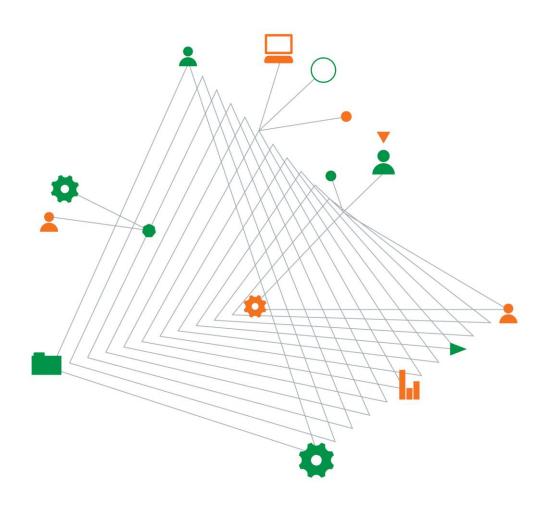


Norton Rose Fulbright Australia Expert Witness Report of Mr Phil Sinclair

Re: Monash Planning Scheme Amendment C129

28 July 2017



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Expert Witness Report of Mr Phil Sinclair

Re: Monash Planning Scheme Amendment C129

Prepared for Norton Rose Fulbright Australia

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28 July 2017

Reference: ENAUABTF00751AC-R01

Table of contents

1.	Intro	duction		1
	1.1.	Summ	ary of opinions expressed	1
	1.2.	Backgı	round	2
	1.3.	Instruc	ctions	2
	1.4.	Form o	of report	3
	1.5.	Qualifi	cations and Experience	4
	1.6.	Refere	ence to reports relied upon	5
	1.7.	Enviro	nmental Site Assessment Framework	7
	1.8.	Audito	r endorsement	8
2.	Site	descripti	on and history	9
	2.1.	Site De	escription	9
		2.1.1.	Zone 1 – Northwest portion of the site	9
		2.1.2.	Zone 4 – Southwest portion of the site	10
		2.1.3.	Zones 2, 3, and 5 – Eastern portion of the site	10
	2.2.	Adjace	ent land use	11
		2.2.1.	Talbot Park	11
	2.3.	Site his	story overview	11
3.	Site i	nvestiga	ation history	13
	3.1.	Summ	ary of historical assessment reports	13
	3.2.	Curren	nt Environmental Site Assessment (ESA) works	19
		3.2.1.	Summary of current soil investigations	20
		3.2.2.	Summary of current groundwater investigations	21
		3.2.3.	Summary of current landfill gas investigations	23
		3.2.4.	Remaining scope of works	24
4.	Suita	bility of	site for sensitive uses	25
	4.1.	Remed	diation goals	25
	4.2.	Summ	ary of key issues and proposed remediation strategy	25
	4.3.	Implica	ations of current data on the SESP	29
		4.3.1.	Soil	29
		4.3.2.	Groundwater	29
		4.3.3.	Landfill gas	30
		4.3.4.	Summary	31
	4.4.	Remed	diation approach for current risk profile	31
5.	Timir	ng of Au	dit and Review of ESA and SESP	35

	J. I.	Timing of Audit and Planning Amendment	აວ
	5.2.	Review of SESP and ESA	35
6.	Geot	technical issues	37
7.	Resp	oonse to other submissions	38
	7.1.	VPA submission	38
	7.2.	EPA submission	38
	7.3.	Valente Submission	40
8.	Ехре	ert declaration	43
9.	State	ement of Uncertainties	44
40	Dofo	vances.	
10.	Keie	rences	45
10.	Kele	rences	45
		in Text	45
Tal	oles		
Tal Tab	bles le 2.1	in Text	9
Tal Tab Tab	bles le 2.1 le 2.2	in Text : General Site Information	9
Tal Tab Tab Tab	bles ole 2.1 ole 2.2 ole 3.1	in Text : General Site Information: : Site History Summary	9 12

Appendices

Appendix A – Figures

Appendix B - Tables

Appendix C – Borelogs

Appendix D – Letter of Instruction

Appendix E - Curriculum Vitae of Phil Sinclair

Appendix A - Figures

Figure 1: Site Locality Plan

Figure 2: Site Layout Plan

Figure 3: Timeline of Site History & Site Investigations

Figure 4A: Groundwater Well and Gas Bore Location Plan

Figure 4B: Test Pit Location Plan

Figure 5A: Soil Analytical Results (Hydrocarbons)

Figure 5B: Soil Analytical Results (Metals)

Figure 5C: Soil Analytical Results (PAHs)

Figure 5D: Soil Analytical Results (Asbestos in Soil)

Figure 5E: Soil Analytical Results (pH)

Figure 6A: Gas Bore Monitoring Results (August 2017)

Figure 6B: Gas Bore Monitoring Results (March 2017)

Figure 7A: Surface and Utility Pit Monitoring (August 2017)

Figure 8B: Surface and Utility Pit Monitoring (March 2017)

Figure 8A: Groundwater Gradient Plan (September 2016)

Figure 8A: Groundwater Gradient Plan (March 2017)

Figure 9A: Groundwater Analytical Results - Benzene

Figure 9B: Groundwater Analytical Results – TRH C6-C10

Figure 9C: Groundwater Analytical Results – TRH C10-C16

Figure 9D: Groundwater Analytical Results – TRH C10-C40

Figure 9E: Groundwater Analytical Results – Ammonia

Figure 9F: Groundwater Analytical Results - pH

Figure 10A: Remedial Options for Masterplan

Figure 10B: Zone 1 Conceptual Design Gas Mitigation

Figure 10C: Zones 2, 3 & 5 Conceptual Design Gas Mitigation

Figure 10D: Zone 4 Conceptual Design Gas Mitigation

Appendix B - Tables

- Table 1A: Soil Analytical Results (Hydrocarbons and Metals)
- Table 1B: Soil Analytical Results (PAHs and PCBs)
- Table 1C: Soil Analytical Results (Pesticides)
- Table 1D: Soil Analytical Results (Asbestos in Soil)
- Table 1E: Soil Analytical Results (Physical Properties)
- Table 2A: Current Gas Bore Monitoring (March 2017)
- Table 2B: Historical Gas Bore Monitoring
- Table 3: Groundwater Well Survey Data
- Table 4: Historical Groundwater Gauging Data
- Table 5: Historical Water Quality Parameters
- Table 6A: Groundwater Analytical Results (August/September 2016)
- Table 6B: Groundwater Analytical Results (August/September 2016 Broad Screen)
- Table 7A: Groundwater Analytical Results (March 2017)
- Table 7B: Groundwater Analytical Results (March 2017 Broad Screen)

Abbreviations

B(a)P	benzo(a)pyrene
ВРЕМ	Best practice environmental management
втех	benzene, toluene, ethylbenzene, xylenes
BTEXN	benzene, toluene, ethylbenzene, xylenes and naphthalene
COPC	Contaminants of potential concern
EIL	Ecological Investigation Level
EPA	Environment Protection Authority
ESA	Environmental Site Assessment
GME	Groundwater monitoring event
GQMP	Groundwater Quality Management Plan
GSV	Gas Screening Value
HIL	Health investigation level
LOR	Limit of Reporting
mbgs	Metres below ground surface
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
NATA	National Association of Testing Authorities
NEPM	National Environment Protection Measure
NHMRC	The National Health and Medical Research Council
PAH	Polycyclic Aromatic Hydrocarbon
SEPP	State Environment Protection Policy
SESP	Site Environmental Strategy Plan
TDS	Total Dissolved Solids
ТРН	Total Petroleum Hydrocarbon
TRH	Total Recoverable Hydrocarbon
μg/L	micrograms per litre

1. Introduction

On 20 July 2017, I, Phil Sinclair of Coffey Services Australia Pty Ltd (Coffey), Level 1 436 Johnston Street, Abbotsford, Victoria, 3067, was requested by Norton Rose Fulbright Australia (NRF) to prepare an expert report in relation to Amendment C129 of the Monash Planning Scheme, to rezone land at 1221 -1249 Centre Road, Oakleigh South, to the comprehensive development zone. NRF is acting on behalf of the proponent for the development of the property, Sterling Global.

The Planning Panel Victoria Directions (PPV) hearing of 6 July 2017, resulted in the panel providing directions to the parties involved in the hearing in its letter of 10 July 2017 (PPV 2017).

The PPV directed that an expert witness report reviewing previous contamination reports must be circulated by 2.00pm on Friday, 28 July 2017. This document is that expert report.

1.1. Summary of opinions expressed

It is my opinion that:

- The contamination status of soil at the site has been adequately assessed. I conclude that the
 main soil contaminants of concern with respect to the proposed uses of the site are arsenic,
 petroleum hydrocarbons and asbestos containing materials. While copper, nickel and zinc
 were reported to be widespread, they are not assessed to be contaminants likely to prevent
 proposed uses of the site.
- The contamination status of groundwater at the site has been adequately assessed to the extent necessary to support a Section 53X environmental audit of the site, subject to (i) completion of the groundwater assessment described in Section 3.2.4, which would complete the scope for the groundwater assessment endorsed by the Environmental Auditor and (ii) the following assessments which would be required to assess the potential for off-site impacts to the beneficial uses of groundwater:
 - The that clarification of the groundwater flow regime in the vicinity of BH18 and BH19 by way of installation of groundwater monitoring wells to the east of these locations and assessment of groundwater levels.
 - The assessment of potential groundwater contamination off-site to the east of BH19 for the petroleum hydrocarbon fraction C10-C40 and ammonia.
- The assessment of the occurrence of landfill gases on-site and beyond the boundary the site
 has been adequately assessed to the extent necessary to support a Section 53X environmental
 audit of the site; subject to completion of the additional landfill gas testing described in Section
 3.2.4, which would complete the scope of the landfill gas assessment endorsed by the
 Environmental Auditor.
- Recent soil and groundwater analytical results are consistent with previous ESA findings and the soil and groundwater remediation strategy adopted in the SESP is appropriate, reasonable and practicable as a means of making the site suitable for sensitive land uses.
- With regards the landfill gas assessment, the Characteristic Situation reported during the August 2016 and March 2017 assessments is a level higher than reported in the SESP for parts of the site.

The assessment and remediation implementation process outlined in the SESP remains viable and appropriate; while the technical and design details for the gas mitigation measures require updating. Details of the design of the gas extraction system for residential development would need to be adjusted to take this increase in gas risk into account, as indicated in Appendix A, Figure 10B – 'Moderate to High' Concept Design. This is addressed in Section 4.4 below.

An alternative approach would be for less sensitive uses to be adopted for land on or adjacent to the areas of increased gas risk. Either approach would be consistent with the adopted comprehensive development plan for the site.

- Providing that careful consideration of the geotechnical and environmental conditions of the site
 is given in the design and implementation phases, it is considered that the remedial measures
 proposed in the SESP, with the amendments detailed Section 4.4 below, will allow the
 appropriate redevelopment of the site.
- It is appropriate and reasonable to delay the requirement for a Statement of Audit until after Amendment C129 is approved, this opinion is based on similar matters I have been involved in and on the practice adopted for similar sites of which I am aware.
- It is not necessary for the SESP and ESA to be approved by Council prior to the lodgement of any planning permit application. In my opinion, it is appropriate for Council to rely on the authority and experience of the EPA appointed environmental auditor for the approval of the SESP and ESA as an integral part of the completion of the environmental audit of the site.

If Council decides to review the ESA and SESP; it would be most appropriate to do so after lodgement of the planning application and prior to issuing of the planning permit as the review can then take into account related documents submitted to support the application.

1.2. Background

On 2 August 2016, Urbis Pty Ltd (Urbis), on behalf of Sterling Global, submitted a planning scheme amendment request to the City of Monash to rezone the land at 1221 - 1249 Centre Road, Oakleigh South (the site) from Special Use Zone - Schedule 2 and General Residential Zone - Schedule 2 to Comprehensive Development Zone - Schedule 2, and to add an incorporated document to the planning scheme in the form of a comprehensive development plan (Amendment C129).

1.3. Instructions

This report has been prepared at the request of NRF with the following scope of works (based on the letter of instruction provided by NRF to me dated 20 July 2017 and attached in **Appendix D**):

- 1. Review background materials enclosed in the brief from NRF;
- 2. Confer with instructing solicitors and counsel, Joanne Lardner, where necessary;
- 3. Prepare an Expert Report which addresses:
 - a. Site contamination issues including:
 - i. A summary of the historical use and development of the Land;
 - ii. A summary of any contamination issues associated with the Land, the environmental assessments undertaken to date and any recommendations made;

- iii. My opinion in regards to whether the Land can be made suitable to accommodate sensitive uses and, if so, what measures are required to be implemented;
- iv. My opinion in regards to whether it is appropriate and reasonable to delay the requirement for a Statement of Audit until after Amendment C129, citing any relevant examples of similar matters I have been involved in;
- v. My opinion in regards to whether it is appropriate or necessary for the SESP and ESA to be approved by Council prior to the lodgement of any planning permit application, citing any relevant similar examples I have been involved in; and
- b. My understanding of the conclusions reached by Coffey Geotechnics concerning geotechnical issues on the site:
- c. My response to the submissions of agencies and other parties to the Council in respect of the Amendment, as relevant to my area of expertise; and
- 4. My attendance at the Public Hearing of this matter on 9 August 2017 for the purpose of presenting my expert opinion concerning these matters and my subsequent attendance at a site inspection with the Panel on 10 August 2017.

1.4. Form of report

This Expert Report has been prepared in accordance with the PPV 'Guide to Expert Evidence' (April 2017). In order to address the requirements of the guidance the following information has been included in the report and can be found in the section listed below:

- the name and address of the expert: Section 1
- the expert's qualifications and experience: Section 1.5 & Appendix E
- a statement identifying the expert's area of expertise to make the report: Section 1.5
- a statement identifying any other significant contributors to the report and where necessary outlining their expertise: Section 1.5
- all instructions that define the scope of the report (original and supplementary and whether in writing or oral): Section 1.3 and Appendix D
- the identity of the person who carried out any tests or experiments upon which the expert has relied on and the qualifications of that person: Section 1.6
- an unambiguous reference to the report, or reports that the expert relies upon: Section 1.6 and Section 10
- a statement identifying the role that the expert had in preparing or overseeing the exhibited report(s): Section 1.6
- a statement to the effect that the expert adopts the exhibited report and identifying:
 - any departure of the expert from the finding or opinions expressed in the exhibited report:
 Section 1.1 and Section 3 through Section 4
 - any questions falling outside the expert's expertise: Section 1.6 and Section 6
 - any key assumptions made in preparing the report: Section 3.2
 - whether the exhibited report is incomplete or inaccurate in any respect: Section 1.1 and Section 3 through Section 4
- expert declaration: Section 8

In order to address the instructions (refer Section 1.3) the following information has been reviewed and summarised in the following sections of my Expert Report:

- Section 2 provides a summary of historical use and development of the site;
- Section 3 provides a summary of the environmental assessments undertaken to date (including recent and on-going works) and contamination identified at the site;
- Section 4 provides a summary of the key contamination issues associated with the site, recommendations made in order to make the site suitable for sensitive uses and my opinion in this matter;
- Section 5 provides my opinion as to whether it is appropriate and reasonable to delay the
 requirement for a Statement of Audit until after Amendment C129 and whether it is appropriate or
 necessary for the SESP and ESA to be approved by Council prior to the lodgement of any
 planning permit;
- Section 6 summarises my understanding of the conclusions reached by Coffey Geotechnics concerning geotechnical issues on the site;
- Section 7 provides my response to the submissions of agencies and other parties to the Council in respect of the Amendment; and
- Section 8 contains my declaration with regards to the completeness of this Expert Report.

1.5. Qualifications and Experience

My tertiary educational qualifications are: Master of Applied Science from Chisholm University (now Monash) and a Bachelor of Science (Hons) Monash University. I have more than 40 years of experience in environmental management, assessment and investigation. My experience includes both environmental assessment and auditing of site impacts due to contamination of soil and groundwater, specifically addressing impacts to beneficial uses as identified in the Environment Protection Act 1970 and subsequent State Environmental Protection Policies (SEPPs). In my role at Coffey, I have 20 years of experience in contaminated site assessment and remediation.

I have been an appointed EPA Environmental Auditor (Contaminated Land) in Victoria since 1998, completing more than 100 environmental audits. I have also completed 18 audits of contaminated land in South Australia and am currently an appointed auditor in Queensland. A copy of my Curriculum Vitae has been provided as **Appendix E**.

I represent Coffey on the Australian Contaminated Land Consultant Association's (ACLCA) Regulatory Affairs and Audit Focus Group and Australasian Land and Groundwater Association (Vic), am a former member of the Executive Committee of the ACLCA (Vic) and am a member of the Victorian Planning and Environmental Law Association and Royal Australian Chemical Institute (Chartered Chemist).

Fifteen of the 100 plus audits I have completed involved assessment of former landfills for specific landuses or assessment of the potential impact from landfills on the use of nearby sites I was auditing. One of these 15 sites involved the proposed use of a former solid inert landfill for sensitive (residential) use in Cavanagh Street, Cheltenham. More than 200 houses have been built and are occupied on the Cavanagh Street property.

