitoring wells MW2 and MW4 located downgradient of the coke ovens and quench stack reported ammonia at concentrations less than the adopted GAC
Conclusions / Recommendations	A summary of the conclusions and recommendations of the Arcadis (January 2018) additional environmental assessment of the Production Area was not provided within the Arcadis (2019) RAP. Reditus was also not provided with the Arcadis (January 2018) report for review.

Item	Detail
Flue, Stack and Powerhouse Assessment – Arcadis March 2018	
Summary of Works Undertaken	The Arcadis (March 2018) investigation comprised: ▪ Collection of soil and building material samples from locations within the former production area. This included locations beneath the former powerhouse; from within the stacks; from the fill above the underground flues; from within the flues; and surface samples down topographic gradient from the powerhouse and quench stacks.

Item	Detail
Summary of Findings	Results of building material samples will not be discussed further within this RAP as they form part of the hazardous material removal program. Samples relevant to this RAP were collected from beneath the former powerhouse, buried Potential ACMs (PACM), fill material above the underground flues and surface soils samples is provided below: ▪ Fill material beneath the powerhouse extends below 2.1 metres and consisted of predominantly coal washery rejects with some crushed coal. ▪ Fill material beneath the former transformers adjacent to the powerhouse extended to 1.6 mbgl and was described as silty clay, mottled orange/brown/grey and slightly plastic. ▪ Fill material above the underground flue locations consisted mainly of crushed bricks. A rubber bituminous material buried at location F3 tested positive for chrysotile and amosite asbestos. ▪ The National Dioxins Program Technical Report No.12 Human Health Risk Assessment of Dioxins in Australia (Revised in July 2005) has determined that the mean concentrations of dioxin-like compounds in south-eastern Australia are unlikely to contribute to adverse health effects. The concentrations detected onsite were two orders of magnitude below the mean concentrations for soils in south-eastern Australia and for urban environments, as published in the Department of Environment Heritage, May 2004, National Dioxins Program, Technical report No.5 Dioxins in Soil in Australia. ▪ No ACM were identified in any targeted soil or building materials submitted for analysis with the exception of the following: o The compressed fibre cement pipe buried adjacent to the powerhouse at PH2 (PH2 ASB- ID) tested positive for chrysotile and amosite. o The compressed fibre cement pipe within the powerhouse service pit (PH – Pipe) tested positive for chrysotile and amosite. o A rubber / bituminous material buried within the fill material above the underground flue at F3 tested positive for chrysotile and amosite. ▪ There were no exceedances of the residential soil acceptance criteria in any samples submitted for analysis of the COPC with the exception of the following: o Arsenic was detected at PH2 at 0.1m above the NEPM HIL A residential assessment criteria. The samples collected and analysed at 0.2, 0.5 and 2.1 metres were reported below the adopted soil screening criteria. During demolition works this soil may need to be appropriately managed. ▪ Concentrations of lead within the particle residue sample collected from within Stack 4 (S4) exceeded the General

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	solid waste guidelines (with Leaching). This material will need to be collected from the surface of base of the stack and lawfully disposed of to an appropriately licenced waste facility. The volume of this solid material within the base of the stack was approximately 100 litres.
Conclusions / Recommendations	A summary of the conclusions and recommendations of the Arcadis (March 2018) assessment was not provided within the Arcadis (2019) RAP. Reditus was also not provided with the Arcadis (March 2018) report for review.

Item	Detail
Preliminary Combustibility Assessment – Douglas Partners 2018	
Summary of Works Undertaken	The DP (2018) investigation comprised a preliminary desktop-based assessment of material at the site to provide guidance on which sections of the site would require blending to allow compliance with WCC development control plan (DCP) policy for combustibility.
Summary of Findings	The DP report concluded that as part of the site civil redevelopment works a significant portion of the site will require blending. DP also state that the blending process to achieve compliance with the WCC combustibility policy would be relatively straightforward

Item	Detail
Combustibility Assessment, Corrimal Coke Works Site – Douglas Partners 2019	
Summary of Works Undertaken	The DP (2019) investigation comprised an intrusive investigation to determine the actual percentage content of combustible materials within fill at the site.
Summary of Findings	The findings of the combustibility assessment indicated there was a variable range of combustibles present on site between 11.6% and 87.8%. The average combustibility of samples tested was 49.7%. This was in excess of the 30% allowable average and 40% absolute maximum criteria set out in the EPA Resource Recovery Order (2014). Sulfur content was considered to be in compliance of the EPA Resource Recovery Order (2014) for all samples tested.
Conclusions / Recommendations	The report confirmed that modification of the potentially combustible materials will be required from a geotechnical viewpoint to reduce combustible content to allowable level prior to re-use. A potential reuse methodology consistent with the EPA Resource Recovery Order and WCC DCP (2009) Chapter E19 was also detailed within the document. The results of the assessment indicated that a preliminary blending rate of 50% inert material and 50% carbonaceous materials should be made.

Item	Detail
Remediation Action Plan – Arcadis 2019	
Summary of Works Undertaken	The Arcadis (2019) RAP was prepared for Legacy Property Pty Ltd prior to the proposed development of the site for mixed residential/open space land use. The RAP provides a detailed summary of historical investigations of the site, the contamination status and the requirements, conditions and adopted methods for remediation of the site to render it suitable for the proposed land use.
Summary of Findings	Remediation of the TRH, PAH and heavy metals impacts in fill materials is required to render the site suitable for future land use. The RAP also details existing data gaps which require addressing as part of the remediation schedule by means of delineation sampling in soil, sediments, hazardous ground gases and groundwater based upon the final land use layout, proposed finished levels and cut-to-fill design.
Assessment of Historical Results Against Ecological Assessment Criteria	The Arcadis RAP provides an assessment of historical results against ecological assessment criteria and identifed the following: There are several areas on site where soils exceed the NEPM (2013) ecological acceptance criteria. EILs were calculated for the site based on added contaminant limits (ACLs) and ambient background concentrations (ABCs). Details and calculations are provided in Appendix I of ES (July 2014). Based on the calculated EILs and adopted ESLs (collectively referred to as Ecological Acceptance Criteria, EAC) the following was noted by Arcadis: ▪ The concentrations of arsenic reported at the following locations exceeded the residential EIL of 436 mg/kg: o EnviroRisk (2006) TP18A at 1.0m, TP18B at 1.0m BH17 at 4.0m and TP18E at 1.0m. o Arcadis (March 2018) PH2 at 0.1. ▪ The concentrations of copper reported at the following locations exceeded the residential EIL of 210 mg/kg: o EnviroRisk (2006) BH6 at 2.0, TP18A at 1.0m, TP18D at 2.0m, TP18E at 1.0m. o ES (July 2014) BH41 at 0.2m, MW5 at 0.2m. ▪ The concentrations of lead reported at the following locations exceeded the residential EIL of 1,116 mg/kg: o EnviroRisk (2006) TP18E at 1.0m and 2.5m. ▪ The concentrations of zinc reported at the following locations exceeded the residential EIL of 436 mg/kg: o ADI (1996) P26 at 0.55m o EnviroRisk (2006) BH14 at 1.5, BH17 at 4.0m, BH18 at 2.0m, BW2 (bund wall), TP18E at 1.0m and 2.5m. o ES (July 2014) BH41 at 0.2m, BH42 at 0.2m, MW5 at 0.2m. o Arcadis (March 2018) PH2 at 0.1.

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	▪ The concentrations of BaP reported at the following locations exceeded the residential ESL of 0.7 mg/kg: o EnviroRisk (2006) BH6 at 1.0, BH8 at 0.5m, BH12 at 0.1m. o ES (July 2014) MW5 at 0.2m, TP34 at 0.2m, TP32 at 1.2. o Arcadis (January 2018) TP14 at 1m. o Arcadis (March 2018) PH2 at 0.1. Numerous exceedances of TRH fractions F2, F3 and F4 were reported across the site. The majority of the exceedances were reported within the TRH F3 fraction where 79 out of 115 samples analysed exceeded the low reliability coarse grained ESL (300 mg/kg) for urban residential and public open space. Furthermore, 14 out of the 115 samples analysed for TRH F3 exceeded the low reliability fine grained ESL (1,300 mg/kg) for urban residential and public open space. The majority of the 79 samples that exceeded the coarse-grained criteria were collected from the initial 1.0m of fill material, indicating the likely source at most locations is coal, coke and coke by-products. It is noted that the TRH ESL for F3 is only a low reliability guideline and therefore site management decisions based on these results should be carefully evaluated. The representativeness and effect these results may have on the chosen remedial strategy have been incorporated into both the remedial and validation methods. The final extent to which the EAC exceed the relevant land use will depend on where the soil is re-used and what the final land use is. This can currently be estimated through comparison of the bulk earthworks cut-to-fill design and the current architectural footprint. Given there will be significant blending of material collected from the initial 1.5m of the site (due to combustibility reasons) the current data set of EAC exceedances may not be representative of the final 1.5m of landform. Furthermore, the adoption of EILs and ESLs to blended coal/coke and site won soils may not be an appropriate use of these guidelines. The blending process will alter the soil matrix properties and therefore an alternative set of site specific EILs may need to be developed based upon the new soil properties, degree of the blending required and the location (including depth) of the final blended material relative to the proposed development land use. *Note: The above SAC exceedances may differ to that determined as part of this consolidated DSI following amendments to proposed development/land use layout and thus appropriate selection of SAC.*
Conclusions / Recommendations	Based upon the assessment of available remedial options, the recommended remedial strategy proposed included: ▪ Excavation of areas where contaminants have the potential to pose an unacceptable risk to human health and ecological receptors. ▪ Validation of the resulting excavations through the collection of soil validation samples and where necessary groundwater samples. ▪ Either: o Reuse of the site sourced material that has been appropriately characterized and meets relevant NEPC

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	(2013) NEPM criteria for the proposed development land use areas and in relation to CARBONACEOUS material the re-use must be in accordance with the WCC DCP Chapter E19: Earthworks (Land Reshaping Work). o Formation of dedicated cell during earthworks and encapsulate unsuitable soils. ▪ Creation of a long-term site management plan to appropriately manage encapsulated soils into the future; and ▪ If required, classification of unsuitable or excess material for lawful off-site disposal or treatment if required. The remedial strategy was considered appropriate as once the material is excavated, it could remain on-site and be encapsulated within a specially designed cell or re-used within appropriate end-use areas of the site. This would require sufficient space, appropriate detailed engineering design, council approval, detailed material tracking and ongoing management. The ongoing management would be enforced through an institutional Site Management Plan (SMP) that would be legally enforceable. CARBONACEOUS material will be blended with inert material and re-engineered in accordance with the WCC DCP (2009) Chapter E19 section 4.4. Advantages of this option were considered to include the reduced cost involved with offsite disposal and re-use of waste that would otherwise have been disposed to landfill. Disadvantages of this option included the notation of the SMP on title certificate and the ongoing inspections involved in long-term management. Given the large scale of earthwork required to facilitate site redevelopment this was considered the preferred option as it will reduce offsite truck movements and road safety concerns whilst reducing the quantity of waste generation and is preferred in relation to the NSW EPA Waste Hierarchy and the WARR Act (2001).

Item	Detail
Data Gap Investigation – Reditus 2020	
Summary of Works Undertaken	The Reditus (2020) investigation comprised: ▪ A first pass data gap assessment in areas of the site that were currently accessible prior to demolition works commencing. ▪ The data gaps addressed/investigated included: o **DGI Zone 1**. Soil and groundwater assessment of the coal store footprint. o **DGI Zone 2**. Soil and groundwater assessment of the maintenance shed footprint. o **DGI Zone 3**. The presence or otherwise of Acid Sulfate Soils and background soil quality within the areas of deep cut along the proposed Creek line within the

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	western portion of the site. This material is proposed to used as fill across the site. o **DGI Zone 4**. Area of known filling and redundant machinery storage areas adjacent to the creek crossing.
Summary of Findings	▪ Filling depths, groundwater depths and soil quality were observed to be consistent with previous investigations. ▪ Fill material within the former coal store was proven to be present at a maximum depth of 4.3 mbgl. The description of the fill was consistent with previous investigations and consisted mostly of CARBONACEOUS material. ▪ Fill material within the vicinity of the former redundant machinery storage area and existing creek crossing was proven to a maximum depth of 4.7 mbgl. Most of the filling layer within this section of the site was described as CARBONACEOUS material underlain by a re-worked silty clay with some evidence of minor anthropogenic inclusions. ▪ Fill material within the background (non-operational) areas of the site ranged between 0.1 and 0.6 mbgl. CARBONACEOUS material were noted within the northern portions of the site while CARBONACEOUS material were not observed within locations formed within the southern sections of the site. ▪ Groundwater was identified at varying depths across the site, standing water levels were measured within the three newly installed boreholes between a depth of 5.1 and 5.4 mbtoc. ▪ Groundwater within background areas of the site ranged at depths between 3.1m and 7.2m. Most water strikes along the creek alignment were observed between 4.5 and 5.5 m bgl. ▪ TRH C_{16} – C_{34} fraction was reported above the NEPM (2013) ESL criteria in 1 location within the waste storage area and 2 locations within the production area. ▪ Elevated soil concentrations above the adopted EILs for zinc at 1 location within the production area. ▪ All concentrations of contaminants of potential concern within groundwater were below the GAC or the laboratory limit of reporting except for minor exceedances of copper, nickel and zinc. The exceedances were considered marginal and typical of shallow urban groundwater conditions. ▪ No visual or olfactory indications of gross contamination within soils or groundwater were observed during the investigation. ▪ No asbestos or asbestos containing materials were identified at any of the sampling locations, including the 10L gravimetric samples analysed from the fill material within the test pits. It is noted based on the gravimetric analysis and only a limited number of soil samples were tested for the presence of asbestos fibres by polarised light microscopy at a NATA accredited laboratory. All samples that were analysed at the

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	laboratory reported concentrations below the limits of reporting. ▪ Four samples were identified to marginally exceed the Acid Sulfate Soil action criteria. There was no indication of AASS and the exceedances of the action criteria are considered to be PASS only. The positive PASS results ranged between a depth of 2 and 7 m bgl and were identified within the areas of the site proposed to be cut to form the new creek alignment. ▪ PASS appeared to be limited to the northern and southern extents of the creek realignment and were associated with a grey colourisation of the weathered silt/sandstone formation. Vertical characterisation indicates most of the soils to be disturbed are not ASS or PASS. These results are consistent with the ASS mapping which place the site on the edge of a Class 3 ASS zone.
Conclusions / Recommendations	Reditus (2020) concluded there is no requirement to alter the current Arcadis (2019) RAP and the current remedial strategy is considered adequate to render the site suitable for the intended use. Whilst the majority of excavation and soil disturbance depths are unlikely to disturb significant volumes of PASS, there is potential that localised portions of the deeper excavations may extend into or below the PASS layers, particularly within the areas of new creek alignment (outside the current Stage 1 development footprint). The following approach to the management of PASS was recommended to be included as a condition of consent: ▪ A detailed review of the civil earthworks design to confirm if the soils identified as PASS will be disturbed and therefore require further assessment and/ or management. Noting with the exception of one location the PASS was identified at depths greater than 4.0m bgl. ▪ If the proposed earthworks will disturb PASS soils, given the exceedances of the action criteria were only marginal and there were no obvious signs of reducible inorganic sulfur, further targeted soil characterisation should be considered. The purpose of the additional characterisation would be to better understand the origins of the potential acidity. This may include soil incubation tests to corroborate the Acid Neutralising Capacity of the material and mineral characterisation to confirm or otherwise if the source of the acid trail is from oxidised sulphides. ▪ Preparation of an ASSMP. The ASSMP should include details of the additional soil assessment works and outline the management procedures required to be followed during earthworks that may disturb PASS or ASS materials as well as potential long-term effects such as fluctuating water table. The ASSMP and additional testing should also account for the proposed CARBONACEOUS material blending process, noting that any PASS may be blended with CARBONACEOUS

Item	Detail
	material on a 50/50 weight for weight basis which may have the effect of buffering or effectively diluting the PASS.

Table 4.1 Notes: Previous reports referenced "carbonaceous materials" as coal washery rejects (CWR). Subsequent investigations and field observations have confirmed that the material is more likely to be a mixture of various coke products, ranging from large coke "nuggets" to finer "coke breeze". As such the more correct term of "carbonaceous materials" has been adopted in this most recent document.

A summary of historical soil data collected within the current BEW Stage 2-4 development footprint with comparison to applicable SAC for the intended land-use setting (i.e., high/low-density residential or recreational and public open space) is provided in **Appendix B**, **Tables 1 to 3**.

It is noted that the proposed redevelopment will substantially re-align North Corrimal Creek and include dewatering of onsite dams. The residual sediments will be dried, validated (chemically, aesthetically, and geotechnically) and either appropriately re-used within the site soils, encapsulated or lawfully disposed of off-site. As sediments are anticipated to be encountered during the BEW Stage 2-4 redevelopment works, detail on the management and validation of on-site sediments have been provided in Section 10.7 of this RAP. A dewatering management plan is to be developed prior to removal of onsite dams. The plan as a minimum is to include the management and validation details outlined in Section 10.7 of this RAP.

A summary of historical soil and sediment sample exceedances is provided in Table 4-2 below and is based the applicable SAC for the current proposed BEW Stage 2-4 redevelopment land use site layout provided in **Appendix A Figure 4**.

The previous investigations summarised above have been reviewed by the previous appointed site auditors. These were Mr Chris Jewel who assessed the Environmental Strategies 2014 investigation and Ms Rebeka Hall who is the current Auditor and reviewed the subsequent investigations including the previous RAP (Arcadis) and BEW Stage 1 RAP (Reditus 2024a).