I have provided expert witness reports to planning panel hearings, disputes and courts cases in relation to contamination at or development of a number of contaminated sites. Examples include:

- Provision of expert advice to the planning panel for a former Leather Works in Gadd Street, Northcote (2009),
- Provision of expert advice to the planning panel related to the extension of a hospital onto land impacted by landfilling in Epping,

- Provision of expert advice to the legal representative of the owner of a former industrial manufacturing site in the City of Whittlesea (current)
- Provision of expert advice to the legal representative of a consulting company and its professional indemnity insurer involved in litigation with a construction company, including on the quality of work conducted and whether the environmental site assessment work was of a reasonable standard.
- While working with EPA (1989-1997) provided expert witness advice related to potential prosecutions.

In my opinion, the information and qualifications referred to above, identify my areas of expertise as contaminated site assessment and auditing, remediation of contaminated sites so they are suitable for a range of uses, assessment of risks posed by past land uses including former landfill to proposed land uses and the relationship between contaminated site assessment and contaminated site auditing and planning requirements.

As identified in Section 6, in my opinion I have sufficient experience and auditing expertise that I can provide comment on geotechnical and geo-environmental assessments to the extent that they impact on remediation and environmental management of contaminated sites, including landfills.

This report has been prepared in part and under my instruction by Mr Nicholas Woodford of Coffey. Mr Woodford is an environmental risk assessor with over 10 years of experience within the private sector. Mr Woodford's experience is in conducting human health, environmental and landfill gas risk assessments, developing risk management options as well as conducting landfill gas and vapour intrusion sampling, assessment and modelling. Mr Woodford assisted me in the preparation of the audit report and in post-audit verification of the boundary gas protection systems at the Cheltenham site.

1.6. Reference to reports relied upon

In preparation of this Expert Report, the following reports have been reviewed:

AMAL Black:

- AMAL Black Pty Ltd (10 May 2002a) Preliminary Geochemical and Geotechnical Investigation, Ex Pioneer Quarry Property, Talbot Avenue, Oakleigh, VIC;
- AMAL Black Pty Ltd (September 2002b), Geochemical Assessment of Environmental Embankments, Ex Pioneer Quarry Property, Talbot Avenue, Oakleigh, VIC;
- AMAL Black Pty Ltd (September 2002c), *Hydrogeological Assessment, Ex Pioneer Quarry Property, Talbot Avenue, Oakleigh, VIC*;

HLA:

- HLA-Envirosciences Pty Ltd (April 2004a) *Environmental Site Assessment, Former Pioneer Quarry, Talbot Avenue, Oakleigh, VIC*;
- HLA-Envirosciences Pty Ltd (July 2004b) Environmental Site Assessment Stage 2, Former Pioneer Quarry, Talbot Avenue, Oakleigh, VIC;
- HLA-Envirosciences Pty Ltd (January 2005a) *Environmental Site Assessment Phase 3, Former Pioneer Quarry, Talbot Avenue, Oakleigh, VIC*;

- HLA-Envirosciences Pty Ltd (May 2005b) Stockpile Sampling, Talbot Avenue Development, Oakleigh;
- HLA-Envirosciences Pty Ltd (July 2005c) Groundwater Numerical Modelling Former Quarry, Talbot Avenue, Oakleigh;
- HLA-Envirosciences Pty Ltd (January 2006) Assessment of Risk Posed by Landfill Gas Former Quarry, Talbot Avenue, Oakleigh;

AECOM:

 AECOM Australia Pty Ltd (November 2010) Landfill Gas Monitoring and Reporting - Former Quarry, Talbot Avenue, Oakleigh South;

· Lane Piper:

- Lane Piper Pty Ltd (November 2010a) Landfill Gas Report of 1 November 2010 Talbot Avenue, Oakleigh South, Vic;
- Lane Piper Pty Ltd (November 2010b) *Environmental & Geotechnical Feasibility, Talbot Avenue, Oakleigh South, Vic*;

• Tonkin and Taylor

 Tonkin and Taylor Ltd (May 2011) In-situ Soil Classification Assessment, Talbot Avenue, Oakleigh South, Vic;

• Coffey (Environments):

- Coffey Environments Australia Pty Ltd (May 2014a) Initial Site Investigation, 1221 to 1249
 Centre Road & 22 Talbot Avenue, Oakleigh South, VIC;
- Coffey Environments Australia Pty Ltd (May 2014b), Remediation Options Report, 1221 to 1249 Centre Road & 22 Talbot Avenue, Oakleigh South, VIC;
- Coffey Environments Australia Pty Ltd (June 2014c) Issues Summary Report, 1221 to 1249
 Centre Road & 22 Talbot Avenue, Oakleigh South, VIC;
- Coffey Environments Australia Pty Ltd (June 2014d), Huntingdale Estate Zone 4
 Environmental Site Assessment Soil, Sediment & Surface Water, Zone 4 of 1221 to 1249
 Centre Road and 22 Talbot Avenue, Oakleigh South, VIC;
- Coffey Environments Australia Pty Ltd (July 2014e), Huntingdale Estate Environmental Site Assessment: Soil, Groundwater and Landfill Gas Assessment, 1221 – 1249 Centre Road & 22 Talbot Avenue, Oakleigh South, Victoria;
- Coffey Environments Australia Pty Ltd (September 2014f), Fill Assessment in Zone 2 at 1221
 1249 Centre Road, Oakleigh South, Victoria.
- Coffey Environments Australia Pty Ltd (November 2014g), Huntingdale Estate: Site Environmental Strategy Plan, 1221 1249 Centre Road & 22 Talbot Avenue, Oakleigh South, Victoria;
- Coffey Environments Australia Pty Ltd (Coffey, August 2015a) Workplan for Supplementary Environmental Site Assessment, 1221 – 1249 Centre Road & 22 Talbot Avenue, Oakleigh South, Victoria;
- Coffey Environments Australia Pty Ltd (September 2015b), Site Backfilling Protocol, 1221 to 1249 Centre Road & 22 Talbot Avenue, Oakleigh South, Victoria;
- Coffey Environments Australia Pty Ltd (September 2015c), Construction Environmental Management Plan – Backfilling Works, 1221 to 1249 Centre Road & 22 Talbot Avenue, Oakleigh South, Victoria;

• Coffey (Geotechnics):

- Coffey Geotechnics Pty Ltd (December 2013) Report on Geotechnical Investigations, Huntingdale Estate, 1221 – 1249 Centre Road, Oakleigh South;
- Coffey Geotechnics Pty Ltd (June 2015a) Zone 4 Backfill Design Report, Huntingdale Estate, Oakleigh South, VIC;
- Coffey Geotechnics Pty Ltd (June 2015b) Zone 4 Backfill Design Specification, Huntingdale Estate, Oakleigh South, VIC;
- Coffey Geotechnics Pty Ltd (Coffey, November 2015c) Zone 4 Construction Quality Assurance Plan, Huntingdale Estate, Oakleigh South, VIC;

More than 15 current and former Coffey staff have been involved in preparation of the supporting reports, so they have not been named individually in this expert report. The names of the Coffey engineers and scientists who collected samples and interpreted test results under my or my senior colleagues instructions are listed at the front of each report and in field records contained in each report.

The majority of the ESA reporting was directed by former Coffey employee Mr Stephen Cambridge. Each ESA, Workplan and report was reviewed by me prior to it being issued.

A number of laboratories were used to provide contamination or other soil, groundwater or gas testing services. Only laboratories accredited by the National Association of Testing Authorities (NATA) were used. The identity of the laboratories are provided in each of the reports. Signatories of the NATA reports are identified in each certified laboratory report.

I advise that I have adopted the Coffey Environments reports, as listed above and except where indicated in this report, and have identified where there are departures from the findings expressed in Coffey (November 2014g) in Section 4.3 of this report.

In Section 6, I have identified that I am not a geotechnical expert and stated the extent of my knowledge in that discipline in providing comments on geotechnical matters. Former Coffey employee Mr David Annan project managed the majority of the geotechnical investigation and reporting under the direction of Mr Ian Pedler. Mr Ian Pedler has also been engaged by Sterling Global to prepare an Expert Report regarding the geotechnical aspects of the site.

The key assumptions made in preparing the Coffey Environments reports listed above are contained in each report.

In my opinion, the reports as listed above are complete and accurate except where identified in this expert report.

1.7. Environmental Site Assessment Framework

The environmental site assessment and remediation works completed at the site have been conducted in accordance with the regulatory framework and industry best practise as detailed in the following state, national and international policies and guidelines:

- State Environment Protection Policy (Prevention and Management of Contamination of Land);
- State Environment Protection Policy (Air Quality Management);
- State Environment Protection Policy (Ambient Air Quality);

- NEPC (2013) National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1);
- EPA Victoria (2015) Publication 788.3 'BPEM, Siting, Design, Operation, and Rehabilitation with Landfills';
- EPA Victoria (2011) Publication 1323.2 Landfill Licensing Guidelines';
- EPA Victoria (2000) Publication 722 'Environmental Guidelines for Reducing Greenhouse Gas Emissions from Landfills and Wastewater Treatment Facilities'.
- United Kingdom Environment Agency (2004) LFTGN 03 'Guidance on the management of landfill gas';
- CIRIA (2007) Publication 665 'Assessing risks posed by hazardous ground gases to buildings'
- British Standard (2015) BS8484:2015 'Code of Practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings'

The international guidance documents relating to the assessment of landfill gases have been adopted due to the lack of Australian guidance documents. This is considered industry best practice and these documents are referenced in EPA Victoria Publications.

1.8. Auditor endorsement

The site is currently the subject of a Section 53X Environmental Audit being conducted by a third party independent EPA Contaminated Land Auditor (Mr Ken Mival). Mr Ken Mival prepared correspondence titled 'Proposed Redevelopment of Talbot Road Landfill Sites at 1221 to 1249 Centre Road, Oakleigh, City of Monash, Victoria – Site Environmental Strategy Plan' which he sent to Sinclair Brook on behalf of Sterling Global 28 November 2014 within which he stated the he has reviewed the following reports:

- Issues Summary Report (Coffey, June 2014c);
- Remediation Options Report (Coffey, May 2014b);
- Site Backfilling Protocol (Coffey, September 2015b);
- Environmental Site Assessments for Zone 4 (Coffey, June 2014d) / (Coffey, July 2014e);
- Workplan for Supplementary Site Assessment (Coffey, August 2015a); and
- Site Environmental Strategy Plan (Coffey, November 2014g).

Mr Ken Mival went on to provide the following endorsement of the SESP (Coffey, November 2014g):

Having considered the information available for the site up to November 2014, in our experience the remediation options being proposed by Coffey for this site in the Strategy Plan and the supporting documents listed in this letter, are consistent with similar approaches to remediation of these types of sites, and are considered to be feasible if implemented diligently and with due regard to the physical site properties and the materials used.

Provided that they are suitably implemented in accordance with the Plan, good practice, and any conditions required by a Statement of Environmental Audit when issued, we consider that there is no overriding issue that would prevent redevelopment of the site, or portions of the site, subject to the suitable completion of the remedial processes outlined in Coffey's Strategy Plan, and completion of the audit process with acceptance by EPA.

2. Site description and history

2.1. Site Description

General site information is presented in Table 2.1 below. A Site Locality Plan is included as **Figure 1**, **Appendix A**.

Table 2.1: General Site Information

Site Name	Huntingdale Estate, Talbot Avenue, Oakleigh South
Site Address	1221-1249 Centre Road and 22 Talbot Avenue, Oakleigh South, Victoria
Title Identification Details including Folio and Volume	Volume 63313, Folio 437 (Zone 3 & 5)
Numbers	Volume 3645, Folio 846 (Zone 2)
	Volume 8550, Folio 541 (Zone 4)
	Volume 8343, Folio 532 (Zone 1)
Approximate Total Site Area	19.09 Hectares
Current Zoning	Residential Zone 1 and Special Use Zone 2
Current site use	Vacant

The site is currently vacant and consists of generally unpaved undulating ground, including soil stockpiles in some parts of the site. There is also a large quarry void in the south-western portion of the site, which is partially filled with water. For the purposes of site investigations, the site has been divided into five zones, based on the previous quarrying and operational activities on the site. A site plan showing the current condition of the site and Zone boundaries is presented on **Figure 2**, **Appendix A**. The following provides a summary of each of the five zones across the site:

2.1.1. Zone 1 – Northwest portion of the site

Zone 1 comprises a former sand pit that has been used as landfill. Based on boreholes drilled during the environmental investigations conducted at the site, the subsurface conditions within Zone 1 generally comprise uncontrolled fill and landfill materials extending to depths of up to approximately 18m. The landfill appears to be capped with un-engineered fill between 1 to 5 m in thickness.

Borelogs indicate that the content and extent of refuse material varies across the zone with trace amounts of refuse (generally consisting of domestic waste, green waste, tyres, fabric, plastic) and foundry wastes (generally consisting of black sands with inclusions of scrap metal, plastic and fabrics) being encountered at depths from 0.4 m below ground surface. Soil with a higher proportion of foundry wastes have been encountered at depths starting at 1 to 1.5 m below ground surface (mbgs) with a higher proportion of refuse being encountered at depths starting at 5 mbgs.

Based on a review of aerial photographs of the site, landfilling was completed between 1970 and 1975. Information from EPA Victoria indicates that approximately 535,000 m³ of solid inert and putrescible waste was accepted during its operation as a municipal landfill. Gas measurements taken within this area indicate that the landfill continues to produce some landfill gas; however, the generation rates are expected to have reduced from when the landfill was established, due to the landfill being in the later stages of its gas generation lifecycle.

Landfill gas is being generated within the former landfill. Monitoring of gas bores indicates methane and carbon dioxide are present at significantly elevated concentrations and may be migrating off-site. Preliminary risk assessment works indicate the risk classification¹ for Zone 1 is Moderate to High, along the boundary of the Zone 1 the risk classification is low to the north and west (off-site) and moderate to the south and east.

Leachate from the former landfill has the potential to impact upon the beneficial uses of groundwater beneath the site.

2.1.2. Zone 4 – Southwest portion of the site

Zone 4 comprises an open former quarry pit approximately 15m deep. Some backfilling occurred in the north east portion of the pit using soil stockpiled in Zone 1. Some existing bunds, clay slimes and water are also present within parts of the pit. Surface water quality testing, as detailed in the *Zone 4 Soil, Sediment and Surface Water Report* (Coffey, June 2014d), indicated that the surface water is likely to be suitable for disposal to stormwater or sewer and for irrigation purposes; however, approval from the relevant authorities and land owners would be required before disposal or reuse can occur. The sediment in the base of Zone 4 quarry void is suitable for reuse on site, providing the soil meets the geotechnical requirements stipulated in the *Site Backfill Protocol* (Coffey, September 2015b), and the *Zone 4 Backfill Design Report* (Coffey, June 2015a).

Previously, dewatering of the pit occurred for several years with the water being used for irrigation on the neighbouring golf course. This has caused a groundwater depression in this area and although the dewatering activities have ceased, the groundwater depression remains. The quarry pit is proposed to be backfilled with engineered fill under Level 1 Geotechnical supervision, with soil quality required to meet the quality specified in the *Site Backfill Protocol* (Coffey, September 2015b).

As parts of Zone 4 is immediately next to areas previously backfilled with putrescible waste (i.e. Talbot Park, Zone 1 and possibly Zone 2), consideration of gas protection measures for Zone 4 northern and eastern boundaries has been undertaken. In addition, consideration of groundwater protection measures or remedial measures for the Zone 4 northern boundary is required due to the presence of the former landfill in Zone 1. This is addressed further in Section 7.

2.1.3. Zones 2, 3, and 5 – Eastern portion of the site

Zones 2 and 3 comprise former sand pits that have been backfilled with remnant slimes from the former sand mining operations. Historical information indicates that Zones 2 and 3 were backfilled predominantly with slimes in the 1990s. Slimes are a waste product generated when the fine sand, clay and silt fractions are washed from natural sands during sand mining operations. Typically, the slimes are stored in a saturated state in former quarry pits, and comprise very soft clays and silts and very loose sands. The slimes are highly compressible, with in-situ moisture contents higher than their liquid limit, giving the slimes fluid properties.

The subsurface conditions within Zones 2 and 3 generally comprise a 1m to 4m thick soil cover over slimes up to about 20m deep. Solid inert waste (building waste) and some foundry waste is also present in these Zones.

¹ Based on the 'Gas Screening Value (GSV) / Characteristic Situation' approach described in British Standard BS8485 (2015).

It is noted that the western portion of Zone 5 formerly supported the processing plant used as part of the sand mining operations, and such mining operations and slimes are more limited in this area. Uncontrolled fill up to 9m thick does exist within the western portion of Zone 5.

Based on the presence of methane gas within the Zone 2, there is potential for methane generating waste to also be present in Zone 2, although it appears that it is likely to be more limited than in Zone 1 and Talbot Park. Preliminary risk assessment works indicate the risk classification² for Zone 2 is Moderate to High in the north-eastern portion of Zone 2 on the boundary of Zone 5.

2.2. Adjacent land use

The adjacent land uses to the site include:

- North Residential and athletics park (Davies Reserve)
- East Residential
- South Talbot Park, Residential and roadway.
- West Roadway and Huntingdale Golf Course, with residential immediately adjacent to the northwest.