Table 4-2: Stage 2-4 Historical Soil & Sediment Sample Exceedances

Investigation	Sample I.D.	Location	Depth (m)	Analyte	Concentration (mg/kg)	Criteria Value (mg/kg)	Criteria Type
ADI (1996)*	P10	Production Area	0.3	TRH C_{15}-C_{28}	1,359	300	ESL
	P57	Production Area	0.3	TRH C_{15}-C_{28}	940	300	ESL
	S6	Stockpile Area	0.2	TRH C_{15}-C_{28}	1,400	300	ESL
	S8	Stockpile Area	0.1	TRH C_{15}-C_{28}	1,300	300	ESL
	S11	Stockpile Area	0.2	TRH C_{10}-C_{14}	180	120	ESL
			0.2	TRH C_{15}-C_{28}	2,950	300 & 2,500	ESL & ML
			1.5	TRH C_{10}-C_{14}	170	120	ESL
			1.5	TRHC_{15}-C_{28}	1,950	300	ESL
	W3	Waste Storage Area	0.6	TRH C_{15}-C_{28}	640	300	ESL
	W4	Waste Storage Area	0.4	TRH C_{15}-C_{28}	2,300	300	ESL
	W5	Waste Storage Area	0.1	TRH C_{10}-C_{14}	280	120	ESL
				TRH C_{15}-C_{28}	44,000	300 & 2,500	ESL & ML
				TRH C_{29}-C_{36}	38,000	2,800 & 10,000	ESL & ML
EnviroRisk (2006)	BH6	Vacant Land North of Waste Storage Area	1	TRH C_{15}-C_{28}	800	300	ESL
				B(a)P	4.5	0.7	ESL
				B(a)P TEQ Half	9	3	HIL-C
			2	Copper	314	210	EIL
	BH8	Vacant Land North of Waste Storage Area	0.1	TRH C_{15}-C_{28}	400	300	ESL
			0.5	TRH C_{10}-C_{14}	340	120	ESL
				TRH C_{15}-C_{28}	2,130	300	ESL
				B(a)P	1.1	0.7	ESL
	BH9	Vacant Land North of Waste Storage Area	0.1	TRH C_{15}-C_{28}	800	300	ESL
	BH10	Vacant Land North of Waste Storage Area	1	TRH C_{15}-C_{28}	370	300	ESL

Investigation	Sample I.D.	Location	Depth (m)	Analyte	Concentration (mg/kg)	Criteria Value (mg/kg)	Criteria Type
	BH11	Vacant Land North of Waste Storage Area	0.5	TRH C_{15}-C_{28}	430	300	ESL
	BH12	Vacant Land North of Waste Storage Area	0.1	TRH C_{10}-C_{14}	220	120	ESL
				TRH C_{15}-C_{28}	1,590	300	ESL
				B(a)P	1.2	0.7	ESL
			1	TRH C_{15}-C_{28}	480	300	ESL
	BH13	Vacant Land North of Waste Storage Area	1	TRH C_{15}-C_{28}	1,070	300	ESL
	BH14	Waste Storage Area	1.5	Zinc	742	400	EIL
	BH15	Waste Storage Area	0.1	TRH C_{15}-C_{28}	460	300	ESL
	BH17	Waste Storage Area	4	Zinc	1,020	400	EIL
	BH18**	Waste Storage Area	2	Zinc	1,980	400	EIL
	TP18A	BH18 Step-Out	1	Arsenic	166	104	EIL
				Copper	495	210	EIL
	TP18B	BH18 Step-Out	1	Arsenic	222	104	EIL
	TP18C	BH18 Step-Out	2	Copper	211	210	EIL
	TP18D	BH18 Step-Out	2	Copper	2,020	210	EIL
				Zinc	748	400	EIL
	TP18E	BH18 Step-Out	1	Arsenic	284	104	EIL
				Copper	239	210	EIL
				Zinc	4,970	400	EIL
			2.5	Lead	1,580	1,116 & 1,200	EIL & HIL-B
				Zinc	2,310	400	EIL
	BH24	Stockpile Area	0.5	TRH C_{15}-C_{28}	650	300	ESL
	RB1	Stockpile Area	0.1	TRH C_{15}-C_{28}	660	300	ESL
	RB2	Stockpile Area	0.1	TRH C_{15}-C_{28}	500	300	ESL

Investigation	Sample I.D.	Location	Depth (m)	Analyte	Concentration (mg/kg)	Criteria Value (mg/kg)	Criteria Type
	BW2	Bund Wall	-	Zinc	540	400	EIL
	BW5	Bund Wall	-	TRH C_{15}-C_{28}	330	300	ESL
ES (2014)	**BH42**	Production Area	0.2	Copper	500	210	EIL
				Zinc	580	400	EIL
				TRH C_{16}-C_{34}	410	300	ESL
	MW4	Production Area	0.5	TRH C_{16}-C_{34}	940	300	ESL
	MW5	Production Area	0.2	Copper	2,400	210	EIL
				Zinc	3,800	400	EIL
				TRH C_{16}-C_{34}	4,000	300 & 2,500	ESL & ML
				B(a)P	1	0.7	ESL
	TP05	Vacant Land North of Waste Storage Area	0.2	TRH C_{16}-C_{34}	820	300	ESL
	TP07	Waste Storage Area	0.2	TRH C_{16}-C_{34}	790	300	ESL
	TP08	Waste Storage Area	0.2	TRH C_{16}-C_{34}	660	300	ESL
	TP34	Waste Storage Area	0.2	B(a)P	1	0.7	ESL
	TP37	Waste Storage Area	0.85	TRH C_{16}-C_{34}	610	300	ESL
	TP18	Stockpile Area	0.2	TRH C_{16}-C_{34}	530	300	ESL
	TP19	Stockpile Area	0.2	TRH C_{16}-C_{34}	890	300	ESL
	TP31	Stockpile Area	1.1	TRH C_{16}-C_{34}	630	300	ESL
	TP32	Stockpile Area	1.2	B(a)P	1	0.7	ESL
	SED1CR	Sediment	0.2-0.4	Zinc	350	200	ANZG DGV#
	SED3CR	Sediment	0.2-0.4	Lead	650	50	ANZG DGV#
				Zinc	310	200	ANZG DGV#
Arcadis (2017)	**TP10**	Waste Storage Area	0.5	TRH C_{16}-C_{34}	340	300	ESL
	TP31	Adjacent Waste Storage Area	1	TRH C_{16}-C_{34}	390	300	ESL

Investigation	Sample I.D.	Location	Depth (m)	Analyte	Concentration (mg/kg)	Criteria Value (mg/kg)	Criteria Type
	TP8	Adjacent Stockpile Area	1	TRH C_{16}-C_{34}	480	300	ESL
	TP9	Adjacent Stockpile Area	1	TRH C_{16}-C_{34}	330	300	ESL
	TP14* **	Adjacent Stockpile Area	1	TRH C_{16}-C_{34}	810	300	ESL
				B(a)P	1.3	0.7	ESL
				B(a)P TCLP	<LOR		
	TP15	Adjacent Stockpile Area	0.5	TRH C_{16}-C_{34}	380	300	ESL
	TP16	Adjacent Stockpile Area	0.5	TRH C_{16}-C_{34}	380	300	ESL
			1	TRH C_{16}-C_{34}	430	300	ESL
	TP12	Stockpile Area	1	TRH C_{16}-C_{34}	340	300	ESL
	TP21	Stockpile Area	1	TRH C_{16}-C_{34}	530	300	ESL
	TP19	Production Area	0.5	TRH C_{16}-C_{34}	570	300	ESL
			1	TRH C_{16}-C_{34}	350	300	ESL
	TP20	Vacant Land South of Production Area	1	TRH C_{16}-C_{34}	950	300	ESL
	TP2	Berm Adjacent Waste Storage Area	-	ACM	observed	-	-
	SED D1L2	Sediment - South Dam	-	Sum TRH	210	0.28	ANZG DGV#
	SED D2L1	Sediment - Recycle Dam	-	Sum TRH	870	0.28	ANZG DGV#
	SED D2L2	Sediment - Recycle Dam	-	Sum TRH	2,000	0.28	ANZG DGV#
	SED D2L3	Sediment - Recycle Dam	-	Sum TRH	320	0.28	ANZG DGV#
Arcadis (March 2018)	**SS3**	Adjacent Production Area	-	TRH C_{16}-C_{34}	1,300	300	ESL
Reditus (2020)	**RCTP2**	Production Area	1	TRH C_{16}-C_{34}	700	300	ESL
	RCTP10	Production Area	1	TRH C_{16}-C_{34}	760	300	ESL
	RCMW2	Production Area	0.5	Zinc	970	400	EIL
			1	Zinc	590	400	EIL

Investigation	Sample I.D.	Location	Depth (m)	Analyte	Concentration (mg/kg)	Criteria Value (mg/kg)	Criteria Type
	RCTP9	Waste Storage Area	0.5	TRH C_{16}-C_{34}	700	300	ESL

* TRH fractions reported by ADI (1996) differ from fractions adopted within NEPM (2013). Reported TRH fractions have been assessed against comparable (similar) NEPM (2013) fractions for semi-quantitative comparison purposes only.

** Reported zinc exceedance at BH18 likely removed during lead in soil remediation works at BH18 completed by EnviroRisk in 2005-06.

*** Benzo(a)pyrene TCLP concentration of sample TP14 reported less than laboratory LOR.

The ANZG DGV for sediments were adopted as a screening criteria only during the assessment stage. These sediments will be removed, dried and assessed as a soil matrix as part of the remediation and validation process.

4.1. Qualitative Assessment of Risk

Based on the presence of the exceedances to the human health and ecological guidelines discussed in Table 4-1 above, there may be a potential unacceptable risk under the proposed land use to human receptors. Exceedances of the adopted ecological SAC were reported in several locations across the Stage 2-4 BEW area within shallow fill and at depths of up to 4 mbgl (predominantly at or <1 mbgl). The exceedances comprised mostly TRH >C_{16} fraction, heavy metals (zinc, lead, copper and arsenic) and several benzo(a)pyrene TEQ exceedances of the ESL criteria. In most of the cases the exceedances were relatively marginal and well below the adopted human health criteria.

In accordance with Section 2.4.12 of Schedule B5b of NEPM ASC (2013) the appropriateness of the application of the ESL and EIL guidelines, in the context of the site and final land use, as well as the pragmatic risk-based application described in Section 3.4 of Schedule B1 (NEPM 2013) should be followed. Considering these recommendations within the NEPM ASC (2013) the following discussion points are provide in relation to the ESL and EIL exceedances noted within the Stage 2-4 bulk earthworks area:

- The proposed land use is predominantly public open space and high density residential with basements, roadways and some unsealed public road verges. A small portion of the Stage 2-4 BEW area comprises low-density residential dwellings.
- Un-sealed areas of the site will be landscaped. As such they will be formed with a specific "engineered" soil capable of sustaining the proposed landscape. Based on this the existing rootzone to at least 0.6m within the unsealed areas of the site is un-likely to be representative of the final landscaped area.
- The TRH ESL criteria presented within the NEPM ASC (2013) are a low reliability guideline.
- The overall magnitude of the ESL and EIL exceedances are low in comparison to the guidelines. Majority were reported within the same order of magnitude as the guideline with a few minor exceptions in isolated areas.
- The Stage 2-4 BEW area will be mostly covered in hardstand with public open space areas being significantly landscaped during works associated with redirection of North Corrimal Creek.
- The historical groundwater investigation did not identify the presence of heavy metal leaching or TRH within the underlying groundwater. Suggesting the exceedances of the ESL/EILs are not resulting in unacceptable leaching to the underlying groundwater.
- The proposed development will be designed as an urban stormwater catchment. As such, the roadways, buildings, hardstand, engineered soils and planter boxes will reduce and minimise the exposures and migration of the underlying soils. The urban stormwater design will also reduce and minimise the erosive forces that may act to transport the shallow soils.

- There are no obvious indications of existing vegetation stress onsite within the areas of the ecological exceedances. Suggesting the current plant species are tolerant to the minor exceedances of the ESL/EILs.

Based on the discussion provided above the reported EIL and ESL exceedances are considered low, acceptable and unlikely to present a risk to future ecological receptors following completion of the Stage 2-4 redevelopment.

5. Development Specific Data Gaps

As described in Section 1.2, the chosen remedial strategy is a combination of targeted excavation of contaminated materials, validation of the excavations and then encapsulation of the material within dedicated cells. Based on this strategy the requirement for excavation and encapsulation (remediation) is dependent upon the following:

- The location of the soil exceedance relative to the final land use i.e., low or medium density residential, high density residential, commercial space or open space including the proposed creek corridor.
- The lateral and vertical extent of the contamination.
- The chemical properties of the contaminant proposed for encapsulation, i.e., leachability and volatility.
- The final levels of the proposed development.
- The type of finished surface level, i.e., hard stand or unsealed.

The first stage of remedial works assumes a Sampling Analysis and Quality Plan (SAQP) will be prepared with regard to the proposed land-uses (including cut/fill plan) and the historical investigation results to determine what areas require additional sampling. This would be a data gap investigation step to further inform the finer detail of the civil and urban designs. The Consolidated DSI (Reditus 2022) overlays the proposed site layout onto the existing investigation locations and provides a summary of the proposed land use exceedances. The areas requiring further investigation are mostly limited to areas that will not be accessible until the site structures are demolished and/or made safe.

The existing Creek line is proposed to be re-aligned and as such may interact with the underlying groundwater aquifer. As such, the SAQP will need to consider groundwater quality around the new creek alignment.

The data gap items that require further refinement are detailed in **Table 5-1** below along with a description of how it could impact on the site remediation. The proposed SAQP for the data gap assessment sampling works will be provided to the Auditor for review and comment prior to performing the works.

Table 5-1: Review of Data Gaps/Delineation Works and Impact to Remediation Scope

Item	Description	Impact on Remediation	Included in Proposed Data Gap Assessment	Investigation to be included in SAQP and possible remedial contingencies.
1	The former powerhouse building is proposed to be maintained onsite. The carbonaceous material beneath the building will need to remain in-situ. A targeted assessment of hazardous ground gas generation will need to be conducted to confirm the presence or otherwise of hazardous ground gases generation.	The building and brick stack is to remain onsite and remediation beneath the buildings is unlikely to occur, therefore it is more likely to be an ongoing management issue. Management may include the retrofitting of engineering controls. The engineering controls would be incorporated into the refurbishment works of these areas and therefore will need to be appropriately.	Yes. Allowance for installation of monitoring wells and ground gas monitoring has been included within the proposed assessment works. If remediation is required, the revised RAP will detail the mitigation measures needed to render the powerhouse suitable. Pending the outcomes of assessment and remedial actions (if any), on-going management may be required if unacceptable hazardous ground gas conditions are identified. Details of which are to be included into a "Hazardous Ground Gas Environmental Management Plan" (HGGEMP). The HGGEMP would be a stand alone document for the management of HGG within the vicinity of the Power House.	Hazardous Ground Gas assessment within the footprint of the former powerhouse building area. If hazardous ground gases are generated at unacceptable levels beneath the powerhouse the RAP will need to be revised with appropriate gas mitigation measures. These may include, ongoing and continuous groundwater monitoring, improved indoor air ventilation, and/or sub-grade barriers and venting systems. Any HGG mitigation measure will require that a Hazardous Ground Gas Environmental Management Plan if prepared and enforced within the relevant lots and DPs at the site.
2	Asbestos characterisation in fill materials.	The impacts on remediation is low, unless significant volumes of ACM impacted materials are uncovered. Regardless of this characterisation for the presence of asbestos in the fill material will need to occur within the Stage 1 area. This is a strict protocol that requires the methods detailed within the NEPM ASC (2013) to be followed.	Yes. ACM characterisation of the fill material across the Stage 2-4 and wider site areas will be included within the data gap investigation.	Asbestos characterisation/validation assessment of the Stage 2-4 footprint. The asbestos characterisation/validation assessment will be completed following the removal of all known hazardous materials and demolition of the above ground structures and hard stand within the Stage 2-4 BEW area. The investigation will be performed in accordance with the gravimetric methods described within the NEPM ASC (2013) and endorsed by the NSW EPA. If additional asbestos containing fill material is identified the RAP will need to be revised

Item	Description	Impact on Remediation	Included in Proposed Data Gap Assessment	Investigation to be included in SAQP and possible remedial contingencies.
				to include the encapsulated of the material into the dedicated cell areas. If this is not feasible or possible due to site or other regulatory/approval constraints the asbestos material will be properly classified in accordance with the NSW EPA Waste Classification Guidelines (2014) and lawfully removed offsite to an appropriately licenced waste facility.
3	The potential for PFAS contamination within North Corrimal Creek from off-site, upgradient sources has not been assessed to date and updated surface water conditions are required.	North Corrimal Creek is proposed to be realigned and sediments from the current drainage channel are proposed to be retained onsite as fill. The impact on remediation is low unless concentrations of PFAS in surface water and sediments exceeding the adopted tier-1 human health and ecological assessment criteria are reported, in which case additional remediation and/or management will be required. Characterisation of PFAS in sediment and surface waters will need to occur within the Stage 2-4 area prior to commencing BEW due to potential management/design alterations to the realigned creek corridor which result.	Yes. PFAS characterisation of surface water and sediments across the North Corrimal Creek corridor within the Stage 2-4 area will be included within the data gap investigation. Furthermore, surface water conditions in relation to general quality and potential PFAS contamination will be assessed at the site, including upgradient and downgradient locations (both on- and off-site).	PFAS and surface water characterisation/validation assessment of the North Corrimal Creek corridor within the Stage 2-4 area. The PFAS and surface water characterisation assessment will be completed in accordance with the NEPM ASC (2013), PFAS National Environmental Management Plan 2.0 (NEMP, 2020) and methods endorsed by the NSW EPA. If PFAS contamination in sediments or contaminated surface water is identified at concentrations requiring remedial action or management this RAP will need to be revised to include appropriate methods for remediation/management of impacted surface water, groundwater and/or sediment.
4	Sampling of the refractory and quench ash stockpile, located south of the coal	Stockpiled material, from the site was planned to be encapsulated within a purpose-built cell. If this material is shown	Yes. Allowance for testing of this stockpile has been included within the investigation works. Further to	Stockpiled material characterisation/validation assessment.

Item	Description	Impact on Remediation	Included in Proposed Data Gap Assessment	Investigation to be included in SAQP and possible remedial contingencies.
	store, has not been completed. The contamination status of this material is currently unknown.	to contain contaminants above land-use guidelines, they will be placed within the cell as planned. The likelihood of this material not being suitable for onsite encapsulation is low given the materials have been sourced from the site. The volume of this stockpile is known and therefore it is unlikely to add significant cost to the remediation if it required encapsulation. Regardless of this, the SEPP requires that waste materials are appropriately characterised PRIOR to finalising the RAP.	this any re-use of materials onsite will require validation testing in accordance with Section 10 of this RAP.	The stockpiled material assessment will be completed in accordance with the NEPM ASC (2013) and methods endorsed by the NSW EPA. If concentrations of COPC within stockpiled material exceed the adopted tier-1 SAC the RAP will need to be revised to include the encapsulation of the material into dedicated containment cell areas. If this is not feasible or possible due to site or other regulatory/approval constraints, the material will be properly classified in accordance with the NSW EPA Waste Classification Guidelines (2014) and lawfully removed offsite to an appropriately licenced waste facility.
5	Asbestos containing material was previously detected within a perimeter berm in soil.	The proposed remedial plan is to encapsulate soils that have been identified as impacted with ACM. The previous berm assessments did not identify any ACM in other portions of the site. Therefore, given the remedial strategy will allow the encapsulation of materials onsite, if further ACM impacted soils are discovered around TP2 it is unlikely to require an alternative remedial strategy or add significant cost to the project.	Yes, but limited to delineation sampling around the previously identified ACM. If additional ACM is uncovered, it will be managed through the existing remedial strategy of encapsulation.	Asbestos characterisation/validation assessment perimeter berm material within the Stage 2-4 footprint. The asbestos characterisation/validation assessment will be performed in accordance with the gravimetric methods described within the NEPM ASC (2013) and endorsed by the NSW EPA. If additional asbestos containing material is identified within berm material other than that previously identified in historical investigations the RAP will need to be revised to include the encapsulated of the material into the dedicated cell areas. If this is not feasible or possible due to site or other regulatory/approval constraints the asbestos material will be properly classified in accordance with the NSW EPA Waste

Item	Description	Impact on Remediation	Included in Proposed Data Gap Assessment	Investigation to be included in SAQP and possible remedial contingencies.
				Classification Guidelines (2014) and lawfully removed offsite to an appropriately licenced waste facility.
6	Is the carbonaceous material within the fill material Coke or Coal?	This provides a line of evidence to confirm or otherwise if the buried carbonaceous material is Coke or Coal. This may form an important argument when determining the handling requirements of the materials. This information will only inform the remedial strategy if the carbonaceous materials are chemically unsuitable. While the physical properties of the material such as particle size and combustibility will be utilised by the projects geotechnical engineer to determine the specifics of the geotechnical re-use requirements and appropriate compliance with Chapter E19 of WCC DCP (2009). The geotechnical aspects of the re-use of any carbonaceous materials will be addressed within the site geotechnical specification with appropriate oversight from the geotechnical expert consultant.	No. These works will be performed by the projects geotechnical expert consultant.	N/A The re-use of any carbonaceous or non-carbonaceous fill materials will be appropriately supervised by the project Geotechnical Engineer and appropriately tracked within a proposed materials tracking document (to be prepared by others). The details of the materials re-use and compliance with chapter E19 of the WCC DCP (2009), if relevant, will be supplied to the Site Auditor for review prior to issue of a final SAS and SAR.
7	PASS requiring management have been identified within the Stage 2-4 BEW site boundary. Development of an ASSMP is required.	North Corrimal Creek is proposed to be realigned and sediments from the current drainage channel are proposed to be retained onsite as fill. Further characterisation of PASS in sediment and soils within the existing creek corridor and proposed deep cutting areas (new creek alignment) will need to occur within the Stage 2-4 area	Yes. Further ASS characterisation of soils and sediments within the existing creek corridor and proposed creek alignment will be included within the data gap investigation.	ASS assessment of the North Corrimal Creek corridor within the Stage 2-4 area and the proposed deep cutting areas (new creek alignment). The assessment will be completed in accordance with the NSW Acid Sulfate Soils Management Advisory Committee (1998) – Acid Sulfate Soils Assessment Guidelines

Item	Description	Impact on Remediation	Included in Proposed Data Gap Assessment	Investigation to be included in SAQP and possible remedial contingencies.
		prior to commencing BEW due to potential ASS management which may be required.		(ASSMAC 1998) and methods endorsed by the NSW EPA. Development of an ASSMP has been completed and is documented in: Reditus Consulting Pty Ltd *Acid Sulfate Soil Management Plan*. Dated 1 September 2023.
8	Groundwater quality around the new Creek alignment	Gross groundwater impacts have not been identified within the former operational areas and are unlikely to affect the new creek alignment, this should still be considered in future assessments. If groundwater impacts warranting remediation are identified, then a groundwater remediation/management strategy may need to be included within a revised RAP.	Yes. Desktop based assessment of previous site specific investigations will be included within the SAQP of the data gap assessment. This will determine if further groundwater monitoring wells are required within the footprint of the new creek alignment. If other information gathered during the DGA identifies the potential for groundwater contamination to be present that was otherwise not considered previously then additional monitoring wells will need to be installed.	Yes. These are detailed in the adjacent left cell.