Further discussion on the Talbot Park site immediately adjacent to the southern boundary of Zone 2 is presented in the following section.

2.2.1. Talbot Park

Although Talbot Park is not part of the site, the ground conditions in Talbot Park are relevant to the development of the site due to historical landfill in this area. Talbot Park is underlain by a former municipal landfill and is located to the south of Zone 2. Information from EPA Victoria indicates that approximately 136,000m³ of solid inert and putrescible waste was accepted during its operation before it closed sometime between 1977 and 1978.

Previous landfill gas monitoring at Talbot Park in 2009 and 2010 (completed by others) indicate that the site was still producing methane. Similar to the landfill in Zone 1, the generation rates are expected to be reducing with the landfill being in the latter stage of its gas generating lifecycle.

Groundwater originating from Talbot Park is currently inferred to discharge to the quarry void in Zone 4, however it is predicted that following backfill of Zone 4, groundwater flow is likely to resume a flow direction to the south or south-west. Based on that assumption, leachate generated from Talbot Park would be unlikely to have a significant impact on the Zone 4 part of the site in future.

2.3. Site history overview

The following site history overview is based on information contained within the HLA Environmental Site Assessment report (April 2004a). The site was originally pastoral land and was developed as a poultry farm and for intensive agriculture including orchards and nurseries in the first half of the 1900s. From the late 1950s or early 1960s until the end of the century, the site was progressively quarried for sand. A foundry sand plant, concrete batching plant and associated infrastructure was

² Based on the 'Gas Screening Value (GSV) / Characteristic Situation' approach described in British Standard BS8485 (2015).

located on Zone 5 from the early 1960s until its removal in 1990s. Landfilling with refuse occurred in Zone 1 between 1972 and 1975. Zone 2 and Zone 3 were used as slime lagoon as was Talbot Park, to the south east of the site; filling of Zone 2 and Zone 3, predominantly with slimes, was completed by the 1990s. Talbot Park was filled with refuse between 1977 and 1978.

A summary of the historical use of the site, in chronological order is presented in the following Table with an overview of the site history timeline presented in **Figure 3**, **Appendix A**.

Table 2.2: Site History Summary

Year Range (approximate)	Site History Summary
Pre 1950s	Pastoral Land Agriculture Poultry and market gardens commenced mid 1940s
Late 1950s / early 1960s	Quarrying commenced on eastern and north western areas Foundry sand plant, concrete batching plant and associated infrastructure present on-site. Poultry Farm and market gardens still present in Zone 4
1960s to early 1970s	Bund wall constructed between Zone 2 and Talbot Park area. Zones 2, 3 and Talbot Park area used as slime lagoons Quarrying in Zone1 commenced
1972-1975	Zone 1 filled with refuse (putrescible and solid inert waste) Quarrying commenced in the northern section of Zone 4
1975-1978	Talbot Park filled with refuse (putrescible and solid inert waste)
1975-1993	Quarrying in Zone 4 progresses southwards and poultry farm removed Zone 2 being backfilled with wastes from concrete plant and other sand like materials and sands. Zone 2 appears to have been backfilled by 1991. Zone 3 backfilled with slimes and potentially other quarry wastes (undefined). Zone 3 appears to have been backfilled by 1993.
1993-1999	Foundry sand plant, concrete batching plant and associated infrastructure removed Quarrying completed. Filling completed in Zone 2, Zone 3 and Zone 5 Stockpiled material present in Zone 1
2008	Partial filling in Zone 4 north-eastern quadrant with to create fill platform from stockpiled material in Zone 1.
2008 - 2013	Water from Zone 4 quarry used for watering of Huntingdale Golf Course. This use ceased in 2012. No further activity on site

3. Site investigation history

3.1. Summary of historical assessment reports

A summary of previous environmental site assessment reports provided are included in the following table.

Table 3.1: Summary of Previous Assessment Works

Document Title Summary of Investigations and Findings AMAL Black Pty Ltd (10 May Purpose of the investigation was to provide the basis for a development 2002a) Preliminary Geochemical plan for the site based on geotechnical constraints and soil and and Geotechnical Investigation, groundwater conditions. Ex Pioneer Quarry Property, The report summarises results from previous investigation conducted by: Talbot Avenue, Oakleigh, VIC Golder Associates in 2000 (4 boreholes to 20m depth). (Note: Appendix B and C, were Black Geotechnical in 2001 (21 test pits to maximum 8m depth). missing from the copy of this AMAL Black February 2002 (5 boreholes to maximum 21.5m depth report) with 2 standpipes installed at each location (Bores 1A to 5B). AMAL Black March 2002 (43 test-pits to maximum depth of 2.5m. Site conditions indicated that leachate streams were emanating from the north and east batters of the Zone 4 quarry walls. Groundwater was identified in four aquifers with flow towards the quarry lake in Zone 4: Cover fill aquifer: limited to one bore (Bore 2A in Zone 1). Slimes fill aquifer: acting as a confined aquifer under a pressure Landfill aquifer: appeared to be a separate system in Zone 1 from the cover fill aquifer. Natural soil aquifer: confined. Soil results indicated arsenic, copper, lead, nickel and zinc above the adopted criteria; however the soil type, location and concentrations of the analyses were not available in the report reviewed (due to missing appendices). Benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN), total petroleum hydrocarbons (TPH), pesticides, phenolics and cyanide were all below 'EPA Investigation Levels'. The report concluded that the groundwater did not appear to have an adverse effect on the quality of the water in the lake. However the report considered it may be necessary to install a sub-soil leachate collection drain along the north and east sides of the quarry with subsequent leachate treatment. With respect to soil, the report concluded that where contaminants in the surface layer (up to 1m) exceed the adopted criteria, the soil should be removed to an appropriate disposal site. Disposal of low level contaminated soil from the site into the existing quarry hole was considered possible, subject to hydrogeological assessment and EPA approvals. It was recommended that the regrade of the site assumes a 0.5m thick cap of clean fill. AMAL Black Pty Ltd (September Soil samples were collected from 21 test pits from the soil embankments 2002b), Geochemical in Zones 1, 2, 3 and 5. Assessment of Environmental Arsenic and zinc were found to be present at slightly elevated levels in a Embankments, Ex Pioneer limited number of embankment samples. Quarry Property, Talbot Avenue, The report concluded that 'follow up analysis of individual samples Oakleigh, VIC indicated that arsenic was not a concern in the embankment materials. It also indicated that zinc was elevated in two areas (test pits 1 and 2 located in the south-western area embankments of Zone 1), which may

Document Title	Summary of Investigations and Findings
	have been explained by the presence of galvanised materials in those embankments.
AMAL Black Pty Ltd (September 2002c), Hydrogeological Assessment, Ex Pioneer Quarry Property, Talbot Avenue, Oakleigh, VIC	 The objective was to define the hydrogeological systems and interactions at the site. The scope included: Installation of 10 groundwater monitoring bores, including sampling of new and existing bores. Determine depth of water in the quarry lake, including sampling of quarry water and sediments. Sampling and analysis of leachate streams that were entering the northern end of the quarry lake. Findings are summarised as follows: The average TDS in the Brighton Group aquifer was less than 1,000 mg/L. Arsenic and zinc were reported at concentrations above the adopted criteria, however were attributed to naturally occurring background concentrations. pH was also reported below the criteria range; however this was also attributed to background concentrations. Ammonia and nitrate were reported in various bores across the site and was attributed to the former landfilling activities in Zone 1 and Talbot Park. Leachate from the landfill was leaking through the fill sand between the landfill in Zone 1 and the quarry lake and discharging to the lake. Benzene, xylene and toluene were reported in groundwater within the Zone 1 landfill. The quarry water samples indicated that the quarry water was a mixture of the different groundwater units with only the slightly greater ammonia level, in comparison to the Brighton Group aquifer and clay slimes aquifer.
HLA-Envirosciences Pty Ltd (April 2004) Environmental Site Assessment, Former Pioneer Quarry, Talbot Avenue, Oakleigh, VIC	 HLA conducted an Environmental Site Assessment involving the review of background documentation (including aerial photos and previous environmental report) and the installation and sampling of 13 groundwater monitoring bores and 31 landfill gas monitoring bores and selected sampling of sub-surface soils. Two further rounds of groundwater and landfill gas monitoring were planned. The site was found to have been progressively quarried of the previous 50 years. Soils: The site is underlain by the Sands of the Brighton Group Formation. Buried refuse was found in Zone 1 and in Talbot Park and buried reworked material (including fill materials and slimes) was found across the remainder of the site. EIL exceedances of metals were identified across the site, predominantly arsenic and mercury. Cadmium, vanadium, lead and zinc EIL exceedances were also noted in Zone 1 and along the eastern boundary of the site. HIL exceedances of beryllium and mercury were identified in Zone 1 and along the eastern boundary of the site. HIL exceedances of benzo(a)pyrene were identified along the boundary of Talbot Park. Groundwater: Regional groundwater flow was expected to be to the southwest, with a depression at the lake in zone 4 and mounding around the landfill and slimes areas dominating the localised flow. TDS was found to fall within Segment A. Ammonia, hydrocarbons and VFA's were found to be elevated across the site, predominantly in the vicinity of the landfill areas.

Document Title	Summary of Investigations and Findings
	Landfill Gas: Elevated landfill gas concentrations were identified, predominantly around zone 1 and Talbot Park, with some occurrence in the slimes in Zone 2 and 3.
HLA-Envirosciences Pty Ltd (July 2004) Environmental Site Assessment – Stage 2, Former Pioneer Quarry, Talbot Avenue, Oakleigh, VIC	 HLA conducted a supplementary ESA involving the measurement of groundwater levels across the site, the sampling of all groundwater bores and landfill gas bores. Groundwater levels were found to range from 0.46 mbtoc to 12.64 mbtoc, with the levels generally observed to have decreased since the previous measurements. Groundwater flow was to the south west with the hydrogeology being dominated by the depression at the quarry lake and the mounding in the slimes and landfill areas. It was considered likely that the groundwater would flow around the slimes area with the slimes materials being expected to have a low hydraulic conductivity. Elevated ammonia was detected across the site and was most evident in the landfill areas. Elevated metals were detected across the site with no obvious spatial correlation. Hydrocarbons were detected across the site and were most prevalent in the landfill areas and along the eastern boundary. Landfill gas results were generally consistent with the previous investigation.
HLA-Envirosciences Pty Ltd (January 2005) Environmental Site Assessment – Phase 3, Former Pioneer Quarry, Talbot Avenue, Oakleigh, VIC	 HLA conducted a supplementary ESA involving the measurement of groundwater levels across the site, the sampling of all groundwater bores and landfill gas bores. Groundwater levels were found to range from 0.38 mbtoc to 12.69 mbtoc, with the levels generally observed to have decreased since the previous measurements. The groundwater contaminant status remained generally unchanged since the previous monitoring event. Surcharging and capping of Zone 1 was conducted prior to the third round of monitoring and landfill gas concentrations were seen to increase in the fill material and along the boundary of the site. In other areas, landfill gas results were generally consistent with the previous investigation.
HLA-Envirosciences Pty Ltd (May 2005) Stockpile Sampling, Talbot Avenue Development, Oakleigh	 HLA conducted soil sampling and analysis of 20 test pit samples taken from the stockpiles present in Zone 1 and 1 sample from the fill in Zone 5. The samples were analysed for a range of metals and organic contaminants. Select samples were also analysed for cyanide, fluoride, sulphate and pH. The results indicated that the stockpiled soil did not contain any contaminants above the VIC EPA 'Clean Fill' or HIL A criteria.
HLA-Envirosciences Pty Ltd (July 2005) Groundwater Numerical Modelling - Former Quarry, Talbot Avenue, Oakleigh	 HLA developed and calibrated a steady state numerical model of the hydrogeological conditions at the site using PMWIN (Processing MODFLOW for windows). The model was used to assess three different redevelopment scenarios for the former quarry void space in Zone 4. The scenarios assessed included a 'do nothing' scenario in which the void remained unfilled and pumping of lake water to the golf course continued, a scenario where the void was backfilled with low permeability material and a scenario where the void was backfilled with low permeability material and a high permeability sub-surface drainage layer and sump. The modelling predicted that:

Decument Title	Summary of Investigations and Findings
Document Title	 Under the 'do nothing' scenario the quarry void would continue to act as a groundwater sink limiting the migration of groundwater contaminants off-site. Under the low permeability backfill scenario mounding would occur across the Zone 4 area resulting in an increase in groundwater levels in the remainder of the site and the potential for off-site migration of groundwater contaminants. The installation of a high permeability layer and a sump would assist in intercepting groundwater beneath the site. It was noted groundwater levels in the eastern and northern portions of the site could increase by up to 3m. The extent (if any) of potential groundwater contaminant migration off-site was not discussed.
HLA-Envirosciences Pty Ltd (January 2006) Assessment of Risk Posed by Landfill Gas - Former Quarry, Talbot Avenue, Oakleigh	 HLA conducted an assessment of risks related to landfill gas issues at the site which included modelling LFG generation rates using LandGEM; measuring methane emission rates by a fluxhood method; and a semi-quantitative and quantitative assessment of landfill gas risk. The LandGEM model was run using a conservative and a reasonable set of input parameters and the models predicted emissions of methane of 238 Mg/year and 88Mg/year respectively for Zone 1 in 2013. Methane flux sampling was conducted using a fluxhood method at eight locations in Zone 1. The maximum methane flux was found to be 3.7mg/m²/min. (It is noted that Coffey consider the number of fluxhood locations was insufficient to characterise the site adequately and the barometric conditions were not fully reported or likely to represent worse case.) The semi-quantitative risk assessment identified that human health risks associated with asphyxiation in confined spaces, explosion, chronic health effects were unacceptable and required management. Aesthetic impacts were found to be acceptable. Environmental risks associated with greenhouse gas emissions were present but required further investigation and risks associated with phytotoxicity were unacceptable and required management. A quantitative risk assessment was completed by modelling the potential indoor methane concentration based on the maximum fluxhood measurement. Whilst the estimated indoor air concentrations were found to be below the EPA trigger levels, the report noted that there was potential for the methane concentrations to approach the trigger level. (It is noted that Coffey consider the quantitative assessment to be flawed and could underestimate potential risks). The report recommended a number of landfill gas management measures, such as a combination of capping, passive ventilation, biofiltration and the implementation of a management plan.
AECOM Australia Pty Ltd (November 2010) Landfill Gas Monitoring and Reporting - Former Quarry, Talbot Avenue, Oakleigh South	 AECOM conducted a round of landfill gas monitoring, including the monitoring of 43 landfill gas and groundwater bores along the perimeter of the site and 15 landfill gas and groundwater bores in the centre of the site. Methane above the 1% trigger value was detected in 9 perimeter bores and 7 centrally located bores. Carbon dioxide above the 1.5% trigger value was detected in all but 5 bores. The report contains a summary of landfill gas results for the period between March 2009 and January 2010.
Lane Piper Pty Ltd (November 2010) Landfill Gas Report of 1 November 2010 Talbot Avenue, Oakleigh South, Vic	 Lane Piper conducted a review of landfill gas monitoring results from the AECOM investigations, noting: Some carbon dioxide concentrations reported along the boundary may be indicative of background concentrations;

Document Title	Summary of Investigations and Findings
	 Gas bores with elevated methane concentrations that were reported as being representative of boundary conditions were not located on the boundary and in some cases bores installed closer to the boundary for delineation purposes were reported with low methane concentrations; Groundwater bores used for gas monitoring were reported to have the potential to overestimate landfill gas results due to stratification of methane within the cased section of the well. Sources of landfill gas were considered to be the Zone 1 landfill, Talbot Park landfill, and the northern area in Zone 2 where solid waste may have been placed. Elevated methane concentrations of 95% at GB46 were above the concentrations expected in a landfill and required further investigation. Landfill gas pressure measurements indicated that the landfill is in the last phase of gas generation. Recommendations were made to locate missing bores; conduct maintenance on the existing bores, bore integrity tests, continuous monitoring, surface emission testing, install additional bores and conduct a landfill gas risk assessment.
Lane Piper Pty Ltd (November 2010) Environmental & Geotechnical Feasibility, Talbot Avenue, Oakleigh South, Vic	 Lane Piper conducted a study to investigate the feasibility of developing the site for mixed residential use. Environmental aspects considered included: Landfill Gas: Landfill gas detections correlating with municipal waste in Zone 1, Talbot Park and in Zone 2 required further investigation. Buildings would need gas mitigation measures such as gas ventilation and barriers. Soil Contamination: Soil contamination was considered to be limited to areas of imported waste and could be managed by covering affected areas. Groundwater Contamination: It was concluded that minor groundwater contamination may impact upon beneficial uses; however such uses were unlikely to be realised at the site. Changes in groundwater flow from the filling of Zone 4 would need to be assessed.
Tonkin and Taylor Ltd (May 2011) In-situ Soil Classification Assessment, Talbot Avenue, Oakleigh South, Vic	 The scope consisted of a soil assessment of the fill material that had been placed in the north-eastern portion of Zone 4 quarry void. The soil had been previously relocated from the stockpiled soil in Zone 1. Forty-two soil samples were collected. One soil sample (Floor 23) reported lead and zinc above the adopted criteria. The report concluded that the sample at Floor 23 would be approximately 8m below ground surface and 2 to 3m above groundwater (following development), and thus no contaminant exposure pathway was ever likely to be completed for this soil. Soil materials did not have any aesthetic issues, however other areas in the pit did have excessive rubble, stained soils and metal wastes.
Coffey (May 2014) Initial Site Investigation, 1221 to 1249 Centre Road & 22 Talbot Avenue, Oakleigh South, VIC	 Coffey completed a preliminary landfill gas, groundwater and surface water investigation. 26 gas bores were sampled. Elevated methane concentrations were reported in several bores in Zones 1 and 2 and Talbot Park, with elevated carbon dioxide concentrations present in numerous bores across the site. Low flow rates were recorded in all bores. Gas Screening Value calculations were conducted, which resulted in a low risk classification for the site. Groundwater gauging indicated that the groundwater flow directions were similar to those previously reported; with groundwater mounding in Zones

Document Title	Summary of Investigations and Findings				
	 1 (landfill), 2 and 3 (slimes) and groundwater discharge into the quarry void of Zone 4. Surface water sampling and analysis of the quarry water in Zone 4 indicated that all analytes were either below the laboratory limit of reporting or below the adopted criteria for irrigation purposes. 				
Coffey (June 2014) Huntingdale Estate Zone 4 Environmental Site Assessment – Soil, Sediment & Surface Water, Zone 4 of 1221 to 1249 Centre Road and 22 Talbot Avenue, Oakleigh South, VIC	 Coffey completed an ESA in order to determine the suitability of sediments in Zone 4 and soils in the Zone 4 fill platform and Zone 1 Stockpile to be re-used on-site and to assess disposal or re-use options for the surface water in Zone 4. Soil contained in the fill platform area in Zone 4 and the large stockpile in Zone 1 was found to be suitable for reuse on site, providing the soil met the geotechnical requirements. The sediment in the base of Zone 4 quarry void was found to be suitable for reuse on site, providing the soil met the geotechnical requirements. The surface water in Zone 4 quarry void was likely to be suitable for disposal to stormwater or sewer and suitable for irrigation use, however further consultation with the relevant authorities and land owners to obtain the necessary approvals would be required. 				
Coffey (July 2014) Huntingdale Estate Environmental Site Assessment, Soil, Groundwater and Landfill Gas Assessment 1221 – 1249 Centre Road & 22 Talbot Avenue, Oakleigh South, Victoria	 Coffey completed a landfill gas, groundwater and soil investigation which included the installation of seven groundwater bores and six landfill gas bores surrounding the Zone 4 quarry. Fill material consisting of black fragments, ash, wood, metal, concrete, fabric, plastics and/or cobbles was intersected from as shallow as 0.5 mbgs. Groundwater gauging reported the standing water level to range from 60.907 mAHD (BH28), in the north east corner of the site, to 45.515 mAHD (BH17) in the south west corner. The inferred groundwater flow direction across the site indicated discharge to the quarry lake in Zone 4 was most likely, with localised mounding observed within Zone 1. Soil analytical results reported concentrations of total recoverable hydrocarbons (TRH) above the Environmental Investigation Levels (EILs) at two locations. Utility pit monitoring reported no significant concentrations of methane. Landfill gas bore monitoring reported elevated methane concentrations in several bores in Zones 1 and 2 and Talbot Park, with elevated carbon dioxide concentrations in a majority of bores across the site. Gas Screening Value calculations were conducted, which resulted in a low risk classification for the site 				
Coffey (September 2014) Fill Assessment in Zone 2 at 1221 – 1249 Centre Road, Oakleigh South, Victoria	 Coffey completed a soil investigation to define the lateral extent and type of waste observed within Zone 2. The assessment included test pitting at eight locations and excavating a 50m long trench. Fill material was generally encountered at 1.0 mbgs, however, within one location, fill material was noted at 0.4 mbgs. The vertical extent of the fill material varied from 1.6 m to 4.5 m until the slimes/sands were reached. In the trench, the depth to the fill material varied from at 0.5 mbgs to 2.0 mbgs. Slimes/ sands were encountered only at the western end of the trench at 3.0 mbgs Odour indicative of landfill and putrescible waste was noted in the eastern portion of the excavation. 				

My opinion is that the environmental assessments of the site as summarised above, adequately document the historical use and development of the land to the extent necessary to support a Section 53X environmental audit of the site.

3.2. Current Environmental Site Assessment (ESA) works

Coffey has prepared a *Remediation Options Report* (Coffey, May 2014b) and a *Site Environmental Strategy Plan* (Coffey, November 2014g) (SESP) to address the remedial measures. The Remediation Options Report identified the remediation goals and a presented a remediation technology screening assessment to identify and assess the performance and feasibility of the available remediation approaches.

The SESP included the suite of preferred remedial measures, the proposed validation works for the remediation, a broad outline for environmental issues management and a data gap assessment for information required to complete staged Section 53X Environmental Audits of the site. The SESP has been reviewed and endorsed by the Environmental Auditor (refer Section 1.8).

Based on the SESP, Coffey prepared a 'Workplan for Supplementary Environmental Site Assessment' (Coffey, August 2015a) and is currently engaged to undertake ESA works at the site.

The following scope of works has been conducted in accordance with the Environmental Auditor approved Workplan (Coffey, August 2015a):

- **Grid Based Soil Sampling:** 52 Test Pits (TP25 TP76) were excavated in a grid-based fashion across Zone 1 to 4mbgs and Zones 2, 3 and 5 to 2mbgs. Observations were recorded and soil samples were collected throughout the profile and analysed for contaminants of concern.
- Sampling of Stockpiled Soil Mounds: 29 Test Pits (SM1 SM29) were excavated into previously stockpiled soil mounds across the site. Soil samples were collected throughout the profile of the soil mounds and analysed for contaminants of concern.
- Drilling Works: Drilling and installation of 10 groundwater monitoring wells and 28 landfill gas bores to complement the existing bore network and replace lost and damaged bores. Selected soil samples were collected from all onsite drilling works and analysed for contaminants of concern.
- Landfill Gas monitoring: Two landfill gas monitoring events were conducted, recording the gas flow rates and concentrations from all accessible landfill gas bores.
- **Surface Emission Monitoring:** Two events were conducted to monitor surface methane emissions across Zones 1, 2, 3 and 5 based on transects laid out in an approximate 20m grid.
- **Utility Pit Monitoring:** Two events were conducted involving the monitoring of gases in all identified utility pits surrounding the site using an extractive landfill gas analyser capable of measuring methane, carbon dioxide and oxygen to 0.1%, hydrogen sulphide and carbon monoxide to 1ppm as well as differential pressure and borehole flow rates.
- Groundwater Monitoring: Two groundwater monitoring events were conducted of monitoring
 wells, measuring the depth to water and collection of groundwater samples for analysis of
 contaminants of concern.

It is my opinion that the scope of works detailed in the Workplan is reasonable and appropriate to support the completion of the staged 53X Environmental Audits for the site.

I note that any assessment work may identify further environmental issues which need to be addressed and this is allowed for in the SESP. However, I consider that the level of assessment completed so far provides a high level of confidence that significant unexpected environmental impacts that may result in the site being completely unsuitable for sensitive uses are unlikely.

3.2.1. Summary of current soil investigations

Soil samples were analysed for a range of analytical suites in accordance with the Auditor approved Workplan (Coffey, August 2015a). The analytical results for all soil samples collected by Coffey are compiled in **Appendix B**, **Table 1** and key Contaminants of Potential Concern (COPCs) are shown in **Appendix A**, **Figures 5A to 5E**. Each contaminant reported above criteria is discussed below.

• Hydrocarbons:

- Hydrocarbon concentrations were reported above the Human Health Guidelines in 4 of the 367 samples analysed for hydrocarbons: GB25A_5.0m, TP46_2.0m, TP46_3.0m and TP61_0.2m.
- Hydrocarbon concentrations were reported above the Ecological Guidelines in 28 of the 367 samples analysed.

Metals:

- Arsenic was reported above the Human Health Guidelines in 3 samples: TP14_3.0m,
 TP47 2.0m and TP48 1.0m
- Concentrations of Copper, Nickel and Zinc were reported above the Ecological Guidelines widespread throughout the site.

PAHs:

 Benzo(a)pyrene was reported above the ecological guidelines in one soil sample: SM24 2.0m.

pH:

 Soil pH was reported to be non-compliant with the Buildings and Structures guideline in 3 soil samples: GB67 0.5m, SM3 2.0m, SM16 0.2m

Asbestos:

- Asbestos in soil was detected in one soil sampling location TP35_0.2m shown in Appendix A, Figures 5D;
- Fragments of Asbestos Containing Material were noted in the bore logs of the following test pits: TP29 (4.0 mbgs), TP35 (0.2 mbgs), TP55 (2.0 mbgs) and TP63 (5.0 mbgs).
- Fragments of Asbestos Containing Materials were also noted to be scattered on the site surface at location TP61 and in the vicinity of SM19. Also, locations with suspected ACM on the site surface are referenced in **Appendix A**, **Figures 7A and 7B**. Observations were made during the surface emission monitoring events.

It is my opinion is that the contamination status of soil at the site has been adequately assessed. I conclude that the main soil contaminants of concern with respect to the proposed uses of the site are arsenic, petroleum hydrocarbons and asbestos containing materials. While copper, nickel and zinc were reported to be widespread, they are not assessed to be contaminants likely to prevent proposed uses of the site.

Additional information and opinion about these soil contaminants are provided in Table 4.1 and Section 4.3.1.

3.2.2. Summary of current groundwater investigations

Groundwater samples were analysed for a range of analytical suites in accordance with the Auditorapproved Workplan (Coffey, 2015). The laboratory results for all groundwater samples analysed by Coffey are compiled in **Appendix B, Tables 6 and 7** and key COPCs are shown in **Appendix A, Figures 9A to 9F**. Each contaminant reported above criteria is discussed below.

Hydrocarbons:

- Benzene concentrations were reported above the Potable Water Supply Guidelines in 4 of the 29 groundwater bores analysed for hydrocarbons: BH11A, BH12, BH26 and BH30. Benzene concentrations in BH30 (August 2016) were also reported above the Primary Contact and Recreation Guidelines.
- Toluene concentrations were reported above the Potable Water Supply and Primary Contact and Recreation Guidelines (based on aesthetics) in 1 of the 29 groundwater bores analysed for hydrocarbons: BH30.
- Hydrocarbons in the F2 fraction (carbon chain length fraction C10-C16 less naphthalene) were reported above the Human Health (vapour intrusion) Guideline in 1 of the 29 groundwater bores analysed for hydrocarbons: BH16A (March 2017 only).

Ammonia:

- Ammonia concentrations were reported above the Maintenance of Ecosystems Guidelines in 16 of the 29 groundwater bores analysed for hydrocarbons: BH04D, BH09A, BH11A, BH12, BH15, BH16A, BH19, BH22, BH25, BH28A, BH29, BH30, BH31, BH33, BH34 and BH35.
- Ammonia concentrations were reported above the Potable Water Supply and Primary Contact and Recreation Guidelines (based on aesthetics) in 16 of the 29 groundwater bores analysed for hydrocarbons: BH04D, BH09A, BH11A, BH12, BH15, BH16A, BH19, BH22, BH25, BH28A, BH29, BH30, BH31, BH33, BH34 and BH35.

Metals:

- Metals concentrations exceed the Maintenance of Ecosystems Guidelines in 26 of the 29 groundwater bores sampled. Only bores BH11A, BH15 and BH35 reported no exceedances. Exceedances were reported for:
 - Boron in 2 bores: BH09A and BH25.
 - Cadmium in 2 bores: BH21A, BH30.
 - Copper in 10 bores: BH4D, BH07A, BH20, BH21A, BH26, BH28A, BH30, BH32D, BH37 and BH38.
 - Lead in 3 bores: BH20, BH30 and BH32D

- Nickel in 17 bores: BH06A, BH09A, BH11A, BH16A, BH18, BH20, BH21A, BH22, BH24A, BH26, BH30, BH31, BH32D, BH34, BH36, BH37 and BH38.
- Zinc in all bores except BH11A, BH15 and BH35.
- Metals concentrations exceed the Potable Water Supply Guidelines in 20 of the 29 groundwater bores sampled. Only bores BH11A, BH15 and BH35 reported no exceedances. Exceedances were reported for:
 - Arsenic in 12 bores: BH4D, BH06A, BH17, BH19, BH22, BH24A, BH26, BH29, BH30, BH31, BH33 and BH34.
 - Lead in 4 bores: BH29, BH30, BH32D and BH32D.
 - Manganese in 3 bores: BH09A, BH25 and BH36.
 - Nickel in 18 bores: BH06A, BH07A, BH09A, BH11A, BH16A, BH18, BH20, BH21A, BH22, BH24A, BH26, BH30, BH31, BH32D, BH34, BH36, BH37 and BH38.
- Metals concentrations exceeded the Agriculture Parks and Gardens Guidelines in 7 of the 29 groundwater bores sampled. Exceedances were reported for:
 - Arsenic in 3 bores: BH4D, BH30 and BH31.
 - Boron in 2 bores: BH09A and BH25.
 - Manganese in 3 bores: BH09A, BH25 and BH36.
 - Nickel in 1 bore: BH30.
- Metals concentrations exceeded the Primary Contact and Recreation Guidelines in 3 of the 29 groundwater bores sampled. Exceedances were reported for:
 - Nickel in 3 bores: BH09, BH21 and BH30.
- Metals concentrations exceeded the Stock Watering Guidelines in 2 of the 29 groundwater bores sampled. Exceedances were reported for:
 - Arsenic in BH31.
 - Lead in BH30.

pH:

- pH was reported to be non-compliant with the Buildings and Structures criteria in 9 of the 29 groundwater bores sampled.
- The lowest pH was reported to be 3.87 in BH32D (March 2017). Based on AS2159 and a high permeability soil profile, this would classify groundwater as being very severely aggressive with regards to concrete piles and moderately aggressive with regards to steel piles.

My opinion is that the contamination status of groundwater at the site has been adequately assessed to the extent necessary to support a Section 53X environmental audit of the site, subject to (i) completion of the groundwater assessment described in Section 3.2.4, which would complete the scope for the groundwater assessment endorsed by the Environmental Auditor and (ii) the following assessments which would be required to assess the potential for off-site impacts to the beneficial uses of groundwater:

- Clarification of the groundwater flow regime in the vicinity of BH18 and BH19 by way of
 installation of groundwater monitoring wells to the east of these locations and assessment
 of groundwater levels.
- The assessment of potential groundwater contamination off-site to the east of BH19 for the petroleum hydrocarbon fraction C10-C40 and ammonia.

3.2.3. Summary of current landfill gas investigations

The critical points of the landfill gas monitoring events are summarised below:

- The landfill gas monitoring was conducted over:
 - 30-31 August 2016 during which period the atmospheric pressure fell over 6 mBar.
 - 20-21 March 2017 during which period the atmospheric pressure fell by more than 5 mBar over 30 hours.
- Elevated "flows" of landfill gas were recorded in several bores across the site, including in Zone 1, both centrally located and close to the northern boundary and for the first time in the north western portion of Zone 2.
- The maximum recorded flow rate of gas was 11.1 L/hr. Prior to the August 2016 monitoring event, flow rates had not been recorded greater than 1 L/hr. The maximum flow was recorded in Zone 2.
- Elevated concentrations of methane were recorded across Zone 1, parts of Zone 2 and on the boundary of the site with Talbot Park:
 - Notably methane concentrations were reported along the north western boundary at GB46A (maximum of 95% methane in August 2016 and reducing to 1.2% in March 2017) and at GB18A (maximum of 26.7% methane reducing to 0.0%). It is noted that Lane Piper (November 2010) reported what were considered unusually high methane levels at GB46 (also 95%), recommending further investigation and noting that the concentration was above that expected for a landfill. Coffey has completed additional LFG assessment around well GB46A which replaced well GB46 (refer Figure 4A).
 - Newly installed bores in Zone 2, GB71 and GB73, reported concentrations of up to 46.1% and 41.8% respectively.

The elevated flow rates in Zone 2 may also be an effect that is limited to the borehole volume rather than the soil formation around the bores. We would expect the soil in this area has limited permeability.

It is my opinion that the assessment of the occurrence of landfill gases on-site and beyond the boundary the site has been adequately assessed to the extent necessary to support a Section 53X environmental audit of the site; subject to completion of the additional landfill gas testing described in Section 3.2.4, which would complete the scope of the landfill gas assessment endorsed by the Environmental Auditor.

3.2.4. Remaining scope of works

The following scope of works remains to be conducted under the Workplan (Coffey, August 2015a) to complete the s53X Audit Report:

- Installation of three continuous logging landfill gas sensors for a period of 2 months in three selected gas bores.
- Analytical sampling of slimes that are proposed to be excavated from Zone 4 and dried on-site.
- One full site groundwater monitoring event.
- Two groundwater gauging events to be conducted during the filling of the quarry void in Zone 4.
- Four monitoring events involving assessment of all landfill gas bores, assessment of methane surface emissions and assessment of landfill gas in utility pits surrounding the site.

In addition to the works listed above Coffey has also been engaged by Sterling Global to conduct numerical groundwater modelling to assist in detailed design of groundwater remediation.