5.1. SAQP Requirements

The SAQP to be prepared in the initial phases of the Stage 2-4 BEW and will need to include details in relation to:

- Sampling, analysis and quality objectives of the investigation program to determine what areas require additional sampling to further inform the finer detail of the civil and urban designs.
- Summary of the conceptual site model and consolidate relevant historical data.
- Investigation and sample methodologies.
- Media to be sampled, sample frequency, analytes and parameters to be reported, laboratory reporting limits.
- Summary of the field quality assurance and quality control methods.
- Sample handling, storage and transport methods, including chain of custody procedures.
- Summary of laboratory quality assurance procedures.
- Requirement to include a provision to amend this RAP based on the findings of the data gap investigation works.
- Requirement for Site Auditor and Council review and endorse any amendments to the RAP following the additional investigations.

6. Conceptual Site Model

Schedule B(2) of the NEPM (NEPC, 2013) describes a conceptual site model as:

> *"A conceptual site model (CSM) is a representation of site-related information regarding contamination sources, receptors and exposure pathways between those sources and receptors. The development of a CSM is an essential part of all site assessments and provides the framework for identifying how the site became contaminated and how potential receptors may be exposed to contamination either in the present or the future".*

Based on the site history, site setting, and contamination identified above, the following CSM has been developed based on the Arcadis (2019) RAP and Reditus (2022) Consolidated DSI.

6.1. Contamination Sources

Known and potential sources of contamination at the site, the associated CoPC and potentially affected media refined from the results of the historical investigations of the site are listed in **Table 6-1** below.

Table 6-1: Know & Potential Contamination Sources and Associated CoPC

Source	CoPC
Imported fill	Hydrocarbons, PAHs, heavy metals, ammonia, asbestos
Wind-blown coal/coke dust	PAHs, hydrocarbons, ammonia, heavy metals
Leaks/spills associated with mineral oil used in coke production	Hydrocarbons, ammonia, phenols, PAH
Demolition of historical site buildings	Asbestos, synthetic mineral fibres (SMF) and lead
Leaks/spills associated with equipment maintenance/storage areas, including waste oil and diesel storage	Hydrocarbons, PAHs, heavy metals, ammonia, asbestos, phenols, VOCs
Potential migration on-site (from off-site sources) of PFAS contaminated surface waters in North Corrimal Creek	PFAS
Sediment run-off from operational areas and coke stockpiles	Hydrocarbons, PAHs, heavy metals, ammonia, asbestos, phenols, VOCs

6.2. Review of Potential and Complete Exposure Pathways

6.2.1. Human Health – Direct Contact and Inhalation Pathway

The results of the investigations suggest in its current site condition a potential complete direct contact and inhalation (of fugitive dust) pathway exists for current

and future intrusive site users, visitors, surrounding sensitive receptors and maintenance/construction workers on-site from contaminated shallow fill material.

Based on the investigations completed to date, the following potential exposure pathways are not considered to be complete at the Site:

- Leaching – groundwater impacts related to the source areas have not been identified, with the exception of ammonia in selected groundwater samples.
- Ingestion of groundwater – groundwater impacts have not been identified above human health screening criteria and shallow site groundwater is not expected to be beneficially re-used.
- Off-site exposure – all soil exceedances appear to be limited within the site boundary.

6.2.2. Ecological – Terrestrial Ecosystems

The results of the investigations suggest there are exceedances of the ecological investigation criteria within shallow fill material. These were limited to fill materials within the near surface (i.e. predominantly <1 mbgl). Given the site surface will be significantly disturbed, there are no indications of plant stress, the absence of gross groundwater contamination (suggesting there is negligible leaching potential), the potential land use is predominantly public open space and high density residential, with basements the soil/planting materials used within the unsealed verges will be an engineered growing product and open space areas will be significantly landscaped. As such, the reported ecological exceedances are considered unlikely to present a risk to future ecological receptors following completion of the development works.

6.3. Receptors

Potentially on-site and off-site receptors which have the potential to be exposed to known and potential contamination sources include:

- Future site users, inclusive of residence, general public, visitors and commercial workers. This may include recreational users of the creek corridor.
- Site construction workers.
- Offsite residents and general public (inhalation of dust during remedial works).
- Maintenance workers (utility trench).
- Ecological receptors (terrestrial and aquatic) within North Corrimal Creek corridor.

6.4. Potential Exposure Pathway Assessment

A refined tabular CSM has been prepared for the site based on the outcomes of the historical investigations of the site, known and potential contaminants listed in **Table 6-1**. The tabular CSM shown in **Table 6-2** describes potential linkages and assesses each of the linkages as probably, possible, or unlikely based on the likelihood of

occurrence prior to, during and post construction/remediation and availability of data.

Table 6-2: Potential Exposure Pathway Assessment

Source	Pathway	Receptor	Exposure Assessment
Imported Fill	Direct contact, inhalation/vapour intrusion & ingestion	Current intrusive maintenance workers, future construction workers, future site users Current and future terrestrial ecological receptors in grassed/vegetated areas. Off-site residents and general public	**Current Use: Possible** **Construction Phase: Possible** Risks to be managed by implementation of construction safety management plans. **Future Use: Unlikely / Controlled** Soils potentially impacted by CoPC to be removed or assessed for site suitability and contained through implementation of this RAP.
Wind-blown coal/coke dust	Direct contact, inhalation & ingestion	Current and future construction workers, current site users and current/future offsite users. Current and future terrestrial and aquatic ecological receptors in surrounding surface water bodies and grassed/vegetated areas. Surrounding residential and public open space land, on-site and off-site surface water drainage systems.	**Current Use: Possible** **Construction Phase: Possible** Risks to be managed by implementation of construction safety management plans. **Future Use: Unlikely / Controlled** Stockpiles and surface materials containing coal/coke to be removed or assessed for site suitability (i.e., contained at depth).
Leaks/spills associated with mineral oil used in coke production	Direct contact, inhalation & ingestion	Current site users and intrusive maintenance workers, future construction workers and future site users. Current and future terrestrial ecological receptors in	**Current Use: Possible** **Construction Phase: Possible** Risks to be managed by implementation of construction safety management plans.

Source	Pathway	Receptor	Exposure Assessment
		grassed/vegetated areas. Off-site residents and general public.	**Future Use: Unlikely / Controlled** Soils potentially impacted by contamination to be removed or assessed for site suitability.
Demolition of historical site buildings	Inhalation of respirable fibres.	Future maintenance and construction workers, future site users	**Current Use: Unlikely** ACM building materials currently in good condition and minimal ACM identified in near surface fill in isolated areas to date. **Construction Phase: Possible** Managed by implementing appropriate demolition practices as per SafeWork NSW code of practices on removal of asbestos. Risks to be managed by implementation of construction safety management plans. **Future Use: Unlikely** Asbestos containing building materials to be removed/demolished prior to intrusive excavation/construction works and asbestos impacted fill to be removed or assessed for site suitability to be contained within designated areas on site.
Leaks/spills associated with equipment maintenance/ storage areas, including waste	Direct contact, inhalation & ingestion	Current site users and intrusive maintenance workers, future construction workers and future site users.	**Current Use: Possible** **Construction Phase: Possible**

Source	Pathway	Receptor	Exposure Assessment
oil and diesel storage		Current and future terrestrial ecological receptors in grassed/vegetated areas. Off-site residents and general public.	Risks to be managed by implementation of construction safety management plans. **Future Use: Unlikely / Controlled** Soils potentially impacted by contamination to be removed or assessed for site suitability.
Sediment run-off from operational areas and coke stockpiles and during remedial and blending activities	Overland flow and erosion	Current and future terrestrial and aquatic ecological receptors in surrounding surface water bodies and grassed/vegetated areas. Surrounding residential and public open space land, on-site and off-site surface water drainage systems.	**Current Use: Possible** **Construction Phase: Possible** Risks to be managed by implementation of construction safety management plans. **Future Use: Unlikely / Controlled** Stockpiles and surface materials containing coal/coke to be removed or assessed for site suitability (i.e., contained at depth).

Arcadis (2019) noted that demolition of the brick structures on the site are likely to liberate respirable crystalline silica fibres (RCS). These will be most prevalent within the refractory bricks that have a high mineral silica content. Management of these fibres will be the responsibility of the site demolition contractor and form part of the demolition management plan and other relevant Work Health and Safety Regulations and Code of Practice documents. It is noted however that during future remediation works, buried silica bricks may be uncovered and could pose an inhalation risk to site workers and offsite residents. The remediation works will be conducted under controlled conditions and a site-specific construction environmental management plan (CEMP) therefore, assuming the relevant controls are actioned, it is unlikely there would be unacceptable risks from crystalline silica dust to either site workers or the public during redevelopment works.

The most up to date information regards RCS from NSW Government can be found online at https://www.nsw.gov.au/customer-service/publications-and-reports/silica-dashboard while SafeWork NSW also have resources available online at https://www.safework.nsw.gov.au/hazards-a-z/hazardous-chemical/priority-chemicals/crystalline-silica

6.5. Duty to Report Contamination

The results of the historical investigations of the site suggest that there is no requirement to notify the reported contamination to the NSW EPA under Section 60 of the Contaminated Land Management Act (1997) subject to development of a RAP and successful remediation and validation of identified contamination.

7. Data Quality Objectives

The Data Quality Objective (DQO) process is a systematic planning tool based on the scientific method for establishing criteria for data quality and for developing data collection designs. The DQO defines the experimental process required to test a hypothesis. The DQO process has been developed to ensure that efforts relating to data collection are cost effective, by eliminating unnecessary, duplicative or overly precise data whilst at the same time, ensuring the data collected is of sufficient quality and quantity to support defensible decision making.

It is recognised that the most efficient way to accomplish these goals is to establish criteria for defensible decision making before data collection begins and develop a data collection design based on these criteria. By using the DQO process to plan the investigation effort, the relevant parties can improve the effectiveness, efficiency and defensibility of a decision in a resource and cost-effective manner.

The DQO process consists of seven steps, which are designed to clarify the study objectives, define the appropriate type of data and specify tolerable levels of potential decision errors. The seven-step DQO process adopted for this data gap assessment can be summarised as:

Step 1: State the Problem – concisely describe the problem to be studied. Review prior studies and existing information to gain a sufficient understanding to define the problem;

Step 2: Identify the Decision – identify what questions the study will attempt to resolve, and what actions may result;

Step 3: Identify the Inputs to the Decision – identify the information that needs to be obtained and the measurements that need to be taken to resolve the decision statement;

Step 4: Define the Study Boundaries – specify the time periods and spatial area to which decisions will apply. Determine when and where data should be collected;

Step 5: Develop a Decision Rule – define the statistical parameter of interest, specify the action level, and integrate the previous DQO outputs into a single statement that describes the logical basis for choosing among alternative actions;

Step 6: Specify Tolerable Limits on Decision Errors – define the decision maker's tolerable decision error rates based on a consideration of the consequences of making an incorrect decision; and

Step 7: Optimise the Design –evaluate information from the previous steps and generate alternative data collection designs. Choose the most resource-effective design that meets all DQOs.

The DQOs are provided in **Table 7-1** below and were derived in accordance with Australian Standard 4482.1-2005 'Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds' (AS 4482.1-1997).

Table 7-1: Data Quality Objectives

Step	Discussion
Step 1. State the problem	Potential sources of contamination have been identified at the site, specifically, filling of unknown origin, storage/spills of hydrocarbons and use of the site as a coke production facility. Based on the findings of historical investigations of the site, the identified contamination is considered to present an unacceptable risk to current and future potential on-site and/or off-site receptors. The contamination identified is limited to relatively small areas of fill materials that require either further investigation, remediation and/or on-going management. A broad strategy to render the site suitable for the proposed land use is detailed within an existing RAP (Arcadis 2019) and subsequently revised by Reditus specific to the Stage 2-4 BEW development area. In addition to the known site impacts there are data gaps that currently exist within the data set. These data gaps primarily relate to areas beneath structures that were not accessible for sampling at the time of previous investigations and require addressing as part of the RAP to further inform the finer detail of the civil and urban designs and subsequent revision of this RAP.
Step 2: Identify the decision/goal	The goal is to remediate the site such that it is suitable for the proposed redevelopment from a contaminated land perspective. This will be achieved through implementation of Remediation management procedures and a site validation sampling plan. If elevated concentrations of CoPCs are identified at the site following completion of remediation works and site validation sample: ▪ What is the extent of the impact? ▪ Does any CoPC at the site occur at concentrations that pose or may pose an unacceptable liability or risk to the environment and/or human health to persons who will utilise the future development? If so, what is the order of priority to minimise the risk and what additional measures are required to mitigate, remediate, or manage the risk? As such would this significantly alter the current Remediation strategy.
Step 3: Identify the information inputs	Key data required to resolve the project problem includes ▪ Site history and analytical data. ▪ Physical observations, including visual, olfactory and PID screening results during site activities. ▪ Delineation and validation data, including additional data that will be collected beneath the building footprints following site demolition activities. ▪ Waste classification data. ▪ Aesthetic make-up of the materials. ▪ Results from the geotechnical and civil engineer to confirm compliance with WCC combustibility policy.

Step	Discussion
	▪ Design landforms and registered survey data of encapsulation areas. ▪ Concentrations of CoPC in the soil collected in the study area. ▪ The CoPC selected were based on the historical assessments and are listed within Section 6. Given the proposed development within the Stage 2-4 footprint includes mixed low-high density residential, commercial (retail) and public open space land use with accessible soil, the tier 1 soil assessment criteria (SAC) has been sourced from the NEPC (2013) NEPM as follows. **Soil Assessment Criteria:** NEPM ASC (2013) Health Screening Levels (HSLs) for Vapour Intrusion A&B – Low-High Density Residential. NEPM ASC (2013) HSLs for Vapour Intrusion C – Recreation & Public Open Space. NEPM ASC (2013) HIL A – Low Density Residential with Accessible Soil. NEPM ASC (2013) HIL B – Medium-High Density Residential. NEPM ASC (2013) HIL C – Recreational & Public Open Space. NEPM ASC (2013) Management Limits (ML) – Residential, parkland and public open space – coarse & fine soils. NEPM ASC (2013) Environmental Investigation Levels (EIL) – Urban Residential and Public Open Space (if required). NEPM ASC (2013) Ecological Screening Levels (ESLs) – Urban Residential and Public Open Space – coarse & fine soils. (if required). NEPM ASC (2013) HSLs for asbestos contamination in soil – Residential A, Residential B and Public Open Space C land use setting (where applicable). Tier 1 SAC listed above is to be selected appropriately for areas on site based on the localised soil type (i.e., silt, sand or clay) and the final (refined) proposed development layout, i.e., public open space land use criteria (HIL-C) will only apply to areas in which the proposed development features meet the definition of "public open space" in accordance with NEPM ASC (2013). Furthermore, roadways and vegetated road verges have been conservatively considered as 'public open space' as the precise road and verge alignment is not known at this conceptual stage of development. No historical investigations to date have identified contamination in surface water or groundwater which warrants remedial actions, management or presents an unacceptable risk to current and potential future receptors on-site and off-site (both ecological and human). Furthermore, the RAP (Arcadis, 2019) developed for the site has been previously endorsed by a NSW EPA accredited Site Auditor, in which remediation of surface waters and groundwater was not

Step	Discussion
	deemed a requirement for the proposed residential and public open space land use. For the purposes of this RAP, the review of the methods, QA/QC procedures and findings of historical investigations detailed within the Reditus (2022) Consolidated DSI with regards to surface water and groundwater is deemed sufficient to assess the suitability of the site for the proposed redevelopment. The adopted soil remediation validation acceptance criteria is presented in **Appendix B**, **Table 4**.
Step 4: Define the boundaries	The investigations were restricted to the extents of the proposed development site boundary. The vertical extent of the study boundaries were limited to a maximum depth of approximately 10.5 mbgl. The temporal boundaries of the studies were limited to the date that the investigations were completed.
Step 5: Develop the analytical approach/ decision rule	If the concentrations of CoPCs in the soil are reported to be below the relevant adopted guidelines, then the soil will be deemed suitable for the proposed development and no further management/remediation options will be proposed for the proposed development at the site. If, however, the concentration of one or more CoPCs are greater than the guidelines, then further investigation will be required to laterally and vertically delineate the extent of the impact and/or recommendations made for the remediation/management of contamination to render the site suitable for the proposed use.
Step 6: Specify performance or acceptance criteria	The acceptable limits for samples are as follows: ▪ % RPD for laboratory duplicates for TPH and BTEX analysis is less than 60%; and ▪ Recovery of matrix spikes and surrogate spikes is as per the laboratory's Quality Assurance targets accepted under their National Association of Testing Authorities (NATA) accreditation. Precision is measured using the standard deviation 'SD' or Relative Percent Difference '%RPD'. Replicate data for field duplicates of organics is expected to be as follows: ▪ RPD criteria of 50% or less, for concentrations > or = 10 times practical quantitation limits (PQL); ▪ RPD criteria of 75% or less, for concentrations between 5 and 10 times the EQL; and ▪ RPD criteria of 100% or less, for concentrations < 5 times PQL. Replicate data for field duplicates for inorganics, including metals is expected to be as follows: ▪ RPD criteria of 30% or less, for concentrations > or = 10 times PQL; ▪ RPD criteria of 75% or less, for concentrations between 5 and 10 times the EQL; and ▪ RPD criteria of 100% or less, for concentrations < 5 times PQL.

Step	Discussion
	Where acceptable limits for field duplicates were not met, a discussion on low biased error will be provided. For this investigation, a decision error of 5% will be considered acceptable This error rate is in accordance with Appendix B of Schedule B(2) of the NEPC (2013) NEPM. In order to achieve this level of confidence, the investigation has been designed as described below.
Step 7: Optimise the design	Samples will be collected at relevant densities as specified in this RAP, changes in geology or in zones of gross contamination and locations selected for efficient and representative sampling. All media sampled will be conducted in accordance with Reditus standard operating procedures (SOPs) and relevant industry guidelines. The remediation design has been optimised by using methodologies described in the following industry best practice guidelines: ▪ Sampling Design Part 1 – Application, Contaminated Land Guidelines, NSW EPA 2022 (EPA 2022). ▪ Guidelines for the NSW Site Auditor Scheme 3rd Edition, October 2017 (NSW EPA 2017). ▪ National Environment Protection (Assessment of Site Contamination) Measure, National Environment Protection Council, revised 2013 (NEPM 2013). ▪ Waste Classification Guidelines. Part 1: Classifying Waste, NSW EPA, November 2014 (EPA 2014). ▪ Environmental Guidelines, Solid Waste Landfills, second edition, NSW EPA April 2016 (EPA 2016). ▪ WCC (DCP) 2009 Chapter E19: Earthworks (Land Reshaping) Section 4.4 (updated 12 January 2018). ▪ NSW EPA Resource Recovery Order, The coal washery rejects order 2014

8. Remediation Acceptance Criteria

The remediation acceptance criteria are adopted from the Arcadis (2019) RAP and the National Environment Protection Council (NEPC) 1999, 'Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure (NEPM), as amended in 2013'.

The remediation acceptance criteria adopted for soil validation works have been derived from the NEPC and site-specific remedial criteria EIL detailed in the Arcadis (2019) RAP and are based on the proposed mixed low-high density/commercial and public open space land use in designated areas of the proposed redevelopment, as follows:

- The site is to be redeveloped and will include large areas of concrete/paved/asphalt hard stand cover and areas with accessible soils and landscaped gardens therefore the EILs and ESLs for urban residential and public open space will be considered applicable for the future use. However, as detailed in previous sections it is noted that reported ecological exceedances are considered unlikely to present a risk to future ecological receptors following completion of the Stage 2-4 bulk earthworks.
- Assessment against the NEPC (2013) NEPM HIL-A, HIL-B and HIL-C as the proposed future use of the site includes low-high density residential and public open space land use with accessible soil. HIL-C assessment criteria has been conservatively adopted for roads and vegetated road verges as the precise alignment of the roadways and verges is not confirmed at this conceptual stage of the development.
- NEPC (2013) NEPM HSL-A&B and HSL-C for sand, silt and clay have been adopted to evaluate the risk posed from vapour intrusion. The soil HSLs are based on depth of impacts, overlying soil type and land use. The selection of HSL-A & B and HSL-C was based the proposed ground floor land use as either high-density residential or recreational & public open space, the potential receptor/s onsite and the exposure that may be experienced.
- Management Limits (MLs – Residential, parkland and public open space) have been adopted and are used to consider the potential formation of light non-aqueous phase liquids, fire and explosion risks and damage to buried infrastructure. Sub-surface materials during previous investigations is widely variable and thus MLs for both coarse and fine soils have been adopted.
- The assessment criteria for asbestos will be adopted from NEPC (2013) NEPM, which provides health screening levels for asbestos contamination in soil, which are based on specific land use exposure scenarios, for three forms of asbestos: bonded asbestos containing material (ACM), friable asbestos (FA) and asbestos fines (AF). The laboratory method for analysis of asbestos in bulk materials is based on AS 4964&2004. Consequently, a practical quantification limit (PQL) equal to or less than 0.001% by weight is not an achievable NATA accredited limit. The NATA accredited limit is 0.1g/kg (equivalent to 0.01% w/w). The laboratory however will report asbestos results to both the NATA accredited PQL and lower 0.001% by weight NEPM (2013) quantification.