4. Suitability of site for sensitive uses

The site is intended to be redeveloped as a master planned residential development, consisting predominantly of medium density dwellings, with high density (apartments), retail and mixed use components also to be considered as part of the overall master plan.

Previous uses of the site present some challenges with respect to rehabilitation of the site to a condition that is suitable for more sensitive uses, including residential use and the site is subject to an Environmental Audit Overlay. Although not commonly conducted previously in Australia, there are numerous examples of successful development of former landfill sites internationally, including for residential land-use. In addition, recent development of a former landfill site at Cavanagh Street in Cheltenham, Victoria was successfully completed to allow residential landuse after issuing of a Statement of Environmental Audit by an EPA appointed Auditor.

The historic investigations conducted (refer Section 3.1), and those investigations currently being undertaken as proposed in the Workplan (Coffey, August 2015a) (refer Section 3.2) combined with detailed design of remedial measures, will be used as a basis for the rehabilitation and development of the site and to support the Certificate or Statement of Environmental Audit.

4.1. Remediation goals

The broad remediation goals associated with the site development are summarised as follows:

- Provide a final soil quality that is suitable for the proposed land uses.
- Ensure that landfill gas remedial measures are protective of future occupiers of the site, such as residents, and future users of the site, such as subsurface maintenance workers, whilst also being protective of off-site receptors such as neighbouring residents.
- Groundwater quality is protective of the likely beneficial uses of groundwater.
- Ensure sediment and surface water is of suitable quality to be retained / reused on-site or disposed / reused off-site in accordance with applicable regulations.
- Preferred remediation options adopted need to be and are proposed to be:
 - protective of future occupants of the site into the future;
 - practical and cost effective to implement;
 - have low ongoing maintenance and operating requirements; and
 - compliant with regulatory requirements.

4.2. Summary of key issues and proposed remediation strategy

The SESP outlines the process and technical details required to ensure that the site is rehabilitated to a standard which will allow staged Section 53X Environmental Audits to be completed and allow the redevelopment of the site in accordance with the proposed site uses under the masterplan. Upon completion of the staged Audits, it is likely that the Audits will contain conditions relating to the development of the site, and ongoing management and monitoring of site conditions. Ongoing management, such as groundwater and gas monitoring, would be conducted under Auditor-approved management plans, which would be the responsibility of the developer during the development phase and then devolved to the Owners' Corporation to implement as a condition of the Audit post development.

Expert Report of Mr Phillip Sinclair Re: Monash Planning Scheme Amendment C129

A summary of the key environmental issues and the proposed remedial approach is presented in Table 4.1.

It is my opinion that providing that careful consideration of the geotechnical and environmental conditions of the site is given in the design and implementation phases, the remedial measures proposed in the SESP, with the amendments detailed Section 4.4 below, will allow the appropriate redevelopment of the site.

Table 4.1: Summary of Environmental Issues

	Environmental Media	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Proposed Remedial Measures
Environmental Issues Identified	Soil	Key Issues: surface soil quality and aesthetically unacceptable material Assessment of existing surface soils and current stockpiles indicate that the soil is generally suitable for the site development. Arsenic and TRH have been reported above health criteria. Asbestos has been identified in surface soils. The large stockpile in Zone 1 has been assessed as being suitable for reuse on site. Aesthetically unacceptable materials (building wastes, putrescible wastes) are present in the shallow soils.	Key Issues: surface soil quality and aesthetically unacceptable material Assessments of existing surface soils and current stockpiles indicate that the soil is generally suitable for the site development. Asbestos has been identified in fill material. Aesthetically unacceptable material (building wastes) may be present in the shallow soils.	Key Issues: surface soil quality and aesthetically unacceptable material Assessment of existing surface soils and current stockpiles indicate that the soil is generally suitable for the site development. Arsenic and benzene have been reported above health criteria. Aesthetically unacceptable material (building wastes) may be present in the shallow soils.	Key Issues: ensuring imported fill is suitable, or reused fill from site is suitable. Backfilling of quarry void required.	Key Issues: surface soil quality and aesthetically unacceptable material Assessment of existing surface soils and current stockpiles indicate that the soil is generally suitable for the site development. TRHs have been reported above health criteria. Asbestos has been identified in fill material and surface soils. Aesthetically unacceptable material (building wastes) may be present in the shallow soils.	 Covering of the site with hardstand, paths, paving, roads and buildings, which will prevent access to soils; Ensure soil of suitable environmental quality is present in unpaved areas of the site, such as gardens, retention basin areas and open space. Minimum soil cover of 0.5 m of suitable quality fill; Ensure soil conditions will not impact on the beneficial uses of buildings and structures by use of resistant building elements that penetrate soil; Where soil is not suitable for reuse on-site, conduct remediation works or dispose soil offsite; Implement the environmental management plan to ensure workers are protected during the site works; Implement Audit conditions and Owner's Corporation Rules prohibiting digging or excavation past a defined depth, depending upon residual contamination present.
	Landfill Gas	Key Issues: landfill gas generation rates and protection of future residents and neighbours. Landfill gas generation from Zone 1 former landfilled waste is considered to be past its maximum gas generation potential phase. Nevertheless significant gas screening values have been reported.	Key Issues: landfill gas generation rates and protection of future residents and neighbours. Test pits conducted within Zone 2 in September 2014 confirmed the presence of building waste material in Zone 2. Significant gas screening values have been reported particularly in the north western portion of Zone 2.	Key Issues: prevention of landfill gas migration from adjacent Zone 1. Assessment has indicated that landfill gas is not being generated from Zone 3; however landfill gas may migrate from the adjacent Zone 1 into Zone 3.	Key Issues: prevention of landfill gas migration from adjacent Zone 1 and Talbot Park. Landfill gas may migrate from Zone 1 into the northern part of Zone 4, or from Zone 2 and Talbot Park into the eastern side of Zone 4.	Key Issues: prevention of landfill gas migration from adjacent Zones 1 and 2. Landfill gas may migrate from Zone 1 into the western part of Zone 5, or from Zone 2 into the southern part of Zone 5.	 Implementation of building mitigation measures in Zone 1 and Zone 2 including: Gas resistant membranes; Reinforced concrete cast in situ suspended slab; Sub-floor ventilation (passive or active depending on the risk profile); Use of open undercroft carparking in higher risk areas. Installation of horizontal pathway intervention above waste areas consisting of a gravel venting layer and clay cap. Installation of vertical pathway intervention surrounding waste areas consisting of a gravel venting bores or trenches. Removal of waste if identified in isolated pockets at shallow depths.

Environ Media	nmental Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Proposed Remedial Measures
Ground	Water Key Issues: leachate generation and migration, including historical movement and predicted future transport. Groundwater mounding in Zone 1 is also a key issue. Groundwater contamination is generally characterised by ammonia and nitrate which is likely to be due to the former landfill activities in Zone 1. TPH and BTEXN have been reported in Zone 1 bores. Leachate emanating from Zone 1 landfill may impact upon the beneficial uses of groundwater on-site and potentially impact upon groundwater conditions off-site following the completion of backfilling of Zone 4 quarry void and reestablishment of groundwater flow directions off-site to the south west. Leachate will require management to control lateral migration and reduce mounding of leachate.	Key Issues: the extent to which Zone 2 is a source of groundwater contamination, and likely future migration and impact on beneficial uses. Groundwater contamination is present in Zone 2, which may be due to former filling of Zone 2 with uncontrolled fill. Groundwater is currently discharging to the Zone 4 quarry lake, however once this quarry void is backfilled, groundwater is likely to move off-site to the south or southwest. Groundwater impacts may be migrating off-site to the east.	Key Issues: no significant issues identified. Some relatively low concentrations of groundwater contaminants are present in Zone 3, however based on current data; this Zone does not appear to be a source of significant groundwater contamination.	Key Issues: migration of leachate from Zone 1, and future groundwater elevations once the quarry is backfilled. Once the current quarry void is backfilled, contaminated groundwater from Zone 1 may migrate in groundwater into Zone 4. Contaminated groundwater from Zone 2 and Talbot Park may also migrate in groundwater into Zone 4, once the quarry void is backfilled and groundwater levels stabilise.	Key Issues: no significant issues identified. Some low concentrations of groundwater contaminants are present in Zone 5, however based on current data; this Zone does not appear to be a source of significant groundwater contamination.	 Source zone control combined with monitored natural attenuation (MNA) in involving: Capping of landfill in Zone 1 to reduce leachate volume. Installation of a high permeability drainage layer within the Zone 4 quarry void backfill. Natural attenuation zone within Zone 4, where dispersion, dilution and denitrification of the primary contaminant of concern (ammonia) will occur. Implementation of a Groundwater Quality Management Plan (GQMP) including ongoing monitoring of groundwater. In addition, in the event that groundwater contamination does not naturally attenuate within Zone 4, leachate treatment or extraction wells will be installed within Zone 4 to manage potentially contaminated groundwater migration. A Clean Up to the Extent Practicable (CUTEP) determination is likely to be required as part of the Audit for Zone 1 and Zone 2. This would include delineation and assessment of risk for any off-site impacts.
Quarry Sedimer Surface		No current issues identified.	No current issues identified.	Key Issues: removal of sediment and surface water to allow backfilling. Surface water and sediment within the current quarry void would need to be removed to allow backfilling.	No current issues identified.	 Surface water: Re-use for irrigation on golf course or Talbot Park, if acceptable to owner. Disposal to sewer under licence or stormwater where acceptable. Sediment: Re-use for backfilling where acceptable On-site remediation and re-use Off-site disposal

4.3. Implications of current data on the SESP

The additional works conducted by Coffey and detailed in Section 3.2 fill a number of data gaps identified in the *Issues Summary Report* (Coffey, June 2014c) and the SESP (Coffey, November 2014g). The data is discussed in summary form below.

4.3.1. Soil

The majority of soil exceedances are associated with fill material and foundry waste with nickel and zinc being found in natural soils, slimes and sediments at concentrations above the adopted guideline values.

The distribution of the organic COPCs appears to be in isolated pockets in the fill material and does not indicate a significant source of organic or hydrocarbon-associated contamination is present. Copper and hydrocarbon exceedances (in the carbon chain length fraction; C16-C34) are most prevalent in the foundry waste; however, they are also present within other areas of fill.

As indicated above, minor exceedances of nickel and zinc were identified in natural soils, slimes and sediments, indicating that some of the elevated concentrations of nickel and zinc are likely to be naturally occurring. This is also consistent with the detection of zinc above the maintenance of ecosystems criteria in groundwater at BH36, the upgradient well.

Although 3 soil samples were reported with HIL-A exceedances of arsenic, these are not considered to be significant. Statistical analysis of the results indicates the 95% upper confidence limit (UCL) for the average concentration is 12 mg/kg, nearly an order of magnitude below the HIL-A criteria.

The occasional identification of asbestos / Asbestos Containing Materials is generally consistent with the presence of other building rubble in fill material at depth and in general waste across the surface of the site.

Ultimately soil exceedances from a health and maintenance of ecosystem perspective will be taken into account by placement of final soil cover. All imported or redistributed soil from the site will be assessed for compliance with health and maintenance of ecosystem criteria. The final soil placement (refer **Appendix A, Figures 10B to 10D**) which will make the exceedances reported here, of low or no relevance for the proposed site use. For example:

- The maintenance of ecosystem criteria are not relevant below 2m.
- Vapour intrusion exceedances may be placed at depths where they do not pose a risk or in areas that are proposed to include gas mitigation measures (refer 4.4);
- Arsenic, benzo(a)pyrene and ACM only occur at a limited number of locations (arsenic at 3 locations and benzo(a)pyrene at 1 location) or on specific parts of the site (ACM in Zones 1 and 3) which will be covered by engineered fill (i.e. 2m deep in Zone 1 or 0.5m deep in Zone 3).

4.3.2. Groundwater

Based on the observed exceedances of the adopted groundwater assessment criteria, groundwater use is considered to be precluded for one or more beneficial uses at each individual well. When groundwater at the site is taken as a whole, all identified beneficial uses are precluded somewhere on the site.

Volatile petroleum hydrocarbon impact is most predominant in Zone 1, in the area of the former landfill and immediately downgradient of it. Impact by heavier hydrocarbons (carbon chain length fraction >C16) has been reported at a number of locations spread across the entire site.

Ammonia impacted groundwater is prevalent across the site with the most significant concentrations located below and downgradient of the former landfill and on the boundary shared with the former Talbot Park landfill in the south east of the site. Significant concentrations were also identified at BH04D in Zone 2.

Metals exceedances were reported across the site, of the 29 wells:

- 26 reported Maintenance of ecosystems exceedances;
- 20 reported Potable Water Supply exceedances;
- 7 reported Agriculture Parks and Gardens exceedances;
- 3 reported Primary Contact and Recreation exceedances; and
- 2 reported Stock Watering exceedances.

Exceedances of adopted criteria were reported for arsenic, boron, cadmium, copper, lead, manganese, nickel and zinc. Based on the concentrations reported at up-gradient well BH36; arsenic, nickel and zinc are likely to be naturally occurring and may not constitute site contamination.

Low pH was also identified to occur in several wells and based on AS2159 and a high permeability soil profile, this would classify groundwater as being very severely aggressive with regards to concrete piles and moderately aggressive with regards to steel piles.

4.3.3. Landfill gas

Based on the August 2016 and March 2017 data, a tier 2 landfill gas risk assessment was conducted using the 'Gas Screening Value' approach detailed in British Standard 8485:2015. GSVs represent the hazardous gas flow rate from a borehole, and are calculated from the borehole flow rate multiplied by the concentration of hazardous gas being considered (methane or carbon dioxide). British Standard 8485:2015 provides a risk ranking and 'Characteristic Situation' score based on the GSVs as presented in Table 4.2.

Table 4.2: Characteristic Situations

Characteristic Situation	Hazard Potential	GSV	Additional Information			
1	Very Low	<0.07	Typically <1% methane and or <5% carbon dioxide , otherwise consider increase to Characteristic Situation 2			
2	Low	<0.07 to <0.7	Typically flow rate <70l/hr, otherwise consider increase to Characteristic Situation 3			
3	Moderate	<0.7 to <3.6				
4	Moderate to High	<3.6 to <15				
5	High	<15 to <70				
6	Very High	>70				

The 'Characteristic Situation' determined is then used to define the general scope of gas protection measures required. In general terms, no special precautions would be likely to be required under 'Characteristic Situation 1'. Should the data reveal other 'Characteristic Situations' then further assessment and/or risk mitigation measures would be required for any development in the vicinity of the landfill.

Based on the August 2016 and March 2017 results, methane risk was reported to be:

- Moderate to High in Zone 1.
- Low in the vicinity of the residential properties to the north east;
- Moderate to High in the north western portion of Zone 2 and low across the rest of Zone 2;
- Very low in other areas of the site.

The recorded risk ratings show an increase in risk potential as compared to previous investigations. The increase in risk potential is interpreted to be most likely due to wetter than average conditions occurring across the latter half of 2016, then resulting in a less permeable cap and higher moisture / nutrient content in the waste material. This interpretation would predict a dual effect of increasing methane generation and reducing the amount of landfill gas that can escape through the cap, meaning higher gas concentrations and flows are measured at some of the gas monitoring wells.

4.3.4. Summary

My opinion is that:

- Soil and groundwater analytical results are consistent with previous ESA findings and the soil
 and groundwater remediation strategy adopted in the SESP is appropriate, reasonable and
 practicable as a means of making the site suitable for sensitive land uses.
- With regards the landfill gas assessment, the Characteristic Situation reported during the August 2016 and March 2017 assessments is a level higher than reported in the SESP for parts of the site.

The assessment and remediation implementation process outlined in the SESP remains viable and appropriate; while the technical and design details for the gas mitigation measures require updating. Details of the design of the gas extraction system for residential development would need to be adjusted to take this increase in gas risk into account, as indicated in Appendix A, Figure 10B – 'Moderate to High' Concept Design. This is addressed in Section 4.4 below

An alternative approach would be for less sensitive uses to be adopted for land on or adjacent to the areas of increased gas risk. Either approach would be consistent with the adopted comprehensive development plan for the site.

4.4. Remediation approach for current risk profile

At the time of preparation of the SESP, a preliminary gas risk assessment indicated that the former landfill areas represents a low gas hazard classification for the site, due to the observed low gas flow rates. The proposed landfill gas protection measures for Zone 1 included conceptual design for both a low and a moderate gas hazard classification, to provide assurance that a suitable design solution was feasible if there were an increase in the hazard rating from low to moderate. The most recent landfill gas data collected indicates that Zone 1 would fall into a 'moderate to high' risk category and as such, a higher level of gas protection measures for the proposed uses would be required.

It is also noted that the BS 8485 has been updated since the SESP was prepared and the current standard (BS 8485:2015) contains some modifications to the process in which the level of gas protection is selected. As such, the required mitigation measures for all three 'Characteristic Situations' have been reviewed and are discussed below for completeness.

In order to meet the requirements of the British Standard BS8485:2015, the following measures are proposed to be implemented for any future buildings or confined space construction to be constructed on site:

'Low Hazard Potential' Areas

- Passive sub-floor ventilation with 'Good' performance as defined within BS8485:2015;
- Reinforced concrete cast in situ suspended slab with minimal service penetrations; and
- Gas resistant membrane meeting the requirements of BS8485:2015³

For privately owned residential dwellings under the previous BS8485:2007 this would achieve a gas protection score of 4.5 points with a requirement of at least 3 points. Under the BS8485:2015 this would achieve a gas protection score of 5 points with a requirement of at least 3.5 points.