8.1. Guideline Selection

Tier 1 SAC listed above is to be selected appropriately for areas on site based on the localised soil type (i.e., silt, sand or clay) and the final (refined) proposed development layout, i.e., public open space land use criteria (HIL-C) will only apply to areas in which the proposed development features meet the definition of "public open space" in accordance with NEPM ASC (2013).

For the purposes of this RAP, historical sample locations were plotted on map in which the proposed BEW Stage 2-4 development layout boundaries were overlain. Sample locations were subsequently sorted spatially based on their position within either proposed low-density residential, high-density residential or public open space areas to select the applicable land use guidelines for each locality. These overlays are provided within **Appendix A Figure 5, Figure 6** and **Figure7a - 7b**.

8.2. Aesthetics

Aesthetics relates to the generation of odours from the site, discolouration of the soil because of contamination and building and demolition wastes. Aesthetic issues will need to be considered as part of the site's final construction surface. The surface and initial 300mm of material should be free from:

- Black carbonaceous materials (coke nuggets and fine grained coke).
- Demolition rubble.
- Discoloured and odorous soils that would create a health or nuisance to site users.
- No visible ACM in the top 100 mm of the soil/surface profile.

Validation acceptance criteria for soil analytical results are presented in **Appendix B, Table 4.**

9. Remediation Strategy

9.1. Remediation Objectives

The objective of the RAP is to provide a detailed plan of activities, procedures, contingency measures and objectives to ensure the effective and controlled remediation of the BEW Stage 2-4 portion of the site for the proposed mixed residential/commercial development. It describes the procedures and standards to be followed throughout the project to facilitate successful remediation / management of the site and ensure protection of human health and the environment.

The areas of known contamination warranting remediation have been detailed in Section 4 & 6 within this RAP.

The remediation objectives are outlined as follows:

- Remediate the site to a level to facilitate future mixed residential/commercial and public open space land use.
- Prevent or minimise to the extent practicable further migration of contaminants from source areas that pose an unacceptable risk to either future site occupants or environmental receptors.
- Validate the soil remediation/assessment works by demonstrating the impacted materials has been adequately removed or managed.
- Validation of residual soil following remediation works.
- Validation of dewatered sediments for suitability to be retained on site.
- Validate the remediation works in accordance with the relevant NSW EPA endorsed guidelines.
- Ensure any material entering the site is suitable for the proposed land use.
- Ensure any material leaving the site is classified appropriately for off-site disposal.
- Control the management of encapsulated material through a long-term management plan enforced through institutional controls (where applicable).

9.2. Extent of Remediation Required

The extent of remediation required with the BEW Stage 2-4 development area to render human health and ecological risks acceptable is dependent upon:

- The location of the soil exceedance relative to the final land use i.e., low-high density residential, roadways or open space. Refer to **Figure 4** for the proposed development land use layout.
- The lateral and vertical extent of the contaminant concentration.
- The final levels of the proposed development.
- The type of finished surface level, i.e. hard stand or unsealed.

Figure 8a and **Figure 8b** depict the known human health impacts with the BEW Stage 2-4 development footprint and **Figure 9** provides an estimated area and volume of the human health impacted areas remediation footprint. The requirement for remediation of reported ecological exceedances is discussed in Section 4.1.

Prior to commencing remediation works within these areas, the data gap investigation will be conducted. The data collected as part of the data gap investigation will inform whether a HHERA is required and subsequently refine the remediation extent and validation requirements to be conducted and develop site-specific remediation acceptance criteria.

Details of the data gap investigation and delineation sampling will be included within an SAQP. The SAQP will need to be approved by the appointed Site Auditor, address the data gaps and include the scope detailed in Table 5.1 and is designed to achieve the following objectives:

- Collect soil samples from beneath structures that were previously inaccessible to confirm or otherwise the suitability of the material.
- Determine the leachability of the material proposed to be encapsulated and the potential long-term effect on surrounding groundwater quality.
- Further characterise the groundwater quality along the new creek alignment.
- Based on the final development design and any observations from demolition works significant data gaps will be filled.
- Further refine the characterisation of the blending rate to meet the WCC combustibility requirements of the DCP (2009). This component of the sampling although not strictly related to contamination is it required to be addressed from a materials tracking perspective. These works will require input from both the Principal's Geotechnical Engineer and environmental consultant.
- Assessment of hazardous ground gases in accordance with the NSW EPA Guidelines for the Assessment and Management of Sites Impacted by Hazardous Ground Gases November 2012 within coal, coke and carbonaceous materials that cannot be blended and are required to remain in-situ. Currently this will include the heritage and maintenance areas of the Brick Stack and Power House.
- Further refine the lateral and vertical extent of the known soil, including asbestos contamination.

Although additional delineation and development specific data gaps exist on site, there is currently a robust data set for the BEW Stage 2-4 development footprint. The results of the current data set indicate the current extent of remediation required is not prohibitive to redevelopment from either a cost or practical perspective. In addition, the chosen remedial strategy of on-site re-use and encapsulation contains a relatively high degree of contingency that will allow various materials to be re-used at the site. Further to this the option for lawful offsite disposal is also applicable as a contingency measure.

The current bulk earthworks cut-to-fill balance indicates there is capacity within fill areas of the site or containment cells encapsulated with a 0.5m thick cap. The

location of the fill areas and containment cells will be in suitable areas of the development identified as land not to be handed over to Council post-development. Construction of these areas would occur during the relevant Stages of the civil bulk earthworks and remediation phases of the redevelopment.

9.3. Remediation Options Appraisal

The Contaminated Sites Guidelines for the NSW EPA endorsed NSW Auditor Guidelines 3rd Edition (NSW EPA 2017) states that a site auditor must be satisfied that any proposed or completed remediation is technically feasible, environmentally justifiable and consistent with relevant laws, policies and guidelines. The Auditor Guidelines (NSW EPA 2017) state the Auditors must have regards to:

- National, and relevant NSW EPA endorsed remediation policies.
- The Protection of the Environment Operations Act 1997 (POEO Act) and Regulations for soils to be disposed of in NSW.
- Other legislation such as the Environmentally Hazardous Chemicals Act 1985 (EHC Act) and the Environmental Planning and Assessment Act.
- Relevant technical guidance documents issued by the NSW EPA.

In addition, the guidelines state the preferred hierarchy of options for site remediation and/or management is set out in s.6(16) Assessment of Site Contamination Policy Framework of Schedules A and B of the NEPM (2013), which is followed in NSW.

This means that soil remediation and management is implemented in the following preferred order:

- On-site treatment of the soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level.
- Off-site treatment of excavated soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level, after which the soil is returned to the site.
- Consolidation and isolation of the soil on-site by containment within a properly designed barrier.
- Removal of contaminated soil to an approved site or facility, followed, where necessary, by replacement with clean fill; 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.

A detailed appraisal of viable remediation options for the "known contamination: that may be practically implemented at the site was previous performed by Arcadis (2019) (summarised in **Table 9-2** below), reviewed and endorsed by the appointed Site Auditor. This RAP is intended to revise the existing RAP based on the new redevelopment layout and staging. Following a review of the previously adopted remediation strategy, is still considered viable and has been detailed in the following sections.

Table 9-1: Soil Remedial Options Appraisal Summary

Option	Discussion	Conclusion
Option 1 Targeted excavation and offsite removal of the impacted material	There are currently suitably licensed waste facilities in the Greater Sydney Metropolitan region and Illawarra capable of receiving heavy metal impacted soils (following waste classification). Offsite disposal of impacted material is likely the fastest method of remediating soil impacts at the site. This option generates the highest quantity of waste, since the materials are disposed to landfill rather than retained on site. This option also generates additional truck movements, associated fuel/emissions and additional road safety concerns. In addition, the NSW EPA waste hierarchy places disposal of waste as the least preferable option. Disposal is also not in line with the NSW Waste Avoidance and Resource Recovery Act.	Given the scale of the redevelopment this option is likely to be the least preferable. There would be additional truck, movements, road safety concerns and excessive waste generation that could be avoided.
Option 2 Excavation and on-site re-use and encapsulation	Once the material is excavated, it could remain on-site and be encapsulated within a specially designed cell or reused within appropriate end-use areas of the site. This would require sufficient space, appropriate detailed engineering design, council approval, detailed material tracking and ongoing management. The ongoing management would be enforced through an institutional Environmental Management Plan (EMP) that would be legally enforceable. Advantages of this option include the reduced cost involved with offsite disposal and re-use of waste that would otherwise have been disposed to landfill. Disadvantages of this option include the notation of the EMP on title certificate and the ongoing inspections involved in long-term management.	Given the large scale of Earthwork required to facilitate site redevelopment this is the Preferred Option. It will reduce offsite truck movements and road safety concerns whilst reducing the quantity of waste generation and is preferred in relation to the NSW EPA Waste Hierarchy and the WARR.

Option	Discussion	Conclusion
Option 3 On-site treatment of soil	The contaminated material may be remediated in-situ or ex-situ on site within designated treatment areas. This would require sufficient space, evaluation of treatment technologies/options and detailed material tracking. Advantages of this option include the reduced cost involved with offsite disposal and re-use of waste that would otherwise have been disposed to landfill. Disadvantages of this option include the double handling of material, limitations on space to treat soils and suitability of viable treatment options.	Soil treatment is not considered a viable option given there are no known technologies that can viably treat the mixture of contaminations identified at the site (long chain TRH, heavy metals and PAHs). If however bonded ACM fragments are identified within materials that are otherwise suitable for onsite re-use. It is viable and preferred to appropriately remove and validate the soils for the presence of ACM through implementation of a suitable remediation technique detailed within the WA DOH (2009) Asbestos Guidelines. If friable forms of asbestos are identified impacted materials will be either removed offsite or encapsulated within an appropriately designed containment cell and validated through implementation of a suitable method detailed within the WA DOH (2009) Asbestos Guidelines.
Option 4 Do nothing	Undertake no remedial activities to address identified site contamination about the SAC and maintain the site in its current condition.	This is not considered a viable option as the current contamination status of the site precludes the proposed development. Remedial activities are required to render the site suitable for the proposed land uses.

9.3.1. Preferred Remediation Option

With consideration to NSW EPA's endorsed guideline hierarchies for soil remediation options and clean-up objectives, the analytical data obtained from historical site investigations and the proposed development and environmental setting, the preferred remediation strategy is a combination of Option 1, Option 2 and Option 3 (for ACM only) and is detailed as follows:

- Perform data gap investigation to further refine and confirm the remediation extent.
- Excavation of areas where contaminants have the potential to pose an unacceptable risk to human health and ecological receptors.
- Validation of the resulting excavations through the collection of soil validation samples and where necessary groundwater samples.
- Either:
    - reuse of the site sourced material that has been appropriately characterised and meets relevant NEPC (2013) NEPM criteria for the proposed development land use areas.

      AND/OR
    - Formation of dedicated cells during earthworks and encapsulate unsuitable soils in areas identified as land not proposed to be designated to Council post-development.

      AND/OR
    - Off-site disposal of small volumes (generally less than 100 m^3) of material requiring remediation should future feasibility assessments consider the costs associated with disposal to be less than those associated with encapsulation on-site.
- Should asbestos containing material (ACM) fragments be identified within materials that are otherwise suitable for onsite re-use, the fragments are to be appropriately removed and validated for the presence of ACM through implementation of a suitable remediation technique detailed within the WA DOH (2009) Asbestos Guidelines.
- If friable forms of asbestos are identified impacted materials will be either removed offsite or encapsulated within an appropriately designed containment cell and validated through implementation of a suitable sampling method detailed within the WA DOH (2009) Asbestos Guidelines.
- Creation of a long-term site management plan to appropriately manage encapsulated soils into the future if the concentrations of contaminants warrant ongoing institutional controls.
- If required, classification of unsuitable or excess material for lawful off-site disposal or off-site treatment if required.

Following completion of the development specific data gap investigation and if unacceptable contamination is identified a HHERA, the RAP will be amended prior to completing the adopted remedial strategy. If the RAP is required to be amended all amendments will require review by the appointed Site Auditor and endorsement by Council prior to implementation.

9.4. Civil Works Staging

The remediation strategy will involve the excavation, characterisation and encapsulation of unsuitable material from all areas across the site. This will require

appropriate staging and materials tracking to be completed to prevent cross contamination. To achieve this objective the remediation works will need to be closely aligned to the civil works plan AND treatment of Acid Sulfate Soils that may be required. The plan should demonstrate how the remediation works have been considered within the civil works plan and indicate areas designated for the stockpiling, blending and encapsulating (burial cells).

A summary of the anticipated civil works staging plan is provided below:

- Demolition of the structures to existing hardstand levels will be completed. This may include diversion of underground utility alignments.
- Preparation of a materials handling management plan to detail the process of how materials should be excavated, stockpiled, blended and re-used onsite. This document should be reviewed by the Site Auditor and prepared prior to the bulk earthworks commencing.
- The cut to fill earthworks will occur across the site in a staged approach to allow the remediation works to be completed within the early stages of the project.
- Following the review of geotechnical and combustibility data, soils will be blended to ensure they meet geotechnical and combustibility criteria before being placed within the development footprint.
- Soil validation testing will be conducted in accordance with the validation plan detailed in Section 10 to validate the area of the site as suitable.

9.5. Soil Remediation Scope of Works

Remediation of soils will be undertaken within defined areas of the BEW Stage 2-4 development footprint, as refined following the data gap investigation. The areas of known human health contamination requiring remediation are illustrated in **Figure 8a, Figure 8b** and **Figure 9** and the remediation approach is summarised in **Table 9-2** below.

Table 9-2: Remediation Works Summary

Contaminant	Inferred Extent	Remediation Approach
Lead in Soil	**Location:** - EnviroRisk (2006) sample TP18E (BH18 step-out sample location). **Area:** Excavation to be ~5m x 5m centred on the inferred sample location. Exact extent to be confirmed following validation sampling. **Total ~25 m^2.**	▪ The impacted soils will require further assessment prior to or following excavation to re-assess the waste classification of the material if deemed not suitable to remain on-site. ▪ Excavate impacted materials to depths listed across or in which natural soil profile is encountered (where all fill materials are impacted). ▪ Validate the excavation footprint to confirm contamination has been removed. ▪ Relocate impacted material to designated stockpiling area or place

Contaminant	Inferred Extent	Remediation Approach
	Depth: - 2m – >2.5m **Approx. volume:** ~25 m^3 (in-situ)	directly within the predefined suitable re-use/fill areas or containment cells. ▪ If required, dispose excavated material off-site to a suitably licensed facility or approved site. ▪ Install capping layer and/or complete bulk excavation / fill to design levels.
Benzo(a)pyrene (PAH) in Soil	**Location:** - EnviroRisk (2006) sample location BH6. **Area:** Excavation to be ~5m x 5m centred on the inferred sample location. Exact extent to be confirmed following validation sampling. **Total ~25 m^2.** **Depth:** - surface – >1m **Approx. volume:** ~25 m^3 (in-situ)	▪ The impacted soils will require further assessment prior to or following excavation to re-assess the waste classification of the material if deemed not suitable to remain on-site. ▪ Excavate impacted materials to depths listed across or in which natural soil profile is encountered (where all fill materials are impacted). ▪ Validate the excavation footprint to confirm contamination has been removed. ▪ Relocate impacted material to designated stockpiling area or place directly within the predefined suitable re-use/fill areas or containment cells. ▪ If required, dispose excavated material off-site to a suitably licensed facility or approved site. ▪ Install capping layer and/or complete bulk excavation / fill to design levels.
TRH in Soil	**Location:** - ADI (1996) sample locations S11 & W5. - ES (2014) sample location MW5. **Area:** Each location excavation to be ~5m x 5m centred on the inferred sample locations. Exact extent to be confirmed following validation sampling. **Combined Total ~75 m^2.** **Depth:** - S11: surface – <1.5m - W5: surface – >0.1m - MW5: surface – >0.2m	▪ The impacted soils will require further assessment prior to or following excavation to re-assess the waste classification of the material if deemed not suitable to remain on-site. ▪ Excavate impacted materials to depths listed across or in which natural soil profile is encountered (where all fill materials are impacted). ▪ Validate the excavation footprint to confirm contamination has been removed. ▪ Relocate impacted material to designated stockpiling area or place directly within the predefined suitable re-use/fill areas or containment cells. ▪ If required, dispose excavated material off-site to a suitably licensed facility or approved site.

Contaminant	Inferred Extent	Remediation Approach
	Approx. volume: ~50 m^3 (in-situ)	▪ Install capping layer and/or complete bulk excavation / fill to design levels.
Asbestos in Soil	**Location:** - Arcadis (2017) sample location TP2. **Area:** To be confirmed following data gap investigation and asbestos in soil quantification sampling. **Depth:** To be confirmed following DGI delineation. ACM was observed within berm material. **Approx. volume:** TBC	▪ The remediation approach for identified asbestos in soil will be defined and refined following completion of the data gap investigation and delineation sampling works. The lateral and vertical extent of asbestos contamination in the vicinity of inferred sample location TP2. The proposed approach however will likely be as follows: ▪ Excavate impacted materials to depths listed across or in which natural soil profile is encountered (where all fill materials are impacted with asbestos). ▪ Validate the excavation footprint to confirm contamination has been removed. ▪ Relocate impacted material to designated stockpiling area or place directly within the predefined suitable re-use/fill areas or containment cells. If required, perform asbestos removal works using appropriate remediations techniques detailed within the WA DOH (2009) Asbestos Guidelines. Consideration will need to be given to ensure all appropriate asbestos removal controls and licenced contractors are engaged. ▪ If required, dispose excavated material off-site to a suitably licensed facility or approved site. ▪ Install capping layer and/or complete bulk excavation / fill to design levels

Ecological impacts of metals (arsenic, copper, lead & zinc), PAHs and TRH have been reported across the BEW Stage 2-4 development footprint within fill at depths of up to 4 mbgl (predominantly <1 mbgl). As detailed in Section 4.1, the reported ecological exceedances are considered unlikely to present a risk to future ecological receptors following completion of the development works and do not require further consideration within the Stage 2-4 RAP.

9.6. Remediation Works Schedule

The remediation schedule is to occur as follows in sequential order and included within the project Civil Works Plan and Construction and Environmental Management Plan.

Table 9-3: Remediation Works Schedule Summary

Item	Task
1	Conduct site demolition works of existing structures (including hazardous materials) and hard stand surfaces.
2	Develop SAQP for development specific data gap investigation. The SAQP may be developed independent of the demolition works which are part of a separate DA process.
HOLD POINT – Data gap investigation to be undertaken following completion of BEW Stage 2-4 demolition works. **HOLD POINT – Site Auditor review and approval of SAQP required.**	
3	Conduct data gap investigation and complete HHERA (if required) to develop site specific remediation acceptance criteria.
4	Refine this RAP (as required) based on results of the data gap investigation, HHERA and refined civil and urban designs for the BEW Stage 2-4 development.
HOLD POINT – Site Auditor review and approval of HHERA and refined RAP, if required. Refined RAP also to be reviewed and endorsed by Council.	
5	Preparation of a detailed design of the encapsulation cell and submit to the Auditor and WCC for review.
HOLD POINT –The site Auditor must review and endorse the detailed design of the encapsulation cell.	
6	Excavation of impacted soil and stockpiling within dedicated stockpiling area on site as defined in the Civil Works Plan. Where possible, this step may be avoided, and the material will be placed directly within the predefined suitable re-use/fill areas or containment cells. Placement directly into the cells can only be possible if planning approval and the Stage 2-4 earthworks have commenced to a point that allows this. Otherwise, the material will be suitably stockpiled prior to placement into encapsulation areas located within the Stage 2-4 development footprint. It is noted the proposed stockpiling and encapsulation areas may be used for impacted material originating from the Stage 1 BEW development footprint.
7	Collection of soil validation samples from the resulting excavations.
8	Collection of materials tracking documentation, including volumes, times, source and re-use/burial locations of any impacted (unsuitable) material relocated within appropriate areas of the site. Including material originating from the Stage 1 BEW development footprint.
HOLD POINT – Soil validation results to be reviewed and approved as satisfactory prior to finalisation of the re-use areas and/or placement of the materials into the containment cells.	
9	Excavation of the containment cell or cells to a depth of no less than 1 m above the saturated groundwater zone. All materials proposed to be encapsulated must not pose an unacceptable risk of leaching contaminants to groundwater.

Item	Task
10	Placement of the impacted soils within the containment cells. AND/OR Placement of the impacted soils within fill areas deemed to have suitable end-use and finished site surface.
11	Collection of registered survey data indicating the height datum and dimensions of the containment cell and top surface of the impacted material.
12	Installation of the capping layer over impacted materials. The capping layer is to be a minimum 0.5m thickness and will comprise a marker layer, overlain by chemically and geotechnically suitable material that will be compacted to reduce infiltration and prevent the formation of unacceptable levels of leachate within the containment cells. Details regarding the capping design are provided in Section 9.7 below.
HOLD POINT – Capping material must comply with the conditions outlined in Section 9.7 prior to installation	
13	Collection of registered survey data indicating the height datum of the top surface of the capping material.
HOLD POINT – Final cap design and construction must be validated as sufficiently meeting the requirements of this RAP	
14	Conduct waste classification assessment of surplus materials or contaminated materials deemed unsuitable to remain onsite prior to off-site disposal to a suitably licensed facility or approved site. All materials disposed off-site are to include tracking documentation as detailed in Section 10.7 of this RAP.
HOLD POINT – Site validation consultant must confirm/approve classification of materials prior to off-site disposal	

An appropriately qualified a suitably experienced environmental consultant will supervise all remediation and validation works, approve and sign-off on hold points and compile reports required to suitably document the site remediation and validation works.

9.7. Capping Design

The capping layer is to be a minimum 0.5m thickness and will comprise a marker layer, overlain by chemically and geotechnically suitable material that will be compacted to reduce infiltration and prevent the formation of unacceptable levels of leachate within the containment cells. The material to be used within the final cap design will be determined following the data gap assessment. In general, the cap design is to comprise of the following:

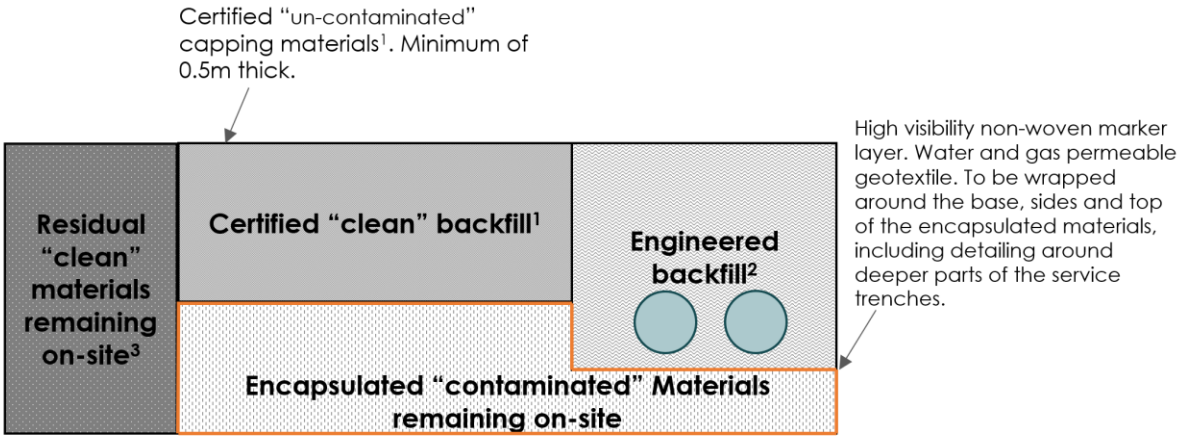
- An initial marker layer placed above the impacted material, this may consist of a woven or non-woven geotextile or a plastic mesh marker.
- The marker layer is then overlain by site won or imported engineered fill determined to be suitable for the proposed land use.

- The material from the surface of the cap to a depth of 300mm cannot be blended carbonaceous materials, but rather an aesthetically suitable clean fill material, such as top-soil, Excavated Natural Material (ENM) or Virgin Excavated Natural Material (VENM).
- Any service trenches within the cap footprint will need to be designed to ensure a minimum clearance of 200mm from the base and walls of the trench and backfilled with appropriately validated material.
- The encapsulation cell can NOT be located within any areas proposed to handed back to Council. These include and are not limited to:
    - Council owned parks.
    - Council owned riparian corridors. And,
    - Council owned roadways and verges.

Details regarding validation requirements for imported materials is provided in Section 10. Following completion of the cap installation registered survey data indicating the height datum of the top surface of the capping material is to be collected.

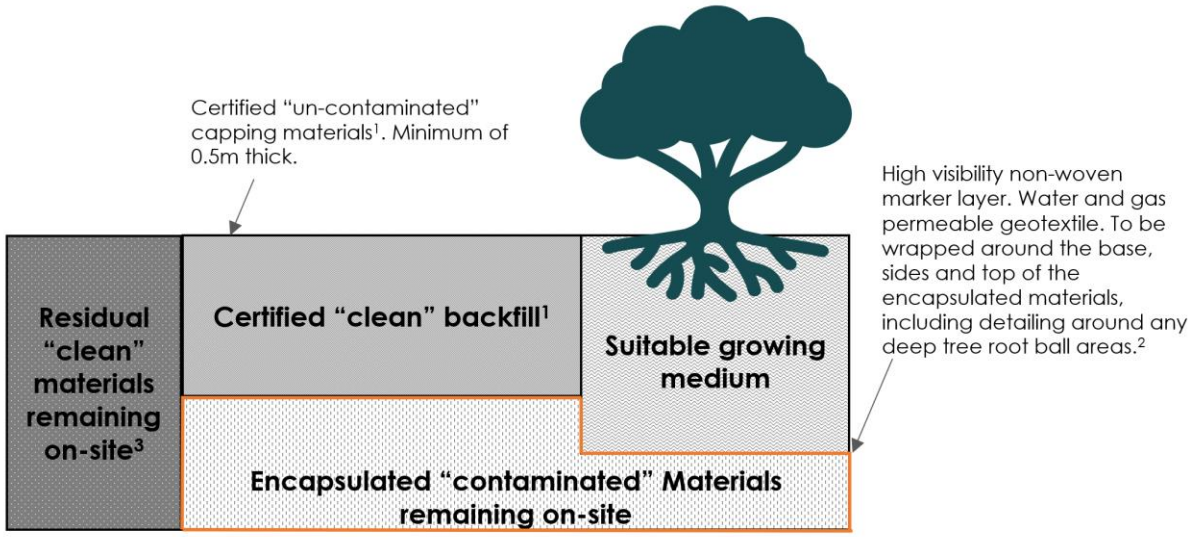
Conceptual diagrams of the capping design are provided in Figure 9-1 and Figure 9-2. As detailed in Table 9-3 prior to construction of any encapsulation cell a detailed design should be developed and provided to the Site Auditor for review and endorsement.

Figure 9-1 Conceptual capping design around buried utilities



[1] Imported soil will be subject to geotechnical assessment and validation prior to placement. The texture and type of materials used as the surface of the capping must consider the proposed plantings within the open space areas.
[2] The imported materials are subject to validation and site engineer's approval prior to placement. The extent of the utility trench should allow a minimum clearance of 200mm between the edge of the infrastructure and the high visibility non-woven marker layer.
[3] The lateral extents of the cell will terminate into residual "clean" materials remaining onsite. This may be cut into existing materials, or have the edges formed as part of the civil earthworks.

Figure 9-2 Conceptual capping design around root balls



[1] Imported soil will be subject to geotechnical assessment and validation prior to placement. The texture and type of materials used as the surface of the capping must consider the proposed plantings within the open space areas.
[2] Root ball (if required) size and material type is to be specified by the landscape architect and/or project arborist.
[3] The lateral extents of the cell will terminate into residual "clean" materials remaining onsite. This may be cut into existing materials, or have the edgeds formed as part of the civil earthworks.

10. Validation Plan

10.1. Visual Inspection

Visual inspections during excavation should be performed to identify any inconsistencies in the remediation surface and to identify visual signs of unexpected finds or contamination.

Following excavation of impacted material, soil validation sampling will be completed on the underlying soils (defined as the remediation surface). The remediation surface validation will be completed on a systemic grid basis and at additional targeted locations (based on any unexpected finds identified during excavation works of fill materials, or any visual/olfactory signs of gross contamination).

It is noted that the initial remediation step is to perform delineation and data gap sampling. The results and samples collected through that process may be used to validate the remediation surface.

Delineation and excavation of impacted soils, where they are identified either visually, from olfactory detection or through the use of a Photo-ionisation Detector (PID for volatiles only), shall be 'chased' out. This will be conducted under the direction and supervision of a suitably qualified and experienced environmental (contaminated sites) professional. The procedure for undertaking this excavation activity will be by:

- Observation of the site where contaminated soils are suspected of being present, and identification of the impacted soils.
- Excavation of impacted soils to lateral and vertical extent of physically identifiable impact, with additional break up and removal of concrete to remove soils where impact extends laterally. Refer to Table 9-2 for inferred vertical and lateral excavation extents.
- Impacted soils to be appropriately re-used or encapsulated onsite in accordance with this RAP.

10.1.1. Visual Asbestos Inspections

Due to the presence of asbestos containing materials in fill within limited areas on site there is potential for ACM to be present in fill materials, not previously identified during historical investigations. The nature and extent of asbestos in soil impacts will be refined as part of the data gap investigation.

A visual inspection is to be completed by SafeWork NSW Licensed Asbestos Assessor (LAA) to confirm no visible ACM is present within the top 100 mm of the residual soil surface in areas in which ACM is observed/detected:

- Following demolition and removal of hazardous building materials.
- The walls and base of the remediation excavation extents.

Following the visual inspection soil validation sampling for asbestos is to be completed. The validation of asbestos remediation soils is to selected based on the

methods described within the WA DOH (2009) and are to be consisted with any asbestos removal techniques that may have been applied to the soil materials and is to include assessment for both bonded and friable materials.

10.1.2. Asbestos Air Monitoring

The asbestos air monitoring requirements are outlined in Section 12.4 of the RAP.

10.2. Validation Sampling and Analysis

Validation of the excavation extents will be based on visual observations and sample and analysis outlined in **Table 10-1**.

If the samples collected from the base and walls of the excavation meet validation criteria the material will be considered validated. If they do not meet validation criteria additional excavation of the impacted material will be undertaken until sample results meet the adopted site criteria.

Following validation of excavations, any contaminated soils proposed for on-site burial in containment cells is to be characterised for leaching potential prior to burial in accordance with Table 10-1.

10.3. Soil Sampling Methodology

All validation samples will be collected by an appropriately trained and experienced contaminated land environmental professional. Samples will be collected in a method which prevents cross contamination and enhances the integrity of the process. These processes are discussed briefly below.

All soil samples will be collected directly from the residual soil surface, the excavator bucket or stockpile by hand whilst using nitrile gloves which were replaced between each sample. Part of each soil sample will be placed into snap lock plastic bags for screening with a PID and the other part of the sample placed directly into a laboratory prepared 250 millilitre (mL) glass jar and/or appropriately preserved, laboratory supplied and preserved sampling containers with the details of the sample, including the sample name, the job number and the date of sampling.

Where asbestos in soil validation sampling is required, a 10L field screening sample and 500 mL quantification sample from each wall, and 1 per 25 m^2 from the base will be collected. All samples will be individually screened manually through a 7 x 7 mm sieve. Any ACM or fibrous asbestos (FA) identified will be collected, bagged and weighed by the laboratory using a calibrated scale.

Each 500mL soil sample will be placed into snap lock plastic bag (double bagged), with the details of the sample, including the sample name, the job number, the date of sample and the sample depth, for laboratory analysis of asbestos fines (AF) and FA asbestos in accordance with the NEPC (2013) NEPM, where possible.

10.3.1. Post Asbestos Removal Validation Plan

In the case of alternative validation techniques that may be required following application of asbestos removal/remediation works. The consultant is to provide to

the auditor a factual asbestos validation methodology plan for review and comment prior to implementation of the validation samples. The asbestos validation methodology plan is to be prepared to detail the chosen method/s for validation that are consistent with the WA DOH (2009) Asbestos Guidelines and the NSW EPA position on the appropriate application of those guidelines to asbestos impacted soils.

10.4. Sampling Rationale

The sampling and analytical regime presented in Table 10-1 is based on the following rationale:

- Soil sampling frequencies indicated are the minimum required. If required, the soil data will be assessed in accordance with NSW EPA Sampling Design Part 1 – Application – Contaminated Land Guidelines (2022) to ensure that an appropriate number of samples are obtained in order to show that the average concentration of each of the contaminants is below the adopted limits. Hence, the final adopted sampling regime will be developed with consideration to the requirements outlined in NSW EPA (2022).
- Relevant sections of the NSW EPA CWR Order (2014) for combustibility testing as required by the WCC DCP (2009).
- The remediation surface validation will be completed on a systemic grid basis and at additional targeted locations based on any unexpected finds identified during excavation works of fill materials, or any visual/olfactory signs of gross contamination. The number of sampling locations and depth of sampling intervals will depend on the extent and type of unexpected find uncovered.
- Following any asbestos removal works, appropriate validation of the remaining soils will be completed with methods consistent with the WA DOH (2009) Asbestos Guidelines and the NSW EPA position on the appropriate application of those guidelines to asbestos impacted soils.

10.5. Soil Laboratory Analyses

NATA accredited labs are to be used for all laboratory analyses for soil. Any method not NATA accredited will require justification.

Laboratory analysis of samples will be conducted with reference to known or anticipated CoPCs. The proposed soil validation sampling and analytical program is outlined in **Table 10-1** below.

Table 10-1: Soil Validation Sampling and Analytical Program

Item	Sample Frequency	Analytes	Number of Proposed Sample Locations
Delineation Sampling	Surface, 0.5m, 1.0m, 1.5m and 2.0m and at regular depth intervals where indications of gross contamination are observed.	Selective analysis for asbestos (%w/w).	Final number will depend on the outcomes of the data gap investigation.
Impacted material excavation extent validation[2]	Samples will be collected using a grid-based sampling design at a rate of: - One (1) sample per 25 m^2 of the excavation base (minimum of one (1) sample per excavation). - One (1) sample per 10 lineal metres (minimum of one (1) sample per wall of the excavation)	Selective analysis for asbestos (%w/w).	The final number of samples will depend on the final dimensions of the excavations.
Impacted material intended for on-site burial and encapsulation	In accordance with Tables 2 to 5 of the NSW EPA Sampling Guidelines (2022) or at a lesser/higher rate justified through analysis and discussion with the Site Auditor.	Australian Standard Leaching Procedure (ASLP) for analytes to be determined following refinement of this RAP after completion of the data gap investigation.	Dependent upon volume of material proposed to be encapsulated on site.
Stockpiled soil arising from excavations (intended for off-site disposal)	Samples to be collected at a frequency of 1 per 25m^3 (minimum three samples) or in accordance with NSW EPA (2022) Sampling Guidelines.	TRH, BTEX, PAH, heavy metals, OCP, OPP, PCB, asbestos, TCLP (as required)	Dependent upon volume of material excavated.

Item	Sample Frequency	Analytes	Number of Proposed Sample Locations
Impacted material/ fill stockpile staging area (non-carbonaceous material) following removal	In accordance with Tables 2 to 5 of the NSW EPA Sampling Guidelines (2022) or at a lesser/higher rate justified through analysis and discussion with the Site Auditor.	TRH, BTEX, PAHs, heavy metals, OCP/OPP, PCBs, VOCs and asbestos (%w/w)	The final number of samples will depend on the final dimensions of the stockpile staging area/s.
Data gap investigation sampling	As per the proposed SAQP based on the final site design.	Selective analysis to be confirmed within the SAQP (including hazardous ground gases).	
Imported VENM material[1] or growing media	One (1) sample per 500m^3, minimum of one sample per source site.	TRH, BTEX, PAHs, heavy metals, OCP/OPP, PCBs, phenols, VOCs and asbestos	Dependent upon volume of material excavated and number of source sites.
Site won VENM material[3]	One (1) sample per 5,000m^3.	TRH, BTEX, PAHs, heavy metals, OCP/OPP, PCBs, and asbestos	Dependent upon volume of site won VENM to be used.
Re-use of in-situ and stockpiled site won fill (non-carbonaceous material)	In accordance with Tables 2 to 5 of the NSW EPA Sampling Guidelines (2022) or at a lesser/higher rate justified through analysis and discussion with the Site Auditor.	TRH, BTEX, PAHs, heavy metals, OCP/OPP, PCBs, VOCs, asbestos and PFAS	Dependent upon volume of material excavated/ proposed to be re-used.
Re-use or off-site disposal of excavated residual sediments or fill/site won material within the vicinity of the dams and watercourses.	In accordance with Tables 2 to 5 of the NSW EPA Sampling Guidelines (2022) or at a lesser/higher rate justified through analysis and discussion with the Site Auditor.	TRH, BTEX, PAH, heavy metals, OCP, OPP, PCB, asbestos, TCLP (as required) and PFAS	Dependent upon volume of material excavated/ proposed to be re-used or disposed off-site.
Re-use of carbonaceous blended materials[4]	One (1) sample per 500m^3 or at a lesser/higher rate justified through review of initial results and historical sampling.	Heavy metals including selenium, PAHs, TRH, asbestos and pH.	Dependent upon volume of material proposed to be re-used.

Item	Sample Frequency	Analytes	Number of Proposed Sample Locations
Unexpected Finds	To be confirmed by a suitably qualified environmental consultant following the inspection and appropriate characterisation of the contamination. Including the relevant provisions relating to asbestos materials noted above.		

Notes:

Note 1 – Subject to the volume of material imported, the source site and historical documentation, this may be reduced. Currently there is no requirement to import material to meet cut to fill requirements. A completed NSW EPA VENM Certificate must be provided.

Note 2 – This sampling may be applicable to validation hotspot sampling and it not intended to be used as a means to validate a large remediation area or the site wide footprint. Following the delineation sampling if large areas of soil are required to be excavated to meet the site HILs (or other soil acceptance criteria) an alternative statistically based method will be developed by the consultant. The alternative method will need to be reviewed and endorsed by the site Auditor.

Note 3 – At the time of remediation works occurring the extent of the known VENM material will be known. To date natural materials undergone multiple site investigation assessments which in general have indicated the absence of contamination from the overlaying historical activities. The material will undergo further testing during the delineation and data gap assessments.

Note 4 – It is noted that carbonaceous blended material will consist of at minimum 50% inert VENM and 50% carbonaceous material. The historical investigations of the site identified TPH, heavy metals, PAHs and asbestos as contaminants of concern within the carbonaceous material. Therefore, chemical analysis of blended material will be limited to these contaminants. Combustibility assessment and sampling and suitability for re-use (from a combustibility perspective) will be completed & documented by the projects geotechnical engineer.

Note General – As the remediation program progresses and additional data is collected the analytical suite may be altered to remove or add potential contaminants. This is relevant to the routine, large scale sampling of the blended carbonaceous and non-carbonaceous fill material. Any alternative analytical suites will need to be reviewed and endorsed by the site Auditor.

10.6. Quality Assurance/Quality Control

The QA/QC program for the site should comprised the following elements:

Field Duplicate Samples (chemical analytes only): one field duplicate sample to be collected for every 20 primary samples collected (or part thereof). Duplicate samples are to be sent to the primary analytical laboratory to check the accuracy of the analytical results.

Field Triplicate Samples (chemical analytes only): one field triplicate sample to be collected for every 20 primary samples collected (or part thereof). Triplicate samples are sent to be sent to a secondary analytical laboratory to check the accuracy of the analytical results.

Rinsate Blank: A rinsate blank to be collected during each sampling event. Rinsate blanks are to be collected from rinsing field sampling equipment to assess the effectiveness of the decontamination procedures between sampling locations.

Trip spike: A triplicate spike to be prepared by the NATA accredited laboratory during each soil sampling event for volatile contaminants.

A Trip Blank: A triplicate blank to be prepare by the NATA accredited laboratory with deionised to determine the potential for cross contamination.

10.7. Validation of Sediments

It is anticipated that during excavation and relocation of on-site dams and watercourses, sediments will be encountered which are proposed to be excavated, stockpiled and dried prior to incorporating with other site won fill materials for on-site re-use. Prior to the potential re-use of sediment soils as fill, the environmental consultant should first confirm the suitability of the proposed material in accordance with Table 10-1 prior to re-use in filling activities.

10.8. Validation of Backfill Materials

It is anticipated that backfill of remediation excavation areas of the site will be achieved by using surplus (site won) virgin soils were possible. The environmental consultant should first confirm the suitability of the proposed material in accordance with Table 10-1 prior to re-use in backfilling activities.