'Moderate Hazard Potential' Areas:

- As for 'Low Hazard Potential', plus
- Pathway intervention of landfill gas by installing a clay cap with horizontal venting layer connected to passive vertical venting barrier.

For privately owned residential dwellings under the previous BS8485:2007 this would achieve a gas protection score of 4.5 points with a requirement of at least 4 points. Under the BS8485:2015 this would achieve a gas protection score of 5 points with a requirement of at least 4.5 points. Similarly the pathway intervention is not scored.

It is noted that BS8485 does not provide a scoring system for pathway intervention. The proposed pathway intervention system would significantly reduce the risk of gas migration; as such, the actual level of protection provided by the conceptual design is considered to be higher than what is described above and has multiple redundancies.

'Moderate to High Hazard Potential' Areas:

- As for 'Moderate Hazard Potential', plus
- Sub-floor ventilation to be of 'Very Good' performance OR occupied areas of the building to be above a ventilated car-park (i.e. undercroft parking on ground floor)

³ Requirements of Gas resistant membrane under BS8485:2015

[•] Sufficiently impervious to the gases (methane and carbon dioxide) with a methane transmission rate <40.0 mL/day/m²/atm (average) for sheets and joints (tested in accordance with BS SIO 15105-1 manometric method);

[•] Sufficiently durable to remain serviceable for the anticipated life of the building and duration of gas emissions;

[•] Sufficiently strong to withstand in-service stresses (e.g. settlement if placed below a floor slab)

[•] Sufficiently strong to withstand the installation process and following trades until covered (e.g. penetration from steel fibres in fibre reinforced concrete, penetration of reinforcement ties, tearing due to working above it, dropping tools, etc.);

[·] Capable, after installation, of providing a complete barrier to the entry of relevant gas; and

Verified in accordance with CIRIA 735

Buildings should be centrally managed and management should have control over any building
alterations and maintenance. A sustainable management plan should be in place to ensure the
maintenance the gas protection system.

For managed building under the both the BS8485:2007 and the BS8485:2015 this would achieve a gas protection score of 6 points (Sub-floor ventilation to be of 'Very Good' performance) or 7.5 points (undercroft carparking) with a requirement of at least 5 points.

As described above, the pathway intervention provides additional protection and redundancy over and above the building mitigation measures.

Summary

The proposed remedial options are outlined in the SESP are presented on **Figures 10A to 10D**, **Appendix A** as follows:

- **Figure 10A**: This figure shows the architectural Master Plan layout with the remediation approach for landfill gas mitigation and for leachate remediation.
- **Figure 10B:** shows the conceptual design for Zone 1 for landfill gas remediation including a boundary venting system and gas protection beneath individual buildings, combined with a capping system and horizontal venting system.
- **Figure 10C:** Shows the conceptual design option for landfill gas management in the eastern portion of the site. It should be noted that the north western portion of Zone 2 would require a higher level of protection than the remainder of Zone 2, 3 and 5.
- **Figure 10D:** The preferred option for leachate management (from Zone 1) is to cap Zone 1 in accordance with EPA guidelines and implement a program of monitored natural attenuation and contingency bores for active treatment of leachate from Zone 1.

A summary of the gas protection measures proposed are presented in the following table.

Table 7.1 - Proposed Gas Protection Measures

Risk Category	Zone	Proposed Gas Protection Measures			
Moderate to High	Zone 1 Zone 2 (Northwest portion)	 Capping and horizontal venting layer Boundary gas venting barrier to perimeter boundary Gas resistant membrane and high performance venting system or undercroft car park under buildings. Reinforced concrete cast in situ suspended slab 			
Low	Zones 3, 4 and 5	Where these zones border Zones 1, 2 or Talbot park, the following gas protection measures are proposed for dwelling immediately adjacent to these boundaries:			
		 Gas resistant membrane Reinforced concrete cast in situ suspended slab 			
		(Note: level of gas protection (if any) will be dependent upon residual gas screening levels following the installation of the boundary venting barrier).			

It is my opinion that:

- By adopting the suggested amendments to the landfill gas mitigation measures in the development design, the site can be made suitable for sensitive land uses.
- All the proposed options for the management of landfill gas provide additional points of
 protection than required under the BS8485:2015. In addition, pathway intervention is proposed
 for the 'moderate' and 'moderate to high' risk areas which provides an additional level of
 protection and redundancy, significantly reducing the risk to any sensitive land uses built over
 these areas.

5. Timing of Audit and Review of ESA and SESP

5.1. Timing of Audit and Planning Amendment

There are benefits associated with completing the auditing after planning amendment approval. An example I have been involved where the audit was completed after the planning amendment decision was made was an Environmental Audit I completed in Cavanagh Street, Cheltenham.

Other similar situations I am aware of include:

- The Tooronga Village Development (Planning Scheme Amendment C188 2014 City of Boroondara). The audit was completed subsequently.
- The former Daniel Robertson Brickworks located at 56 and 58-74 Station Street, Nunawading (Planning Scheme Amendment C155 2015 City of Whitehorse). This site was rezoned to allow part Mixed Use Zone and part Residential Zone, subject to a Site Remediation Strategy demonstrating the site is capable of being remediated to a standard required for the proposed residential use and development in accordance with EPA guidelines. The audit was completed subsequently.

In my opinion, it is appropriate and reasonable to delay the requirement for a Statement of Audit until after Amendment C129 is approved.

5.2. Review of SESP and ESA

I acknowledge that Council is responsible to ensure that any planning decision it makes must take into account whether the environment at the site is suitable for the development and the development is suitable for (will not impact on) the environment.

As indicated by some of the examples referred to above, planning amendment decisions for significantly contaminated sites, have been and are being made in Victoria, without the responsible authority approving the SESP (also sometimes referred to as a Remediation Strategy Plan) or the Environmental Site Assessment report on which an environmental audit report is based. An EPA appointed environmental auditor most commonly provides these approvals or endorsements.

The environmental audit system was developed by EPA to be a means of ensuring that planning and environmental decisions were made based on the opinion of highly experienced EPA-appointed environmental auditors.

For this site, Mr Ken Mival of EHS Support Pty Ltd has:

- provided his endorsement (refer Section 1.8) of the SESP; reviewing Coffey's ESA prepared in 2014 as part of the endorsement process; and
- endorsed the additional assessment steps which he believed should enable the completion of staged environmental audits of the site.

While, I am not in a position to speak for or predict Mr Mival's view of the additional assessment items recommended in this expert report, I think it is likely that these would be supported.

If Council decides to review the ESA and SESP; in my opinion it would be most appropriate to do so at the time that other related documents; such as likely statement of environmental audit conditions, environmental management plans and detailed design documents were submitted to support the issuing of a planning permit. Assuming that the ESA and SESP are endorsed by the auditor-, this Council would then have a high level of confidence that it is making soundly-based planning decisions.

To the best of my knowledge, when Kingston City Council prepared the planning permit conditions for the Cavanagh Street, Cheltenham site, it relied on advice from me as auditor and that of the developer's environmental assessment consultant and did conduct its own review.

In my opinion, it is not necessary for the SESP and ESA to be approved by Council prior to the lodgement of any planning permit application. In my opinion, it is appropriate for Council to rely on the authority and experience of the EPA appointed environmental auditor for the approval of the SESP and ESA as an integral part of the completion of the environmental audit of the site.

If Council decides to review the ESA and SESP; in my opinion it would be most appropriate to do so after lodgement of the planning application and prior to issuing of the planning permit as the review can take into account related documents submitted to support the application.

6. Geotechnical issues

While I am not a geotechnical expert, I have been involved in more than 50 projects where integrated geotechnical investigations and environmental site assessments have been conducted, I have regularly liaised with and briefed Coffey geotechnically-qualified staff, including geotechnical experts to support me in both contaminated site assessment and environmental auditing work. The ability and experience to be able to do this is considered an essential part of gaining and maintaining my EPA appointed environmental auditor status.

These projects have included the review and provision of advice on containment systems at landfills, waste repositories, capping systems and excavation backfilling works. Specific examples include a then state-of-the-art waste repository at the former Albion Explosives Factory, landfill rehabilitation works at that site, rehabilitation of two inner urban pug holes (clay pits) containing inert industrial waste in inner Adelaide and a landfill at the former Kodak Distribution site, demolition-related investigations at the Ravenhall Prison Project and on many audit sites, due diligence assessments for land adjacent to a closed landfill for an airport operator and many preliminary site investigations where multi-storey buildings were proposed to be constructed.

Based on my experience, it is my opinion that the geotechnical investigations completed, conceptual designs prepared and conclusions reached by Coffey Geotechnics concerning geotechnical issues on the site are sufficient, appropriate and adequate to support the remediation of the site, such that the site can be made suitable for the proposed mixed and sensitive uses.

7. Response to other submissions

It is understood the following submissions have been made to council which fall within my area of expertise:

7.1. VPA submission

In its letter to Council dated 3 March 2017, the Victorian Planning Authority stated:

The VPA supports a staged approach to planning and developing the site to manage the complexities and issues associated with contaminated land. From a process point of view the VPA submits that the following approaches may enhance the function of the draft provisions and achieve a coordinated approach.

The VPA submission then went on to say that the Overall Development Plan (ODP) should be developed in a particular way and with recommended timing.

... The Site Environmental Strategy Plan (SESP) and the Environmental Site Assessment (ESA) should be conducted prior to the planning permit application stage. All references to 'applications' or 'planning applications' within sub-clause 3.2 should be amended so that the text refers to 'the Overall Development Plan...

The VPA revised this recommendation in its letter of advice to Council dated 21 April 2017. The position stated with respect to the timing of the SESP and ESA, as a part of the ODP, on 21 April 2017, was as follows:

It makes sense to exhibit to the community both the draft Outline Development Plan and first planning permit application concurrently because this will provide greater clarity and context for surrounding property owners and occupiers.

Therefore the VPA submission suggesting that 'the ODP must be approved prior to lodging an application for planning permit' should be disregarded. Instead, it is suggested that Council should have considered the content of the ODP and resolved any initial issues in relation to the plan prior to giving notice of the ODP and permit application. This will enable the ODP and permit application to be advertised to the community concurrently.

It is my opinion that I agree with the VPA submission of 21 April 2017 that review of the SESP and ESA is not required prior to the planning permit application stage.

7.2. EPA submission

In its letter to Council dated 10 March 2017, the Environment Protection Authority stated:

The site at 1221-1249 Centre Road, Oakleigh South was formerly used as a quarry and a landfill and therefore is considerably contaminated. Council previously commissioned a Review of Environmental Matters at the site prepared by Senversa to provide an assessment of the environmental reports and arrangements to date. This report provides a useful overview to demonstrate the environmental risks of the development. The report highlights a number of environmental risks and longer term logistical risks at the site. These being and not limited to:

- In-ground infrastructure to manage landfill gas and leachate and the responsibility and payment for the ongoing management of these
- Restrictions suggested managing risks to residents vs Housing density plans (i.e. limiting digging past a defined depth).

EPA emphasises to Council that this land rezoning proposal presents the above risks. It is imperative that these risks associated with development of landfill sites are appropriately managed through the rezoning and development approvals to protect future land uses, human health and safety.

EPA understands that the proposed amendment will apply the existing Environmental Audit Overlay to incorporate the whole of the land within the Overlay and includes the land shown in the 'Former Talbot Quarry and Landfill Comprehensive Development Plan 2016' map as exhibited as an Incorporated Document within the Monash Planning Scheme.

The EPA advises Council that it is generally supportive of the proposed Planning Scheme Amendment and application of the Comprehensive Development Ione (COI) applied to 1221-1249 Centre Road, Oakleigh South.

EPA supports the staged approach to the environmental audit of the Development Site, allowing the site to be rezoned with the support of an Environmental Site Assessment (ESA) and Site Environmental Strategy Plan (SESP), and requiring a section 53X Audit as a condition of any future planning permit for a sensitive use.

However, EPA wishes to advise Council that this approach may send a false message to Developers/Land Owners that contaminated land sites can eventually be developed for a sensitive use, which may not be the case depending on the findings of the section 53X audit. EPA reinforces this message to Council to ensure that the COI does allow for consideration of a range of commercial and other non-sensitive uses, as Council proposes.

Application of Ministerial Direction No.1:

It is EPA's view that addressing the requirements of Ministerial Direction No.1 through a staged approach of applying the CDZ through a land rezoning process is appropriate, on the basis that a section 53X audit will be required as part of any future planning permit condition allowing sensitive uses on the Development Site.

As this approach is not strictly in accordance with Ministerial Direction No.1, EPA wishes to emphasise to Council that the General Practice Note requires responsible authorities to be satisfied that the level of contamination will not prevent the use of the site, if they make the decision to not require an environmental audit as early as possible in the planning process.

My interpretation of EPA's position is that the planning amendment needs to be supported by the ESA's conducted at the site and the SESP. The various ESA reports and the SESP (Coffey, November 2014g) have been reviewed by the EPA appointed auditor and the auditor has endorsed the SESP (URS, November 2014), refer Section 1.8.

It is my opinion that:

The auditor's review of the Environmental Site Assessments (conducted by Coffey and other consultants) and the endorsement of the SESP (URS, November 2014) when supported by this expert report, form a sufficient basis for approval of the planning amendment in a manner that is consistent with EPA's advice to Council.

7.3. Valente Submission

In its letter to Council dated 3 March 2017, A & S Valente And Associates Pty Ltd stated:

2. THE LAND CURRENTLY ZONED GRZ2 SHOULD NOT BE REZONED

That part of the land zoned General Residential Zone Schedule 2 should not be rezoned as Comprehensive Development Zone. The current zoning already allows residential uses provided that an environmental audit certifies that it is permissible. As can be seen from the adjoining property at 1213-1217 Centre Road Oakleigh South, Council has already issued a planning permit for a multi-level apartment building in the same zoning namely GRZ2.

Accordingly, there is no planning impediment for residential development on this part of the land, as long as the last open quarry pit situated on the south west side of the site, (currently filled with water), being remediated and filled and then signed off by the Environmental Auditor.

The owner of the land already has a planning permit issued in May 2015 for remediation works for the land. The owner's representative consulted with the community extensively at that time and published a brochure that it delivered to all the households in the area which gave undertakings that the remediation works would commence in 2015 and finish within 24 months by the end of 2017. However, from our understanding, the owner has not even commenced the remediation works.

The Planning Officer's report to Council at its meeting on 27 September 2016 supporting this Amendment application stated that:

"However, the owner has indicated that undertaking an audit prior to the rezoning does not provide sufficient certainty to warrant the expense and effort of remediating the site and is not the process undertaken for rezoning more recently for several sites in metropolitan Melbourne, including the Amcor paper mill site in Alphington".

We have the following concerns with the above comment and the Planning Officer's Report:-

- the Amcor paper mill site is not a former sand quarry and therefore the analogy to this land is not relevant;
- the above comment suggests to us that the owner of the land is exercising undue influence on the Council by stating that it will not remediate the land unless it obtains the rezoning;

• the Planning Officer's report to Council did not inform the Councillors nor the community that the s.173 Agreement was registered on the titles to the land to protect the interests of the local community.

Even if the rezoning were to be approved by the Minister, there is a real risk that the current owner will simply obtain planning permits for high density residential development and Mixed Use development and then sell the property with lucrative planning permits without undertaking any remediation of the land. They will waste the time of the Council and the community with more consultations regarding planning permit applications without any certainty regarding whether the remediation works will be undertaken nor whether an Environmental Auditor after remediation will allow the type of residential development proposed.

Our view is that given that the current owner has not remediated the land in accordance with the current planning permits, that Council should be pro-active and exercise the power that is has pursuant to clause 4.2.11 of the s.173 agreement to allow the clean fill of the last open quarry pit so that this blight on the neighbourhood can be removed. As previously stated, the Council should also consider purchasing the whole site and allow the establishment of a number of sporting facilities all in the one area.

Another reason why this land should not be rezoned to CDZ to accommodate high density development is because three quarters of this land has already been filled with non-engineered fill. The one quarter that remains to be filled is now bounded to the south by a new multi-level apartment building which is currently under construction. The community should not be exposed to any level of risk whether from embankment failure or exposure to waste material through the remediation of land other than by allowing clean fill of the last open quarry pit.

The community has already experienced land slip and subsidence issues impacting adjoining properties recently at 170-174 Highbury Road Mount Waverley. In addition, a major land slip of a former clay quarry also occurred after dwellings were constructed at "Sienna Falls" in Highbury Road Glen Waverley.

Unlike the Highbury Road sites which have clay soils, the stability of soil batters are more critical in sandy soils such as this old sand quarry site.

Therefore it is vitally important that the total history of this site is considered in any decision being made regarding the rezoning of the land by a Planning Panel and ultimately the Minister for Planning. The history of the land culminating with the registration on all the titles of this land with the s.173 Agreement has not been advertised with Amendment C 129 nor was it brought to the attention of the Councillors in the Planners Report to Council on 2ih September 2016.