Should imported backfill materials be required the material is to be classified in accordance with a suitable NSW EPA Resource Recover Order and Re-used in accordance with the relevant Resource Recovery Exemption OR be classified as Virgin Excavated Natural Material (VENM).

The Protection of the Environment Operations Act 1997 (POEO Act) defines VENM as:

> '*natural material (such as clay, gravel, sand, soil or rock fines):*
>
> a. *That has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities; and*
>
> b. *That does not contain any sulfidic ores or soils or any other waste.*
>
> *and includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved for the time being pursuant to an EPA Gazettal notice.*'

Prior to importation of any material to site, the nominated project environmental consultant/professional is to (where reasonably practicable to do so) conduct an inspection of the source site to confirm the material meets the POEO Act definition as VENM and/or review the relevant resource recovery compliance documentation.

Furthermore, validation of imported VENM is to include collection of soil/material samples at a minimum rate of one (1) sample per 500 m^3 (minimum of one (1) sample per source site) by a suitably qualified environmental consultant. Sample analysis and acceptance criteria is to include, as a minimum, the analytes listed in Table 10-1 and completed by a NATA accredited laboratory.

The lawful importation of materials proposed to be used as fill may also be subject to development conditions implemented by Council.

10.9. Validation Reporting

A Site Validation Report must be prepared verifying that the site is suitable for the proposed development in general accordance with the NSW EPA (2020) Consultants Reporting on Contaminated Land, documenting the works as completed. This report will contain information including:

- Details of the remediation works conducted.
- Information demonstrating that the objectives of the RAP have been achieved, the sample results of any waste classification, imported material, any waste dockets along with assessment of the data against both the pre-defined data quality objectives and the remediation acceptance criteria.
- Information demonstrating compliance with appropriate regulations and guidelines.
- Any variations to the strategy undertaken during the implementation of the Remediation work.
- Details of any environmental incidents occurring during the Remediation works and the actions undertaken in response to these incidents.
- Details of any unexpected finds including the additional remediation works required to appropriately manage the finds.
- Other information as appropriate, including requirements (if any) for ongoing monitoring / management.
- The report will serve to document the remediation works for future reference.
- The following records will be maintained by the civil contractor during remediation work and will be made available for inclusion into the Validation Report:
- Any complaints made towards the Remediation works, the date and time that the complaint was made, and corrective actions taken.
- Records of approvals to remove or dispose soil from the site.
- Suspicious soil material encountered in the materials brought onto site.
- Source of material being brought onto site for the sub-grade layer or for backfilling.
- Dockets for the quantities of material being brought onto site as well as the EPA approvals.
- Any amendments to works which deviate from this RAP, EPA comments to these amendments, as well as any comments and/or endorsements.
- Photographic records of the stockpiled materials as well as stockpile management, and site establishment.
- All works will be reported within the site validation plan, however if further investigation uncovers additional contamination the RAP will need to be revised.
- Materials imported and exported from the site will be tracked and documented as follows:

Material leaving the site: Include records of disposal dockets, disposal dates and quantity/volume for each material type and provide a tally of total volume/quantity (by waste classification type) against the disposal dockets.

Material imported to the site (prior to validation): Include records of quantity/volume of material imported to the site by type, analytical test results of imported material and the associated material certification (a simple material certification will not be adequate).

A separate validation report is to be completed for the Stage 1 BEW and Stage 2-4 BEW development stages.

10.10. Long-Term Environmental Management Plan

A long-term Environmental Management Plan (EMP) is required for on-site management of encapsulated contamination (if a containment cell will be constructed) and any other potential impacts remaining in-situ. The EMP would be prepared at the completion of remediation works. The EMP will promote awareness of the contamination management and the requirements to avoid disturbance (where possible) and provide an outline and maintenance requirements.

While no active long-term management is envisaged, the EMP will recommend routine inspections of the capping layer to monitor for erosion, cracking, settlement or movements of the capping slab/pavements and landscape areas. Maintenance would be required if the site inspection indicates that the capping layer is not operating effectively.

The Site Audit Statement will include the EMP as an attachment and subsequently will be noted on the planning certificate within areas that contain an encapsulation cell only to ensure future landholders or future developments on the site are aware of the management requirements for the site. It is not expected that privately owned developable lots will have any restrictions on title, it is the intention to place encapsulation cells within open space areas on site.

11. Contingency Plan

A review of remediation works has been undertaken to identify potential risks to meeting the specified site validation criteria. Several potential risks have been identified. These potential scenarios and associated contingencies will be implemented to ensure that validation criteria are met.

11.1. Unexpected Finds

The possibility exists for undiscovered hazards to be present at the site.

Environmental sampling is based on identification of potential chemical analytes that have been identified during a documented process of reviewing historical site activities and previous investigation results. Ground conditions however between sampling points may vary, and further hazards may arise from unexpected sources and/or in unexpected locations. The nature of any undiscovered hazards which may be present at the site are generally detectable through visual or olfactory means, for example:

- Petroleum contaminated soils (staining / discoloration visible).
- Hydrocarbon Organic Compound contaminated soils (odorous).
- Fragments of asbestos-containing materials (visible).
- Significant ash and/or slag contaminated soils / fill materials (visible).
- Underground storage tanks (USTs) that have not been previously identified.

As a precautionary measure to ensure the protection of the workforce and surrounding community, should any unexpected potentially hazardous substance be encountered the works should cease immediately before being assessed by a suitably qualified and experienced environmental professional.

Should material be encountered that is suspected of containing ACM, the following actions are to be undertaken:

- Material that is suspected of containing asbestos must be isolated and the area barricaded to prevent the possible exposure of workers to asbestos. Signs notifying site workers of the presence of asbestos must be placed on the barricades.
- All suspicious material must be assumed to contain asbestos until it has been proven otherwise by laboratory analysis.
- All suspicious material and other unexpected finds are to be logged on the Unexpected Finds Register.

The sampling strategy for each "unexpected find" shall be designed by a suitably qualified and experienced environmental professional. The strategy will, however, be aimed at determining the nature of the substance - that is, is it hazardous and, if so, at concentrations which pose an unacceptable risk to human health or the environment.

Additional contingencies may be needed following review of the results of the data gap investigation. If this is the case, then the unexpected finds contingencies should be amended to include those contingencies.

If an unexpected find results in an alteration to the existing remedial strategy, prior to implementation of the revised strategy, written endorsement of the strategy from the Site Auditor and Council will need to be obtained.

11.2. Excessive Odours from Works

Based on the nature of the identified contaminants, off-site odour complaints will not be likely. Where complaints do occur, the following will be undertaken:

- Disturbance of soils during meteorologically favourable periods only; and/or
- Covering of impacted soils.
- Consider installing an odour screening / masking system at the site boundaries.

11.3. Remediation Strategy Unsuccessful

Should validation be deemed not suitable for the sites intended land use, then a site-specific risk assessment will be conducted. If the site-specific risk assessment indicates the site is unsuitable that further remediation works will need to occur, and a revised remediation strategy developed.

12. Site Management Plan

The development consent will require a Construction and Environmental Management Plan (CEMP) to be prepared and submitted to Council for approval prior to commencement of remediation works.

Reditus recommend the appointed contractor refers to the NSW Department of Infrastructure, Planning and Natural Resources (DIPNR) Guideline for the Preparation of Environmental Management Plans 2004.

The CEMP will be the overarching document that for the implementation of environmental control measures during construction. The controls prescribed within this RAP are to be adopted within the CEMP and administered by the appointed Principal Contractor. The information presented below is not exhaustive and is to be included along within additional relevant information in the CEMP. The following sections contain appropriate details to eliminate and/or manage potential environmental emissions which may be generated by or during the site remediation works.

It is noted that an ASSMP and dewatering management are required to be prepared for the Stage 2-4 BEW. The ASSMP and dewatering management plan are to be developed following completion of the data gap investigation and subsequently referenced within this RAP (as amended).

12.1. Soil and Water Management

All works shall be conducted in strict accordance with the soil and water management measures outlined in this section.

To prevent the migration of impacted soil/sediment off site, silt fences shall be constructed at the down-gradient works area boundaries, as per the specifications contained in Managing Urban Stormwater – Soil and Construction Volume 1, 4th Edition, NSW Government, March 2004. Any material which is collected behind the sediment controls shall be treated as potentially contaminated and will be suitably managed.

In a storm event, the sediment controls located on-site will need to be monitored and replaced or altered if necessary. Collected material will need to be suitably managed in accordance with remediation works.

Prior to exposing and/or disturbing the known or potential ACM impacted soils by intrusive earthworks or excavation works, the following activities should be carried out and implemented by the party responsible for the disturbance to soil in the affected areas:

- Notification to the Principal Contractor to discuss the scope of works to be undertaken, the likelihood of generating dust, excess spoil or waste and the management of this material.
- Ensure contractors / workers are aware of the potential for asbestos contaminated materials to be encountered.
- Setup of work area, and exclusion zone including appropriate signage and barriers.

- Assess proposed scope of works to minimise the requirement to expose and / or excavate asbestos contaminated materials.
- Ensure contractors / workers, where any works involving asbestos contaminated materials is expected or identified, are supervised by an appropriately qualified person as required by the relevant legislation (i.e. Class-A or Class-B licensed contractor).
- Preparation of a specific occupational health and safety plan that caters for the proposed activities / works including the provision of PPE (refer to Section 7.1).
- Consideration and/or preparation of a Dust Management Plan to mitigate/minimise dust generation.
- Consideration of the equipment used to minimise potential soil exposure and dust generation.
- Preparation of a specific environmental protection plan including soil, water and air management protocols.
- Preparation of a methodology for managing excavated soil.
- Contingency planning to include encountering other suspected asbestos impacted material other than that expected.

Additional information pertaining to the transportation of ACM (Section 12.7) should also be consulted.

12.2. Site Access

During remediation works, perimeter fencing will be maintained to restrict access to the works area, including any remediation areas. Only authorised persons will be able to enter the works area.

Vehicle access to the site shall be stabilised to prevent the tracking of soil around the site and the adjoining driveway/access point to the road will be swept or cleaned on an as-needed basis. Any collected materials shall be treated as potentially contaminated and will be suitably managed.

12.3. Stockpiles

The following procedures will be implemented:

- No stockpiles or other materials shall be placed on footpaths or roadways and will be away from all stormwater infrastructure (including drainage lines, stormwater pits, gutters, etc.) where possible. Where this is not possible, sediment controls will be placed over stormwater grates to prevent ingress of sediment to stormwater drainage lines.
- Stockpiles shall be formed with sediment control structures placed immediately down slope to protect other lands and waters from sediment pollution.
- Placement of material on a sealed or plastic lined surface.

- Covering of all excavated/stockpiled material.
- If stockpiling of impacted soils is required, sampling of the stockpile footprint once the stockpile has been removed in accordance with **Table 10-1**, to ascertain that no residual impacted soils remain will be required. Soils may also be placed on a dedicated hardstand sealed or plastic lined surface to negate this requirement.
- Covering or continual wetting of all impacted excavated/stockpiled material to prevent dust generation. Note if continual wetting is used for dust suppression the quantity of water used should not create run-off. Continual wetting alone is not considered appropriate for asbestos containing stockpiles which must also be covered and pinned down to prevent the generation of fugitive dust.
- Construction of sediment retention features around stockpiled materials.

Given materials will be stockpiles for re-use or remediation within the Stage 2-4 BEW area, the Civil Contractor will be required to prepare of a stockpile management plan, to the satisfaction of a Certified Environmental Consultant that details at minimum the following:

- How each stockpile will be sampled and validated in accordance with this RAP.
- The handling process to be adopted by the civil contractor to ensure they are appropriately tracked and traced. This should include a figure and GPS co-ordinates of the stockpile area.
- How the footprint of each stockpile will be cleared and certified following removal of the materials.

12.4. Asbestos Air Monitoring

Health and air monitoring must be undertaken when a worker is at risk of exposure to asbestos while performing work that is not licensed asbestos removal work. The need for health and air monitoring of these workers should be determined on the basis of the potential for exposure, frequency of potential exposure and duration of the work being undertaken.

Consideration must be given to the worker's demographic, medical and occupational history and records of the worker's personal exposure. The health and air monitoring must include a physical examination of the worker with emphasis on the respiratory system, including standardised respiratory function tests, unless another form of health and air monitoring is recommended by a registered medical practitioner.

Workers must be informed of any health and air monitoring requirements before the worker carries out work that may expose them to asbestos.

Air monitoring for asbestos exposure may be required as result of the remediation works and should be conducted by a competent person in accordance with Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)].

Exposure standards set out the airborne concentrations of asbestos, which should not damage the health of workers. The exposure standards for asbestos are:

- Amosite (brown asbestos) 0.1 f/mL (Fibres per millilitre of air).
- Crocidolite (blue asbestos) 0.1 f/mL.
- Chrysotile (white asbestos) 0.1 f/mL.

All areas or equipment with fibrous asbestos or ACM should be assessed by a competent person to determine the appropriate inspection periods to ensure risk controls are effective. Inspection periods are to be identified by the principal contractor responsible for the area.

12.5. Dust Control

During the remediation impacted areas, dust levels will be monitored and minimised by using mist sprays as necessary on all excavation, stockpiles and loadout.

Dust shall also be controlled by ensuring vehicles leave via the designated (stabilised) site access points.

Any situations or areas which exceed the asbestos exposure standard are to be controlled to eliminate or minimise risk of exposure.

Any vehicle used to transport asbestos waste should be cleaned before leaving the site and the vehicles load should be covered prior to dispatch.

12.6. Odour

Given the nature of the soils being removed from the site, odour may be an issue. Where complaints occur, the contingency measures associated with odour control outlined in Section 11.2 will be implemented. Additional odour suppression actions will be taken to reduce the odours as necessary, which may include: increasing the amount of covering of excavations / stockpiles; mist sprays; odour suppressants; or maintenance of equipment.

12.7. Material Transport

Trucks will be loaded in a designated area away from the contaminated material excavations. The transporting contractor shall ensure that there is no material tracked out onto the street and that the load is securely covered. In addition, all site vehicles must leave the site in a forward direction.

All appropriate road rules shall be observed and state roads will be selected as far as practicable over local roads when deciding on the transport route to the off-site material disposal location.

Any material leaving site (whether hazardous or not) must be classified in accordance with the NSW EPA (2014) Waste Classification Guidelines. The waste classification assessment reports prepared for any material leaving the site are to be attached to the validation report and include as a minimum:

- Material source and description.

- Sampling density and strategy.
- COPC.
- Summary of results, including table with comparison to acceptance criteria.

Alternatively, waste classification reports may be progressively provided to the Site Auditor for approval during the works and subsequently summarised in the site validation report to include details of volumes and types of waste disposed.

If more than 100kg of asbestos waste or 10m2 of asbestos sheeting is proposed to be removed from the site, then information is to be provided to the EPA, under the NSW EPA Asbestos and Waste Tyre Guidelines 2015. This guideline contains the legal requirements that consignors, transporters and occupiers of premises must meet in addition to the Waste Regulations.

- The following requirements are noted:
    - A transporter of Asbestos Waste must be registered as a transporter of Asbestos Waste on WasteLocate before any transport of Asbestos Waste is to occur.
    - The transporter of Asbestos Waste must provide the following information to the NSW EPA upon registration on Waste Locate (https://wastelocate.epa.nsw.gov.au) no later than on delivery of its first load of Asbestos Waste to the receiving facility:
        - Name and address of the transporter.
        - Mobile telephone number of the transporter's registered driver.
        - Email address of the transporter.
        - Trading name or agency name of the transporter.
        - Drivers licence number of the transporter's registered driver.
        - Postal address of the transporter, if different from address.
        - Primary telephone number of transporter.
        - The Australian Business Number (ABN) for the transporting company (if the entity has an ABN).
        - WorkCover licence number of the transporter, if held.
    - The transporter of a load of Asbestos Waste must provide the following information to the NSW EPA by using WasteLocate before the transportation of any load of Asbestos Waste:
        - The type of Asbestos Waste in the load; vehicle registration; number of the vehicle driven by the transporter's registered driver for the specific consignment.
        - A transporter of a load of Asbestos Waste to any premises must scan the EPA Fixed Plate at the premises through their mobile device for each load. Scanning of the EPA Fixed Plate by the transporter for a load enables the occupier to meet its obligations under clause 76(7) or 79(6) (as applicable) of the Waste Regulation for that load.

- If the EPA Fixed Plate at an occupier's premises is not scanned by the transporter, the occupier must provide the EPA in writing the date and time of delivery of the load of Asbestos Waste, the vehicle registration number of the vehicle driven by or on behalf of the transporter for the specific consignment.

Where material is to be imported, controls are to be implemented to maintain separation between contaminated and non-contaminated materials.

Any hazardous and/or intractable wastes shall be removed and disposed of in accordance with the relevant regulatory requirements. In particular, any asbestos wastes will be disposed as outlined in Section 12.8.

Removal of all known hazardous materials including asbestos will be conducted prior to demolition works.

12.8. Offsite Disposal of Contaminated Soil

The current remedial strategy is to re-use and/or encapsulate contaminated soil within dedicated burial cells/areas onsite. If soil is required to be disposed of offsite it will be classified, managed and disposed in accordance with the Waste Classification Guidelines Part 1: Classifying Waste (NSW EPA 2014).

Material intended for off-site disposal must be tracked and documented for inclusion in the site validation report, including as a minimum the following detail:

- Source location.
- Estimated volume (based on excavation or stockpile size) and actual volume at waste receiving facility.
- Transporter details.
- Final destination.
- Receiving facility POEO licence details.
- Waste dockets.

Further to the above, asbestos waste must also include additional tracking details and steps outlined in Section 12.7 above.

Asbestos waste must also be disposed in accordance with the regulatory requirements under clause 42 of the Protection of the Operations (Waste) Regulation 2014 which apply to asbestos waste and includes:

- Waste stored onsite prior to disposal must be done so in an environmentally safe manner.
- Non-friable asbestos must be securely packaged at all times.
- Friable asbestos (if encountered) must be kept in a sealed container.
- Asbestos contaminated soil must be wetted down.
- All asbestos waste must be transported in a covered, leak-proof vehicle (applicable to asbestos impacted soil).

- Asbestos waste can be disposed at a landfill site that can lawfully receive this waste. It is recommended that the landfill is contacted beforehand to find out if the facility can receive the waste and whether there may be any special requirements.
- It is illegal to dispose of asbestos waste in domestic garbage bags.
- It is illegal to re-use, recycle or dump asbestos waste.

If friable waste requires disposal, then only a company with a SafeWork NSW Class A removal license is permitted to remove the waste material and air monitoring will be required to be undertaken by a SafeWork NSW Licensed Asbestos Assessor (LAA).

If more than 100kg of asbestos waste or 10m^2 (in total) of asbestos sheeting is proposed to be removed from the site, then information is to be provided to NSW SafeWork and EPA.

12.9. Imported Material

Imported backfill materials and growing media are to be validated in accordance with Section 10 to confirm the suitability of the proposed material for acceptance on the site.

Imported material tracking documentation is to be included within the site validation report, including as a minimum:

- Volume of material imported.
- Source site.
- VENM certification or NSW EPA exemption certificate. This will also include a summary of the results of validation testing completed.
- Transporter details.
- Placement location of imported material.

12.10. Respirable Crystalline Silica Exposure

The demolition of the brick structures on the site are likely to liberate respirable crystalline silica (RCS) fibres. These will be most prevalent within the refractory bricks that have a high mineral silica content. Management of these fibres will be the responsibility of the site demolition contractor and form part of the demolition management plan. It is noted however that during remediation works buried silica bricks may be uncovered and could pose an inhalation risk to site workers and offsite residents. The remediation works will be conducted under controlled conditions and a site-specific CEMP therefore assuming the relevant controls are actioned it is unlikely there would be unacceptable risks from RCS dust to either site worker or the public during redevelopment works.

13. Health and Safety

The principal remedial contractor should prepare a separate work health and safety plan (WHS) prior to the remediation works beginning. The information presented below is not exhaustive and is to be included along with additional relevant information in the WHS plan. The WHS will need to be compliant with relevant guidelines and legislation and consider the information presented within the RAP. As there is asbestos known to occur at the site, the contractor should be suitably licensed, and the WHS plan should outline air monitoring requirements to meet SafeWork Codes of Practice.

The objectives of the health and safety plan are:

- To apply standard procedures that reduce risks resulting from the above works.
- To ensure all employees are provided with appropriate training, equipment and support to consistently perform their duties in a safe manner.
- To have procedures to protect other site workers and the general public. These objectives will be achieved by:
    - Assignment of responsibilities.
    - An evaluation of hazards.
    - Establishment of personal protection standards and mandatory safety practices and procedures.
    - Provision for contingencies that may arise while operations are being conducted at the site.

This health and safety section does not provide safety information specific to construction and other demolition or excavation activities carried out by contractors, such as the safe operation, maintenance and inspection of plant, etc. Contractors will be required to prepare their own Safe Work Method Statements for their work activities. All parties working on the site shall comply with all applicable Health and Safety legislation, regulations, codes and guidelines.

13.1. Responsibilities

Client Supervisor/Manager/Superintendent

The client supervisor/manager is responsible for:

- Advice on obtaining development approval.
- Helping to ensure all works are compliant with the development approval.
- Providing technical and financial progress updates to the client.
- Assisting with community consultation.
- The client supervisor/manager contact details will be provided prior to the works.

Remediation Contractor

The remediation contractor is responsible for:

- Ensuring all works are undertaken as per the RAP.
- Ensure all works involving the disturbance of the ACM contaminated soils are conducted under the supervision of a suitably qualified Class A or Class B asbestos licensed contractor.
- Ensure all ACM impacted soils are wetted to reduce the potential generation of dust.
- Minimise erosion at the site, including erosion of soils exposed during excavation and demolition works.
- Protect nearby receiving environments from potential contamination.
- Ensure contaminated site plant are decontaminated prior to commencing work in clean soil.
- Signs and record keeping should indicate the origin and location of contaminated materials.
- No stockpiling of impacted soils (where possible) to prevent cross contamination of clean soils.
- Direct transport form contaminated area to burial site.
- Validated areas should be isolated to prevent cross contamination; and
- Routine site inspections.
- Ensuring all works are undertaken in accordance appropriate regulations and standards.
- Ensuring all works are undertaken as per the health and safety plan.
- Ensuring a copy of the health and safety plan is available at the site during the remediation/validation activities.
- Confirming individuals are competent in performing allotted tasks.
- Liaison with the client supervisor/manager and sub-contractor representatives, as appropriate, regarding safety matters.
- Investigation and reporting of incidents and accidents.

The remediation contractor contact details will be provided prior to commencement of works.

Environmental Consultant

The environmental consultant is responsible for:

- Undertake remediation and validation sampling as per the RAP.
- Ensuring consultant works are undertaken as per the health and safety plan.
- Liaison with the contractor representatives, as appropriate, regarding safety matters.
- Alongside the remediation contractor stockpile and waste tracking.
- Undertake validation and reporting as per the RAP.

The contact details for the responsible parties is to be provided in the CEMP and WHS plan.

Other Members of the Site Workforce

Every individual worker is responsible for conducting their allocated tasks in a safe manner and in accordance with their training and experience. They must give due consideration to the safety of all others in their proximity and cooperate in matters of health and safety. All workers must leave their work areas in such a condition that the location will not be hazardous to others at any time.

13.2. Hazards

The known or potential hazards associated with the work activities are listed below:

- Chemical hazards associated with the presence of contaminated soil;
- Physical hazards, including:
    - Work in or near excavations.
    - Operating machinery.
    - Heat stress and UV exposure.
    - Underground or overhead services.
    - Manual handling.
    - Noise.

In the event of the discovery of any condition that would suggest the existence of a situation more hazardous than anticipated, or of any new hazard that could potentially cause serious harm to personnel or the environment, work will be suspended until the Project Manager has been notified and appropriate instructions have been provided to field personnel.

13.3. Chemical Hazards

The main chemical hazards associated with the remediation/validation works are ACM based products.

SafeWork NSW has published 'How to safely remove asbestos code of practice' (2016) which provides additional information on safety standards when removing asbestos.

Workers involved in disturbing the known impacted soil, and surrounding stakeholders, could be exposed by:

- Respiration of dust or potential fibres generated from the soil.
- Dermal contact with asbestos contaminated soils.
- Ingestion of asbestos contaminated soils.
- Possible secondary exposure from contaminated equipment or clothing.

Planning of the earthworks involving exposure and / or disturbance of ACM impacted soils, and implementation of appropriate health and safety measures, will

minimise the potential for contact with contaminated materials through the above listed pathways.

All machinery (i.e., excavators and / or trucks) that are required to conduct work on or pass over the site will need to be enclosed (windows wound to the full up position) with re-circulatory air functioning. Movement outside of the vehicle should be conducted with the required PPE.

When working with contaminated materials in general, care must be taken to ensure that the contamination is not introduced to the worker via ingestion, inhalation or absorption. PPE and decontamination requirements related to the remedial works are summarised in Sections 13.5 and 13.6.

13.4. Physical Hazards

Work Health and Safety (WH&S) Hazards associated with the site works will be addressed by the Principal Site contractor. All works conducted on the site will require compliance with the duty of care and obligations set out in section 5 of the WHS Act for person conducting a business or undertaking (PCBU).

13.5. Personal Protective Equipment

All workers who may come into direct contact with contaminated soil will wear the following personal protective equipment for areas with no ACM exposure risks:

- Overalls or long-sleeved collared shirt and long pants.
- Heavy duty outer gloves (e.g., leather) where there is a risk of cuts or abrasions, otherwise PVC outer gloves if in direct contact with contaminated soil.
- Steel capped boots.
- Safety glasses.
- High visibility vest or jacket.
- Hard hat.

It is further noted that additional PPE may be required as part of the SafeWork permitting process. If this occurs, then the above PPE requirements will be upgraded to reflect WorkCover's requirements.

In the event that workers will be exposed to highly odorous soil conditions during remediation works, the following additional PPE should be adopted:

- Impermeable disposable overalls.
- Half or full-face respirator with organic vapour cartridge (as per action levels identified in Table 10).

A PID shall be used to monitor the concentrations of VOCs within the workspace, with the following action levels at which the additional PPE mentioned above is required.

Table 13-1: Action Levels for Respirator Use

Instrument	Airborne Levels	Level of Protection
PID	< 1 ppm	No additional protection
PID and/or Dräger or Kitagawa tubes	> 1 ppm	Half or full faced respirator*
PID and/or Dräger or Kitagawa tubes	> 10 ppm** or > 1 ppm on the site boundary	Stop work, cover excavation to minimise production of hydrocarbons

Notes:

*If action levels exceed the action level following 5 minutes, the use of a respirator is required. Organic respirator cartridge to be changed daily.

**10 times the benzene exposure limit as recommended by 3M Respirator Selection Guide.

For areas where a risk of exposure to ACM is present, personal protective clothing should be made from materials that provide protection against fibre penetration and not from wool or other materials that attract fibrous dusts.

All equipment used for the removal of asbestos should be inspected before the commencement of the asbestos removal work, after any repairs and at least once every seven days when it is continually being used. A register with the details of these inspections, the state of the equipment and any repair details should be maintained.

The level of PPE would also need to address / include any other requirements relating to the nature of the activities to be undertaken. Additional PPE may be required at the request of the appropriately asbestos licensed (Class A or Class B) contractor if supervising the works.

All persons engaged in intrusive works within the vicinity of the affected area should wear respiratory protective equipment conforming to the requirements of AS/NZS1716-2003 Respiratory Protective Devices.

13.6. Decontamination Procedures

At the end of the asbestos removal work and upon leaving the asbestos removal work area, all PPE must be disposed of as asbestos waste or decontaminated and stored in sealed double bags before being removed from the asbestos removal site to be laundered by a laundry with facilities for laundering asbestos-contaminated materials. PPE should be thoroughly wet before being placed in bags.

The additional decontamination procedures specified below will be followed whenever personnel, plant or equipment leave the site.

Personnel

The following steps should be taken to ensure personnel do not leave the site with potentially contaminated clothing:

- Wash boots in clean water.

- Remove outer gloves and store for reuse.
- Remove overalls (if used) and store for reuse.
- Remove respirator and goggles (if used) and store clean for reuse or decontamination, as appropriate.
- Thoroughly wash hands and face.

If any part of a worker's body comes into direct contact with any potentially contaminated material, the affected part(s) should be immediately washed with clean water.

Vehicle, Plant, and Equipment

All equipment, including personal protective equipment, will be washed or otherwise cleaned to ensure that contaminated soil, water or dust is removed before it leaves the Site. All plant and equipment will have their outer bodies thoroughly cleaned of soil and sediment before moving off the site.

13.7. Contamination Control Zone

The lunch shed/crib hut and office will be located outside of any contamination control zone and will be designated clean zones. Any personal and plant leaving the contamination zone must undergo appropriate decontamination procedures, in a designated area (decontamination zone) as discussed above, prior to entering the site clean zones.

14. Regulatory Approvals & Licencing

14.1. State Environment Protection Policy (Resilience and Hazards) 2021

The proposed remediation works are classified as "Category 1" remediation works, these are works that require development consent.

Review of the WCC LEP (2009) indicates that the works required to execute the RAP will require consent for the following reasons:

- The works are within land mapped as being below the foreshore building line (WCC LEP 2009, Part 7.3). It is noted that the site is also within an area which is currently undergoing a flood risk review by the WCC. The site design levels are to include consideration of flood risk.
- The works are within a mapped riparian corridor (WCC LEP 2009, Part 7.4).
- The earthworks are not considered minor in nature (WCC LEP 2009, Part 7.6).

The DCP 2009 does not provide guidance in relation to consent requirements for site remediation works.

14.2. Designated Development

Schedule 3 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), lists the activities that are to be considered designated development. Clause 20 of Schedule 3 of the EP&A Regulation relates to contaminated soil treatment works and states the following:

contaminated soil treatment works means works for on-site or off-site treatment of contaminated soil and includes works that incinerate or store contaminated soil but does not include works that excavate contaminated soil for treatment at another site:

Contaminated Soil Treatment Works are considered Designated Development if:

> *(a) the contaminated soil does not originate from the site on which the development is located, and*
>
> *(b) the works are located—*
>
> > *(i) within 100 metres of a natural waterbody or wetland, or*
> >
> > *(ii) in an area of high watertable or highly permeable soils, or*
> >
> > *(iii) in a drinking water catchment, or*
> >
> > *(iv) on land that slopes at more than 6 degrees to the horizontal, or*
> >
> > *(v) on a floodplain, or*
> >
> > *(vi) within 100 metres of a dwelling not associated with the development.*
>
> *(2) Development for the purposes of contaminated soil treatment works is designated development if the works treat more than 1,000 cubic metres per*

year of contaminated soil that does not originate from the site on which the development is located.

(3) Development for the purposes of contaminated soil treatment works is designated development if—

(a) the contaminated soil originates exclusively from the site on which the development is located, and

(b) the works—

(i) incinerate more than 1,000 cubic metres per year of contaminated soil, or

(ii) treat, otherwise than by incineration, and store more than 30,000 cubic metres of contaminated soil, or

(iii) disturb more than an aggregate area of 3 hectares of contaminated soil.

All the contaminated soil material originates from onsite and the proposed works will not disturb more than the 30,000 m^3 or an area of more than 3 hectares of contaminated soil. As such, the proposed remediation works do not trigger designated development.

14.3. Protection of the Environment Operations Act 1997

In relation to the licensing requirements under the Protection of the Environment Operation Act 1997 (POEO Act):

- The works do not fall within the licensing requirements for Contaminated Soil Treatment Works (i.e., works will not incinerate more than 1,000 m^3 of contaminated soil per year, treat and store more than 30,000 m^3 of contaminated soil or disturb more than 3 hectares of contaminated soil).
- The works do not fall within the licensing requirements for Crushing, Grinding or Separating Works (i.e., works will not process more than 150 tonnes of material per day or 30,000 tonnes of material per year).

All material to be excavated and removed from the site (including associated activities such as classification) will be undertaken in strict accordance with the requirements of the POEO Act 1997. Such requirements include:

- Ensuring waste is classified appropriately and in accordance with relevant guidelines.
- Waste materials are disposed offsite to appropriately licensed facilities.
- Other materials are removed to facilities lawfully able to accept such materials.

In-line with the opinion in relation to designated development, the proposed remediation works do not trigger the requirement for a POEO Licence.

14.4. Water Management Act 2000

Given the works are to be completed within water front land a controlled activity approval under the Water Management Act 2000, applies to this site.

14.5. Legislation & Guidelines

All remediation works on the site must be undertaken with all due regard to the environment and to statutory requirements. Work on site is to comply with the requirements of the following National and NSW legislation and guidelines:

- Water Management Act 2000
- Work Health and Safety Act 2011.
- Work Health and Safety Regulation 2017.
- Protection of the Environment (Operations) Act 1997.
- Protection of the Environment Operations (Waste) Regulation 2014.
- Protection of the Environment Operations (Clean Air) Regulation 2010.
- NSW Environment Protection Authority (2014) 'Waste Classification Guidelines'.
- NSW Environment Protection Authority (2015) Asbestos and Waste Tyres Guidelines.
- NSW SafeWork (2014) 'Managing Asbestos In or On Soil'.
- NSW Government (2019) Code of Practice. How to Manage and control Asbestos in the Workplace.
- NSW Government (2019) Code of Practice. How to Safely Remove Asbestos.
- Control of Workplace Hazardous Substances, Code of Practice, WorkCover Authority of NSW, 2006.
- National Code of Practice for the Control of Workplace Hazardous Substances, National Occupational Health and Safety Commission: 2007, 1994.
- The Demolition of Structures, Australian Standard AS2601, 2001.
- National Environment Protection (Assessment of Site Contamination) Measure 1999 amended May 2013 (ASC NEPM 2013).
- Western Australian (WA) Department of Health (DOH, *Guidelines for the Assessment and Remediation and Management of Asbestos-Contaminated Sites in Western Australia*, May 2009, as applied within the context of NSW EPA position statement on asbestos in soils, URL https://www.epa.nsw.gov.au/your-environment/contaminated-land/other-contamination-issues/managing-asbestos-in-and-on-land/position-statement-wa-managment-of-asbestos-sites

15. Conclusions

It is considered that the remediation objectives of the Stage 2-4 development area will be achieved subject to the successful implementation of the actions contained in this RAP.

This RAP has been prepared with consideration to available information, existing reports, development consent conditions and applicable regulatory provisions. The remediation strategy has been based on the documented site condition, which has been adequately characterised by previous investigations and considers TRH, B(a)P, zinc, arsenic and asbestos in soil as the primary contaminants of concern warranting remediation. If required, the remediation scope and strategy is to be refined and approved by the Site Auditor following completion of the data gap investigation.

Appropriate contingencies and controls have been made to accommodate data gaps and unexpected finds during the remediation phase. Validation will be subject to successful implementation of the remediation strategy and requirements prescribed within **Section 9** and **Section 10.**

Validation of on-site soils will be undertaken over the remediation surface across the site and a long-term legally enforceable Environmental Management Plan will be implemented to control the management of any encapsulation cells and impacts that may remain onsite. If encapsulation cells are construction they will not be located within any land designated to be handed back to Council and require a revised RAP to be prepared and submitted to the Auditor and WCC.

If unexpected contamination is identified and the remedial strategy is altered, prior to implementation of the revised strategy, written endorsement of the strategy from the Site Auditor and Council will need to be obtained.

The proposed remediation is considered appropriate to render the Stage 2-4 development area site suitable for the proposed development including mixed use low & high-density residential and public open space land use.

These conclusions are made with the limitations attached to this report.

Limitations

This report has been prepared in accordance with the scope of services described in the Section 1.3. The report has been prepared for the sole use of the client and has been prepared in accordance with a scope of work agreed by the client.

The report or document does not purport to provide legal advice and any conclusions or recommendations made should not be relied upon as a substitute for such advice.

The report does not constitute a recommendation by Reditus for the client or any other party to engage in any commercial or financial transaction and any decision by the client or other party to engage in such activities is strictly a matter for the client.

The report relies upon data, surveys, measurements and results taken at or under the site at particular times and conditions specified herein. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by the client. Furthermore, the report has been prepared solely for use by the client and Reditus accepts no responsibility for its use by other parties. The client agrees that Reditus' report or associated correspondence will not be used or reproduced in full or in part for promotional purposes and cannot be used or relied upon by any other individual, party, group or company in any prospectus or offering. Any individual, party, group or company seeking to rely this report cannot do so and should seek their own independent advice.

No warranties, express or implied, are made. Subject to the scope of work undertaken, Reditus assessment is limited strictly to identifying typical environmental conditions associated with the subject property based on the scope of work and testing undertaken and does not include and evaluation of the structural conditions of any buildings on the subject property or any other issues that relate to the operation of the site and operational compliance of the site with state or federal laws, guidelines, standards or other industry recommendations or best practice. Scope of work undertaken for assessments are agreed in advance with the client and may not necessarily comply with state or federal laws or industry guidelines for the type of assessment conducted.

Additionally, unless otherwise stated Reditus did not conduct soil, air or wastewater analyses including asbestos or perform contaminated sampling of any kind. Nor did Reditus investigate any waste material from the property that may have been disposed offsite or undertake and assessment or review of related site waste management practices.

The results of this assessment are based upon (if undertaken as part of the scope work) a site inspection conducted by Reditus personnel and/or information from interviews with people who have knowledge of site conditions and/or information provided by regulatory agencies. All conclusions and recommendations regarding the property are the professional opinions of the Reditus personnel involved with the project, subject to the qualifications made above.

While normal assessments of data reliability have been made, Reditus assumes no responsibility or liability for errors in any data obtained from regulatory agencies,

statements from sources outside of Reditus, or developments resulting from situations outside the scope of this project/assessment.

Reditus is not engaged in environmental auditing and/or reporting of any kind for the purpose of advertising sales promoting, or endorsement of any client's interests, including raising investment capital, recommending investment decisions, or other publicity purposes. Reditus assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of Reditus, or developments resulting from situations outside the scope of this project.

In relation the conduct of Asbestos inspections or the preparation of hazardous materials reports Reditus has conducted inspections and the identification of hazardous material within the constraints presented by the property. Whist efforts are made to access areas not normally accessed during normal use of the site to identify the presence of asbestos or other hazardous material, unless explicitly tested no guarantee can be provided that such material is or is not present.

Reditus' professional opinions are based upon its professional judgment, experience, and training. These opinions are also based upon data derived from the limited testing and analysis described in this report or reports reviewed. It is possible that additional testing and analysis might produce different results and/or different opinions or other opinions. Reditus has limited its investigation(s) to the scope agreed upon with its client. Reditus believes that its opinions are reasonably supported by the testing and analysis that has been undertaken (if any), and that those opinions have been developed according to the professional standard of care for the environmental consulting profession in this area at this time. Other opinions and interpretations may be possible. That standard of care may change, and new methods and practices of exploration, testing and analysis may develop in the future, which might produce different results.