Finally, it should be noted that the majority of the old sand quarry sites in the City of Kingston were filled and then either converted to public open space or rezoned from SUZ to the Green Wedge Zone which only permits low density use. In our view, should the Council not seriously consider purchasing this land, then the most appropriate zone should be Green Wedge Zone. This zoning would protect future generations from constructing buildings on this problematic land, which may result in future sink holes or land slips.

With respect to Mr Valente's understanding that remediation has not commenced, this is not correct. Importation of suitable fill commenced in the first quarter of 2017, after a tender process was completed by the developer to engage a civil contractor.

Where large sites are proposed to be developed, it is relatively common for rezoning to occur prior to costly rehabilitation and remediation commencing. While the Amcor site may not be in an identical contamination category as the land subject to the amendment, the same principle applies. As

Expert Report of Mr Phillip Sinclair Re: Monash Planning Scheme Amendment C129

addressed in Section 5 of this report, planning amendments regularly occur prior to completion of ESA assessment, reporting and endorsement and SESP finalisation and endorsement.

I also note that in October 2014, EPA advised the appointed environmental auditor of the site as follows:

EPA support in principle the staged audit approach. We have precedents for adopting this approach as a means to promote clean up and remediation of large sites by supporting financial viability of development proposals.

With respect to Mr Valente's comment that land stability is an important issue for the amendment site, I agree. The design of the remediation takes into account the geotechnical conditions at the site and when implemented, land slip and stability issues will be addressed. It is more likely that land stability issues will continue if the site remains undeveloped or only slowly developed under public ownership.

It is my opinion that:

Mr Valente's concerns regarding commencement of remediation and the planning amendment proceeding prior to completion of remediation are not well founded for the reasons stated above.

Mr Valente's concern regarding land stability is well founded and is addressed by the conceptual design for the development of the site. Land stability issues are more likely to be addressed if the amendment is approved than under nominated alternative approaches.

8. Expert declaration

I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.

This expert report is based on application of environmental policies, guidelines and standards which are commonly adopted by site contamination practitioners as the basis of environmental site assessment and reporting.

Phil Sinclair

Principal Environmental Scientist

9. Statement of Uncertainties

This report represents a review of and expert opinion about data and information (together, "Information") relating to the property which is the subject of this report. Some of the Information was obtained not by the expert or Coffey Environments but from other sources and contacts, some of whom may be noted in the report. I and Coffey have conducted reasonable checks as to the adequacy of the information provided and are satisfied that it is suitable for the purpose of preparing this report. However, it is noted that, inherent in any assessment approach, is the fact that information is based on a number of "spot" tests and that conditions may vary between those locations.

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

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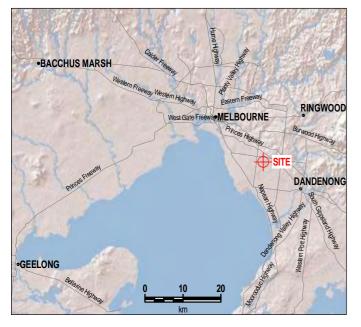
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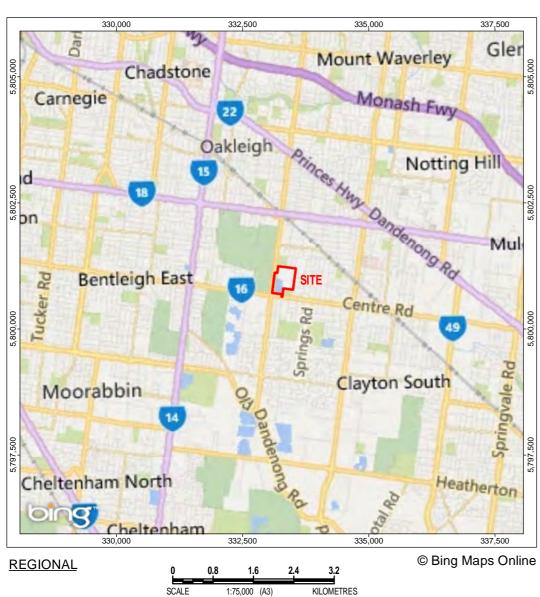
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Appendix A – Figures