Appendix A - Figures

REDITUS



Map	
22158_rp07_f01_siteloc_v01	
Date of Export	
13/01/2023	
Author	**Approver**
MB	DJ
Data Source	
Metromap, Google Maps, Open Street Map, NSW Government	

Legend

- Site Boundary
- Surface Water
- Major Roads
- Railways
- Rivers
- Streams
- Minor Channels

Figure 1 - Site Location

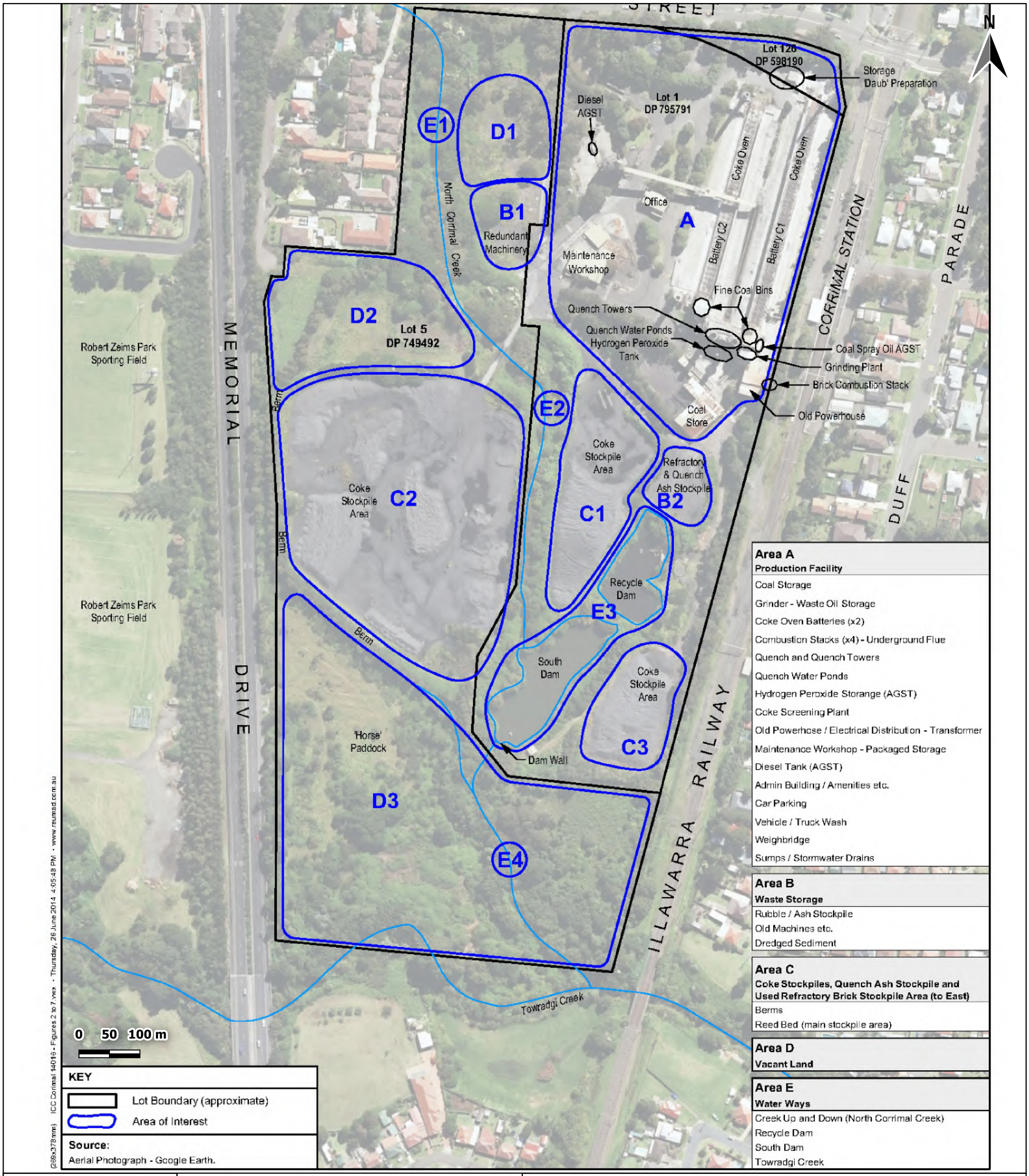
Stage 2 Redevelopment - Former Corrimal Coke Works, Railway Street, Corrimal NSW

22158 - Remediation Action Plan

LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust c/- Legacy Property Pty Ltd

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Author	**Approver**
MB	DJ
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Figure 2 - Site Layout & Features

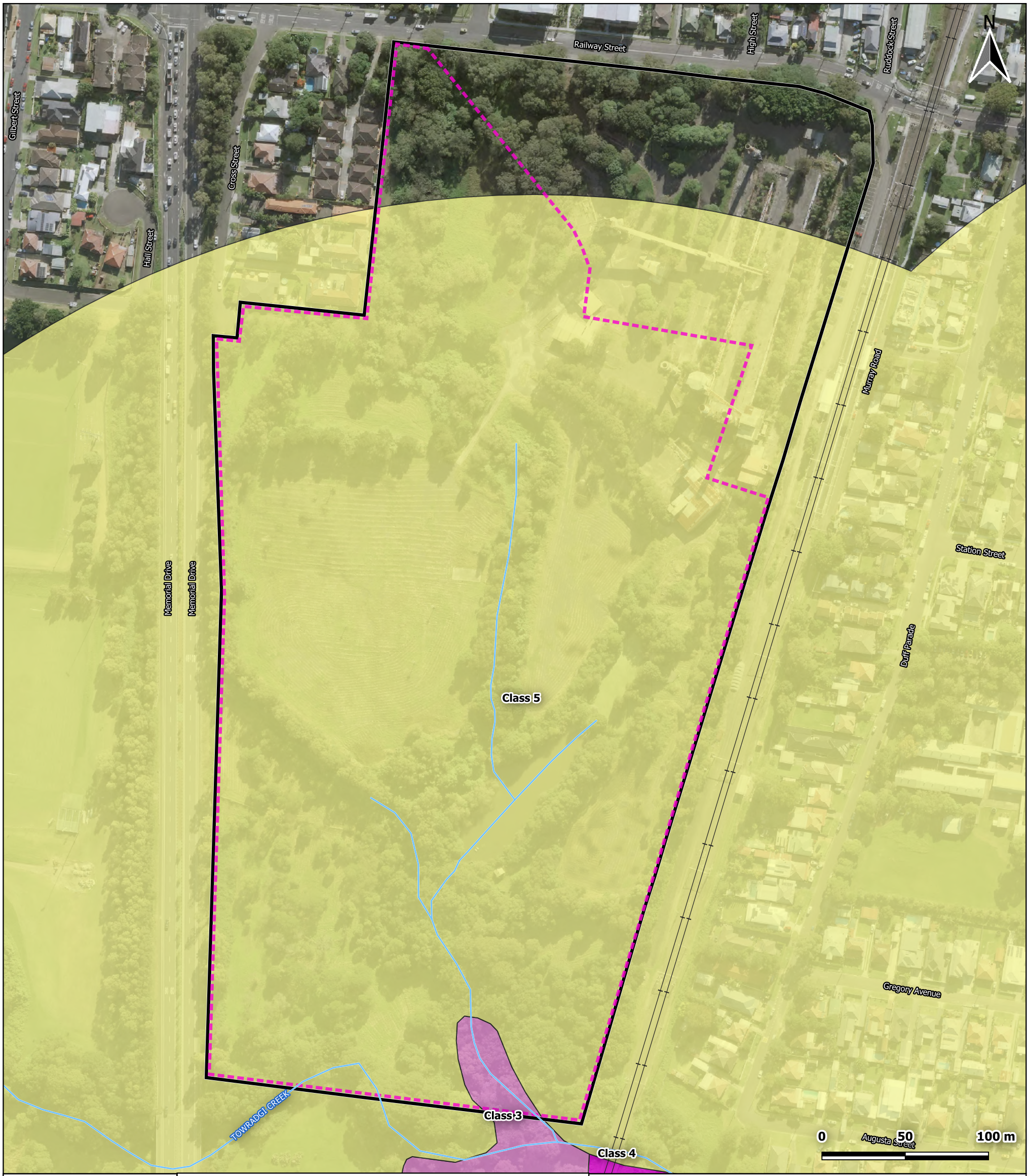
Stage 2 Redevelopment - Former Corrimal Coke Works, Railway Street, Corrimal, NSW

22158 - Remediation Action Plan

LegPro 70 Pty Ltd ATF LegPro 70 Unit Trust c/- Legacy Property Pty Ltd

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Date of Export	**Map Scale (approx. at A3)**
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Author	**Approver**
MB	DJ
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

- Site Boundary
- Stage 2 Boundary

NSW EPI Acid Sulfate Soils

- Class 3
- Class 4
- Class 5

Figure 3 - Acid Sulfate Soils Classification

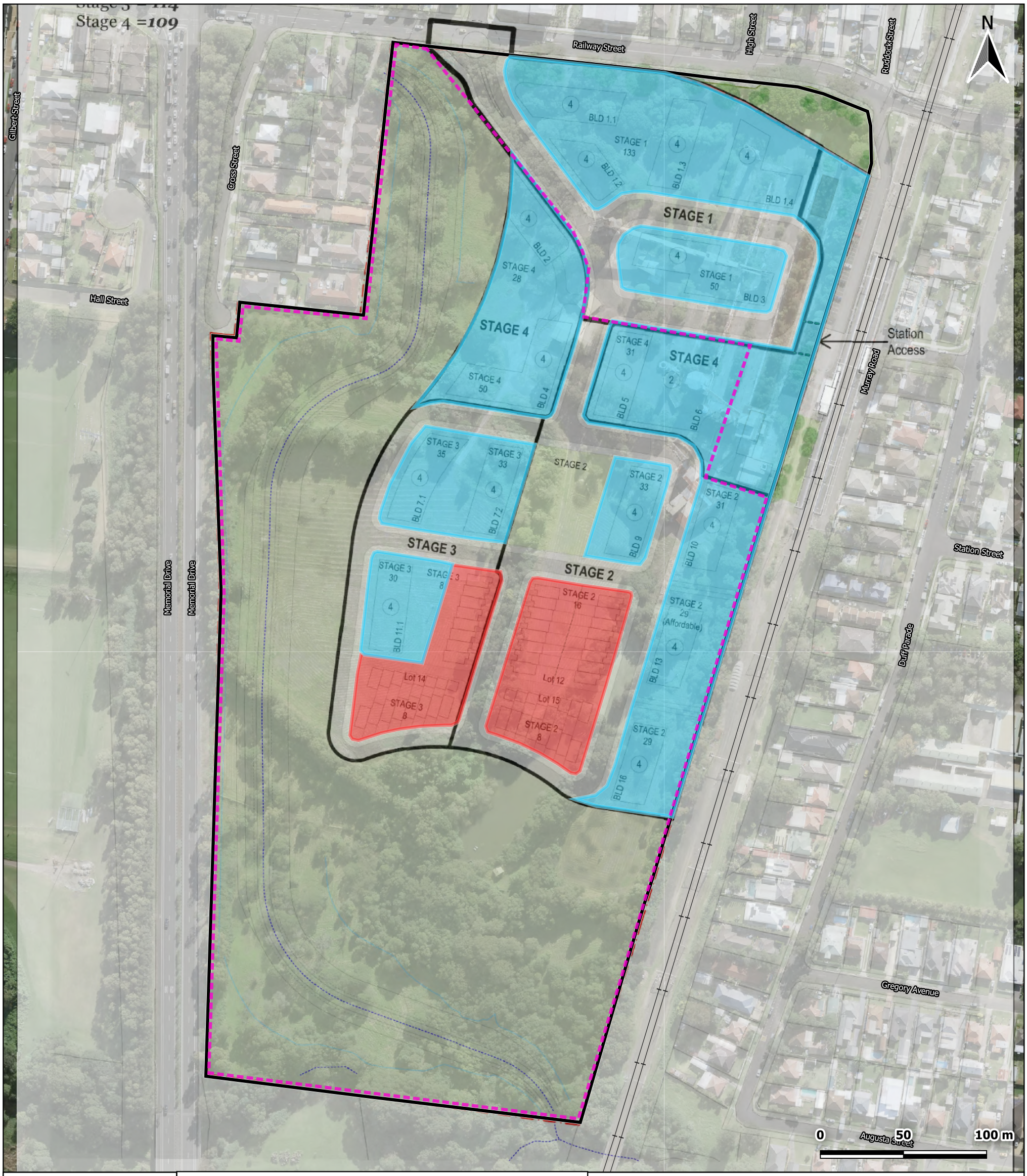
Stage 2 Redevelopment - Former Corrimal Coke Works, Railway Street, Corrimal, NSW

22158 - Remediation Action Plan

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Map	
22158_rp07_f04_landuse_v01	
Date of Export	**Map Scale (approx. at A3)**
13/01/2023	1:2,300
Author	**Approver**
MB	DJ
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

- Site Boundary
- Stage 2 Boundary
- High-Density Residential Land Use Area
- Low-Density Residential Land Use Area

*Unshaded areas outside low- and high-density residential land use classified. as "Recreational and Public Open Space" land

Figure 4 - Land Uses & Redevelopment Staging

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13/01/2023	1:1,200
Author	**Approver**
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Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

- Site Boundary
- Stage 2 Boundary
- Low-Density Residential Land Use Area
- ADI (1996) Locations
- Envirorisk (05-06) Locations
- CES (2006) Locations
- ES (2014) Locations
- DP (2019) Locations
- Arcadis (2017) Locations
- Arcadis (2018) Locations
- Reditus (2020) Locations

Figure 5 - Low-Density Residential Areas - Historical Sample Locations

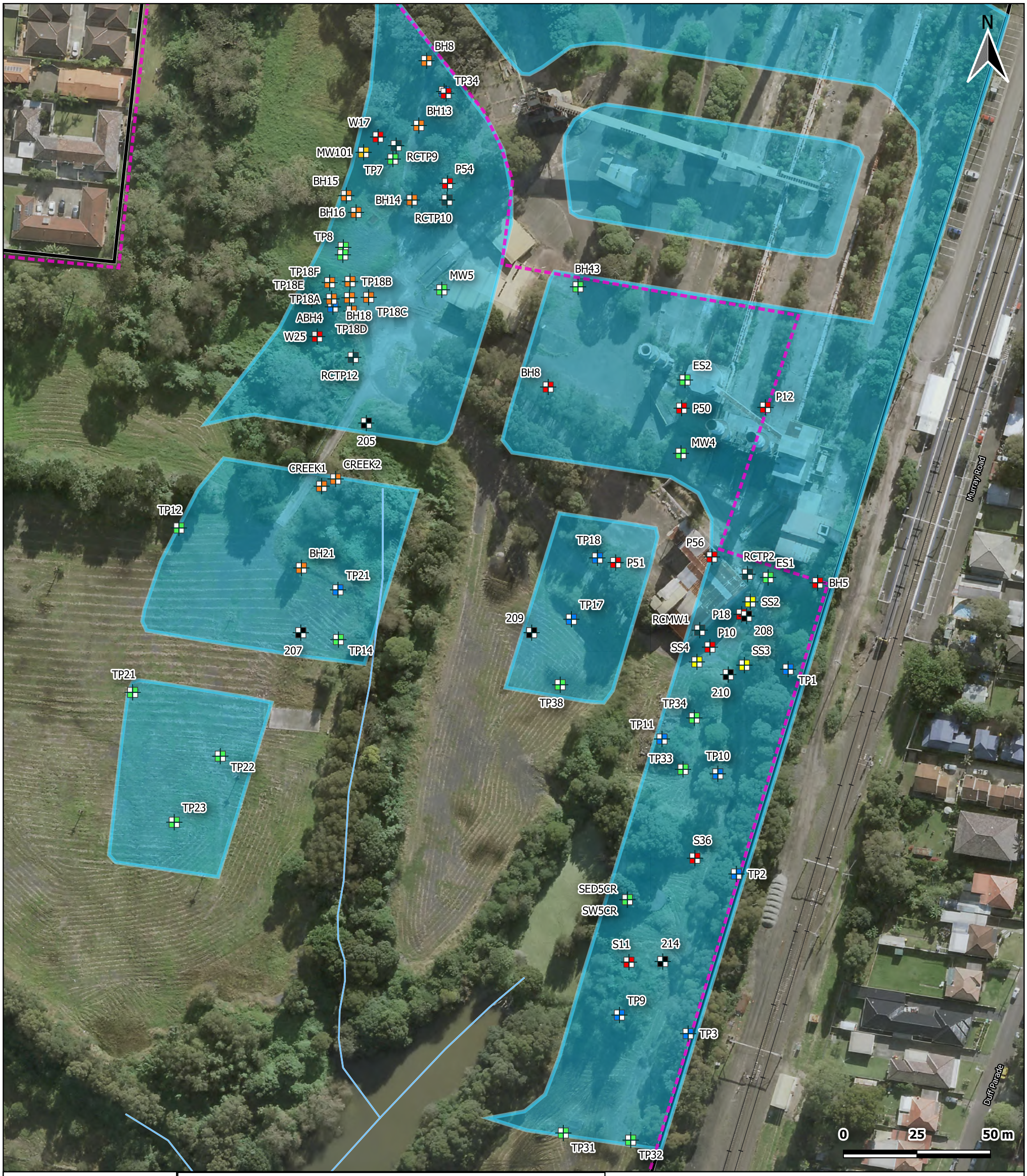
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Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

- Site Boundary
- Stage 2 Boundary
- HIL-B Area
- ADI (1996) Locations
- Envirorisk (05-06) Locations
- CES (2006) Locations
- ES (2014) Locations
- DP (2019) Locations
- Arcadis (2017) Locations
- Arcadis (2018) Locations
- Reditus (2020) Locations

Figure 6 - High-Density Residential Areas - Historical Sample Locations

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Author	**Approver**
MB	DJ
Data Source	
Metromap, Google Maps, Open Street Map, Geoscience Australia	

Legend

- Site Boundary
- Stage 2 Boundary
- HIL-B Area
- HIL-A Area
- ADI (1996) Locations
- Envirorisk (05-06) Locations
- CES (2006) Locations
- ES (2014) Locations
- DP (2019) Locations
- Arcadis (2017) Locations
- Arcadis (2018) Locations
- Reditus (2020) Locations

Figure 7a - Public Open Space Areas - Historical Sample Locations (North)

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Legend

- Site Boundary
- Stage 2 Boundary
- HIL-B Area
- HIL-A Area
- ADI (1996) Locations
- Envirorisk (05-06) Locations
- CES (2006) Locations
- ES (2014) Locations
- DP (2019) Locations
- Arcadis (2017) Locations
- Arcadis (2018) Locations
- Reditus (2020) Locations

Figure 7b - Public Open Space Areas - Historical Sample Locations (South)

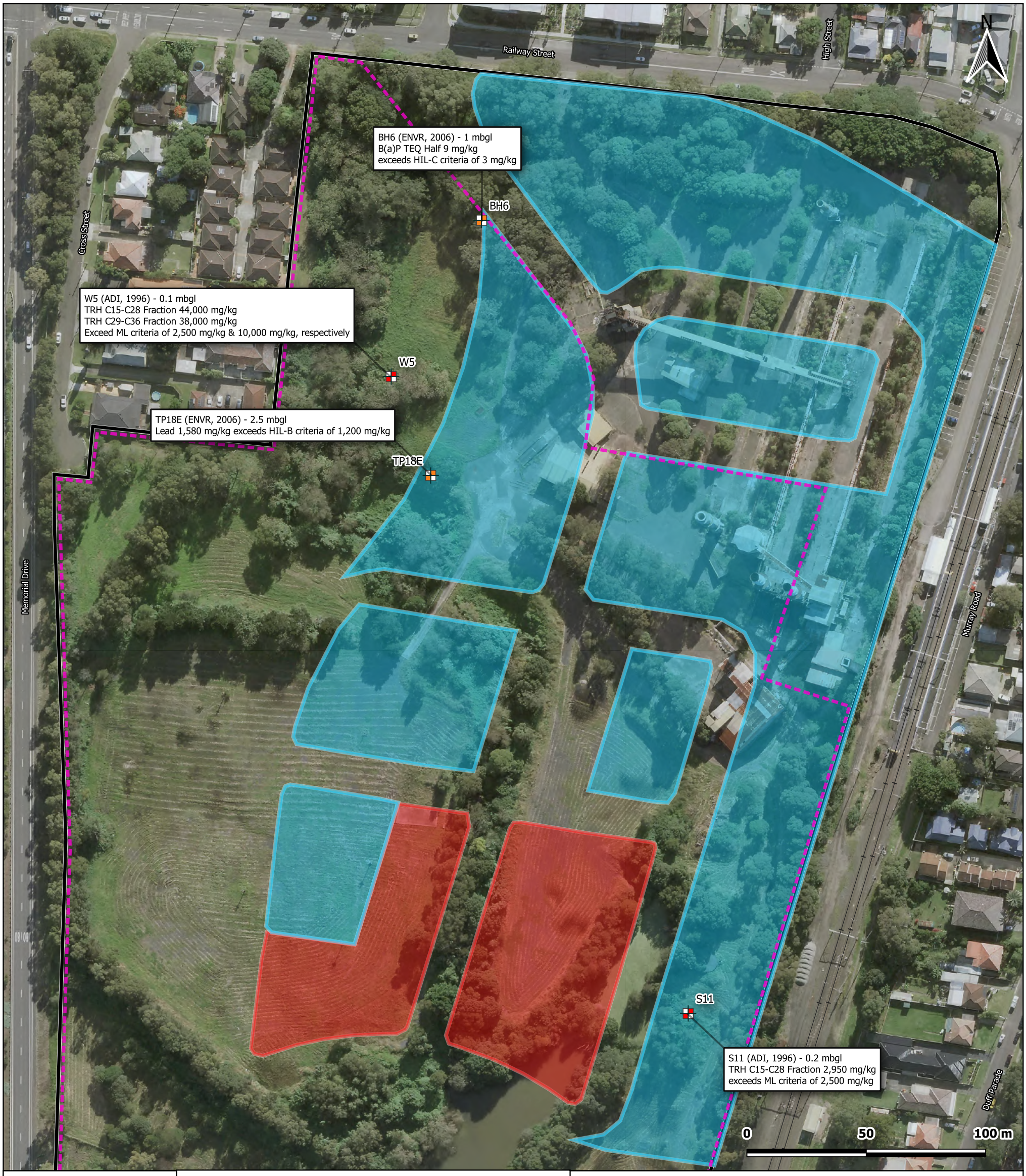
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MB	DJ
Data Source	
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Legend

- Site Boundary
- Stage 2 Boundary
- HIL-A Area
- HIL-B Area
- ADI 1996 Locations
- EnviroRisk 2006 Locations

Figure 8a - ADI (1996) & EnviroRisk (2006) Soil Exceedances

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