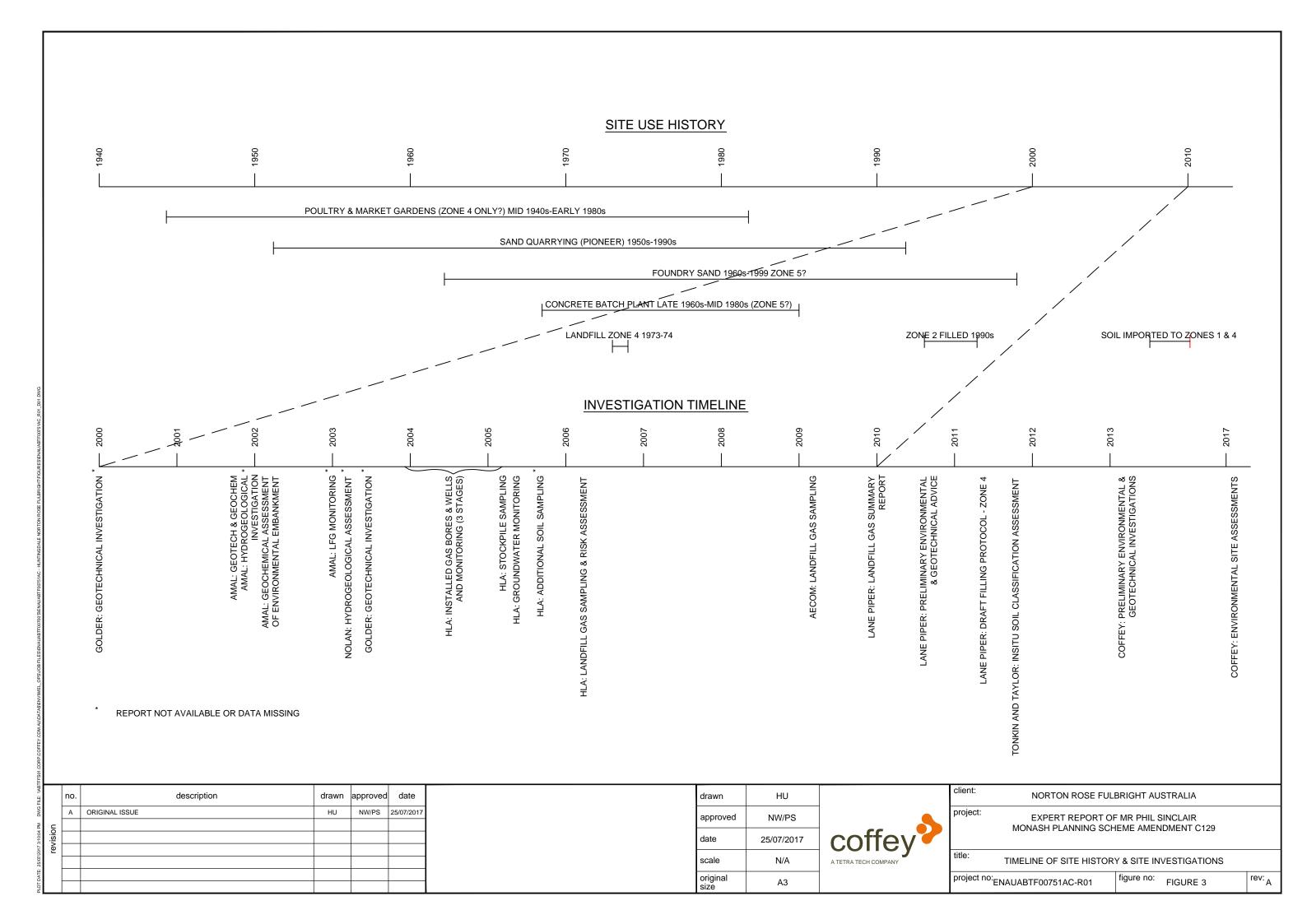
GENERAL AREA MAP

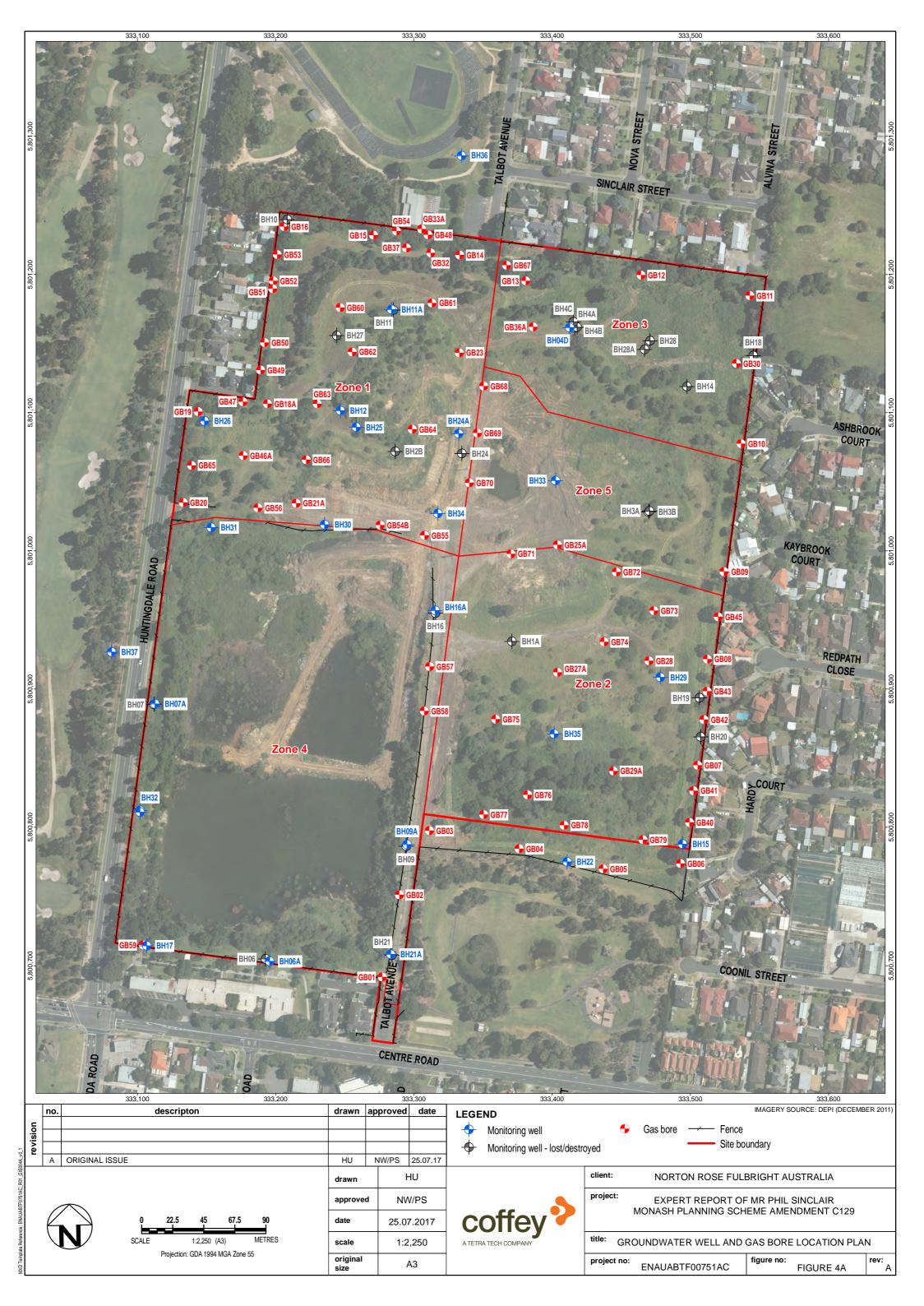


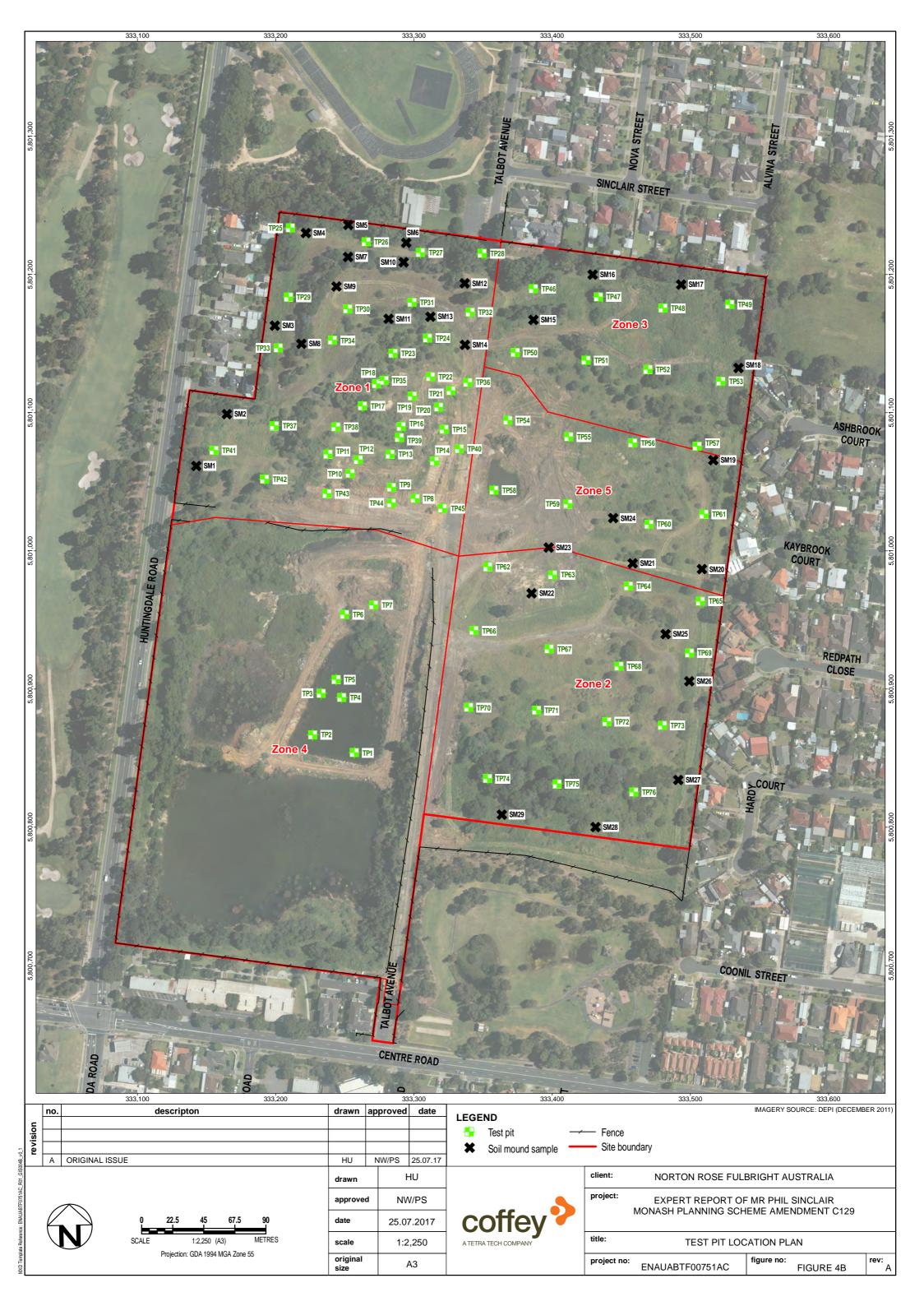


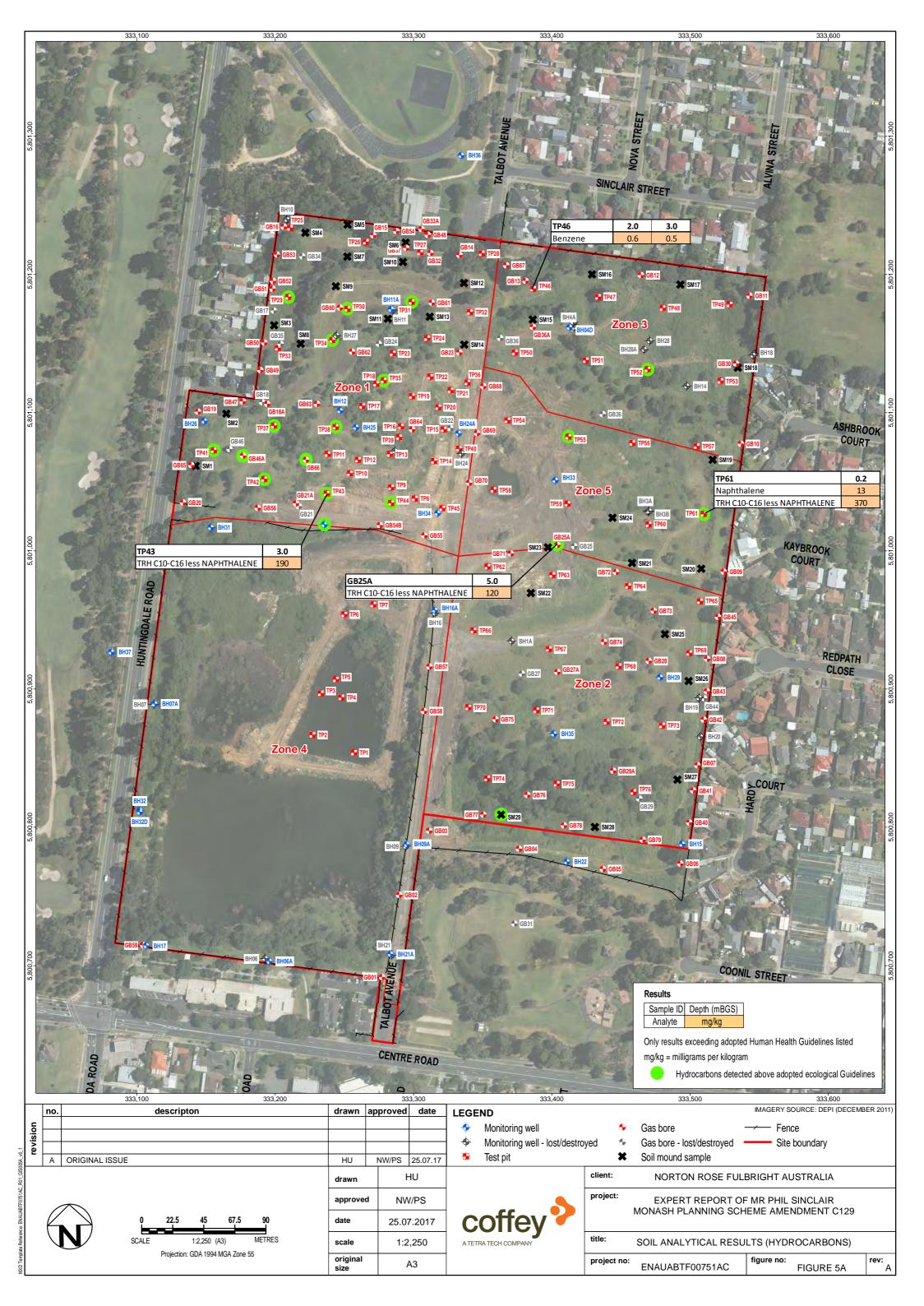
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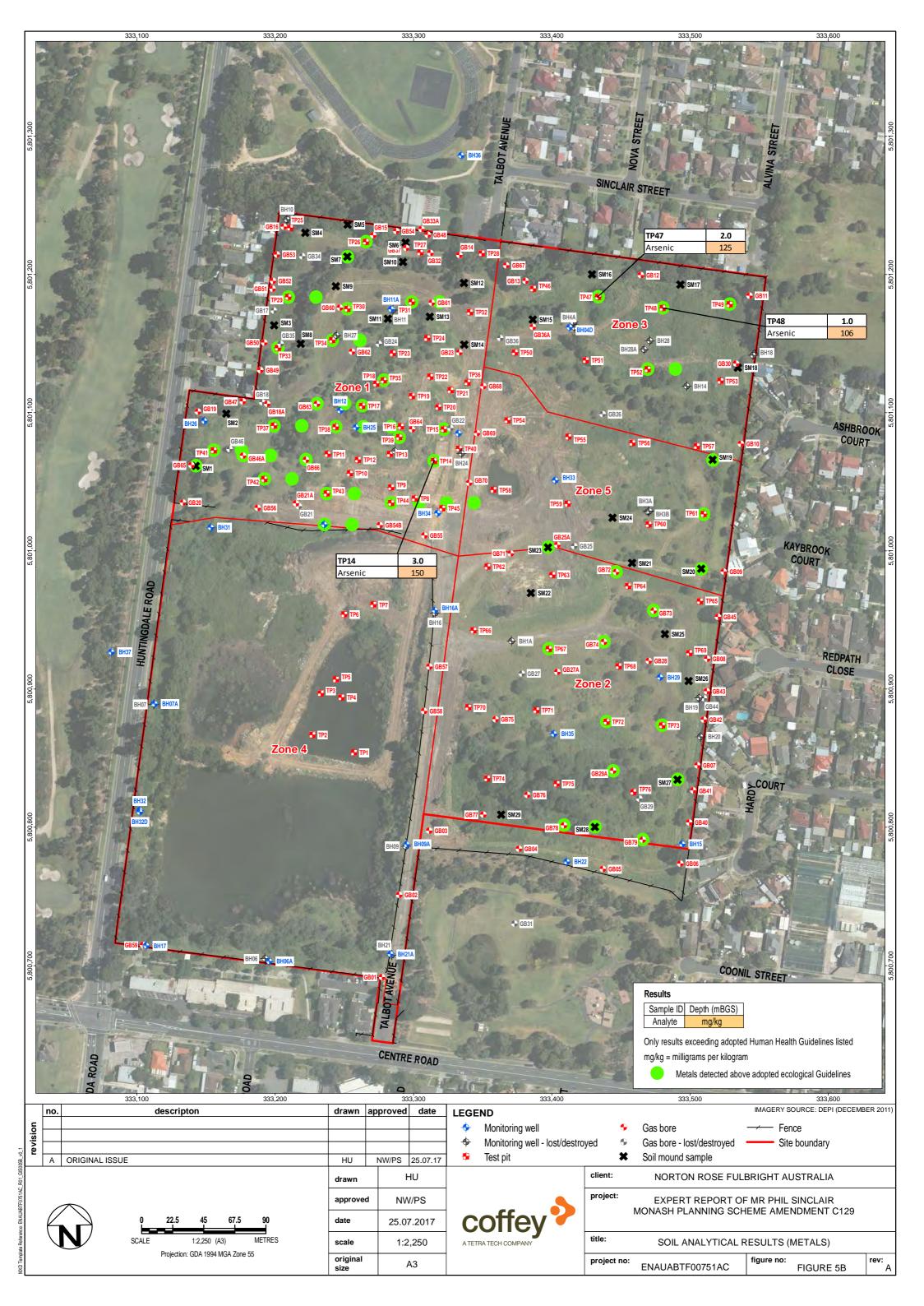


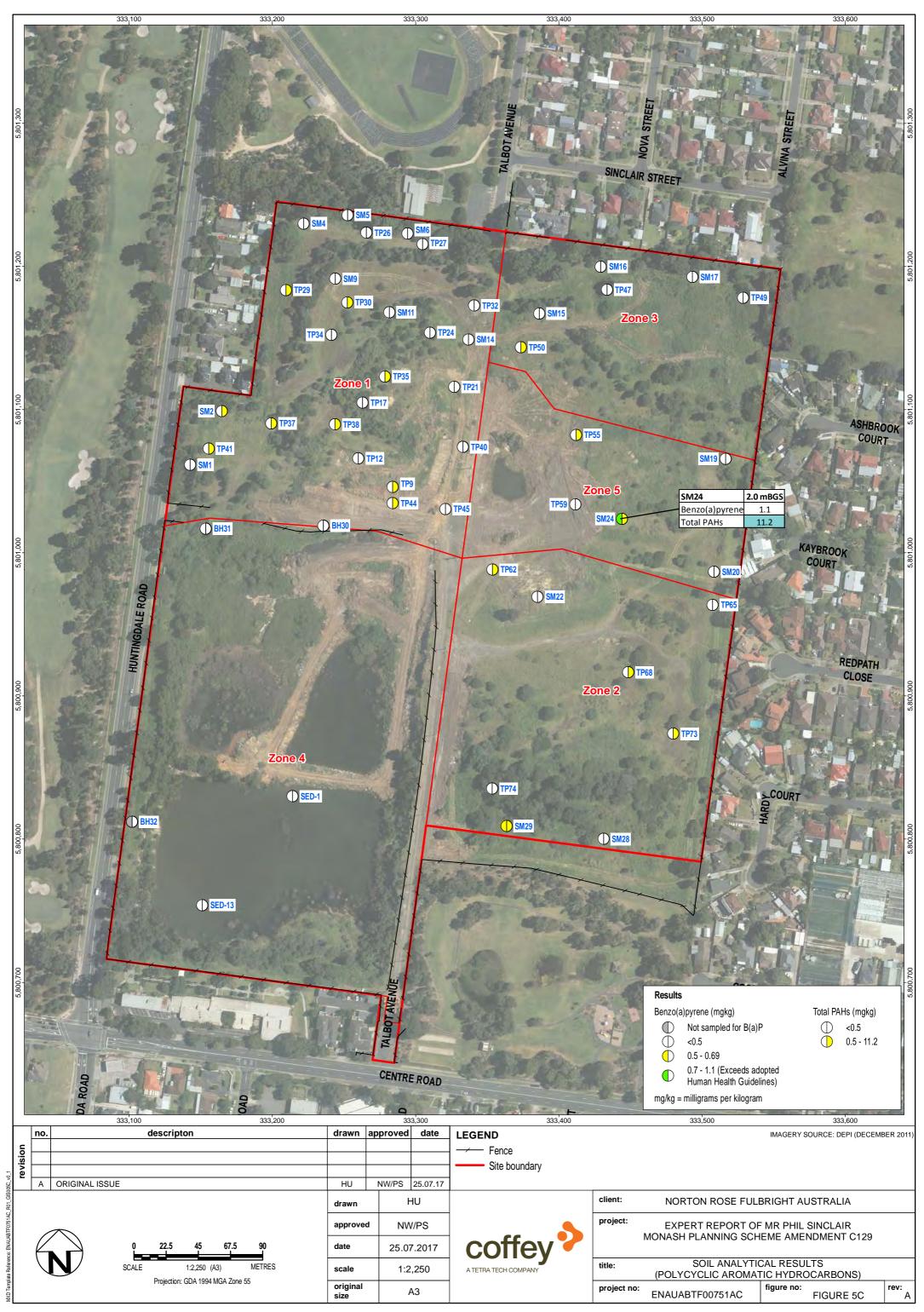


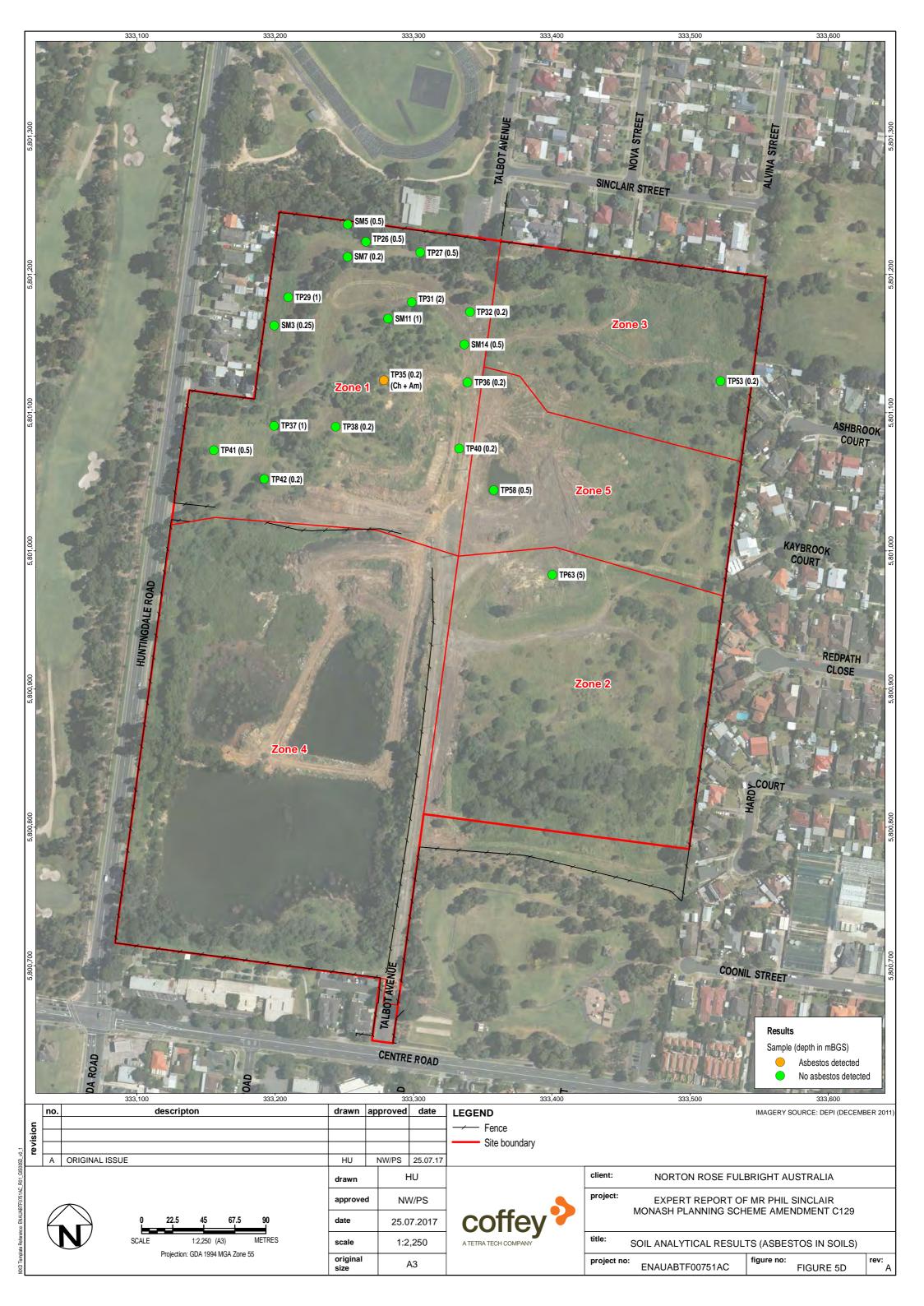


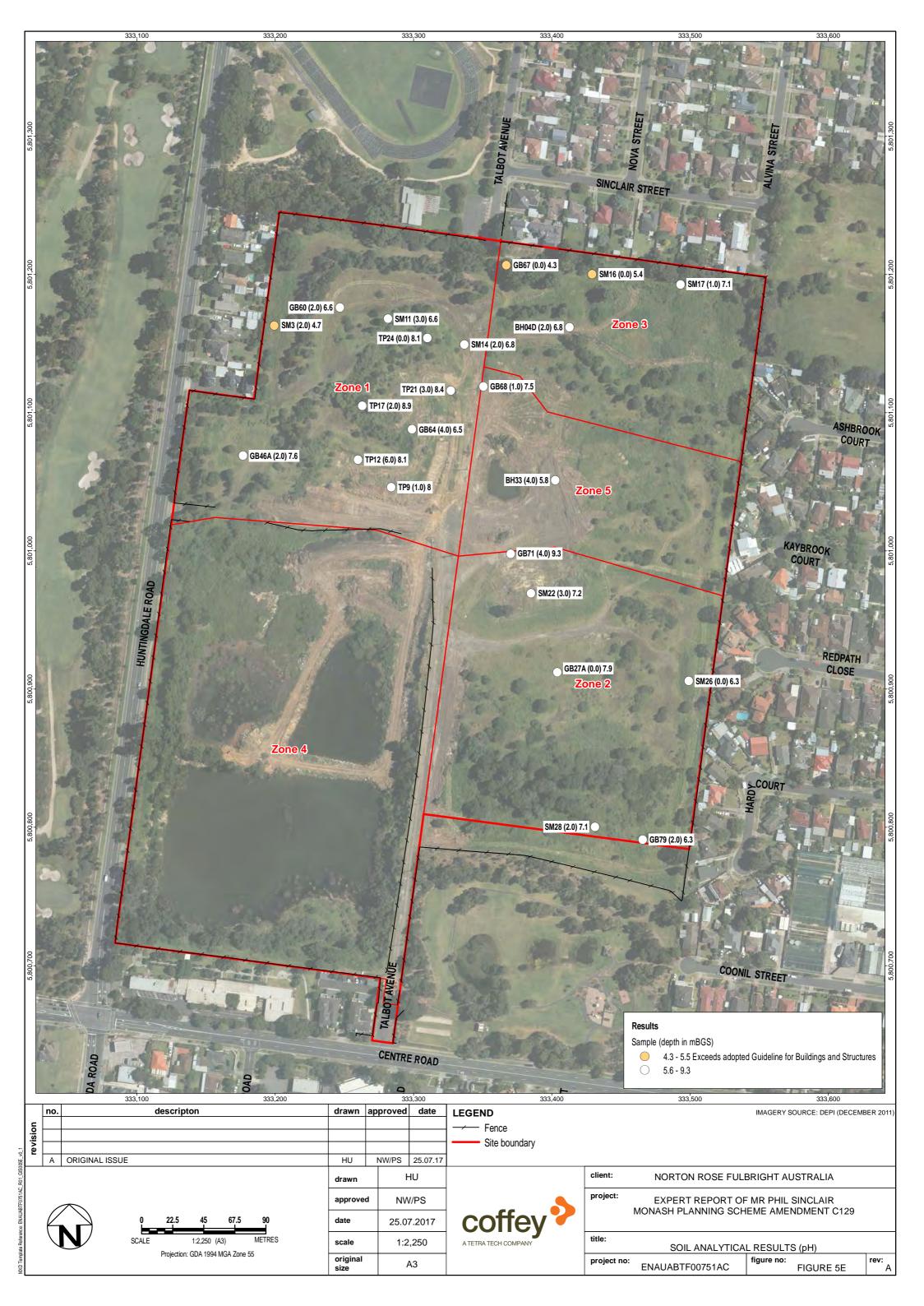


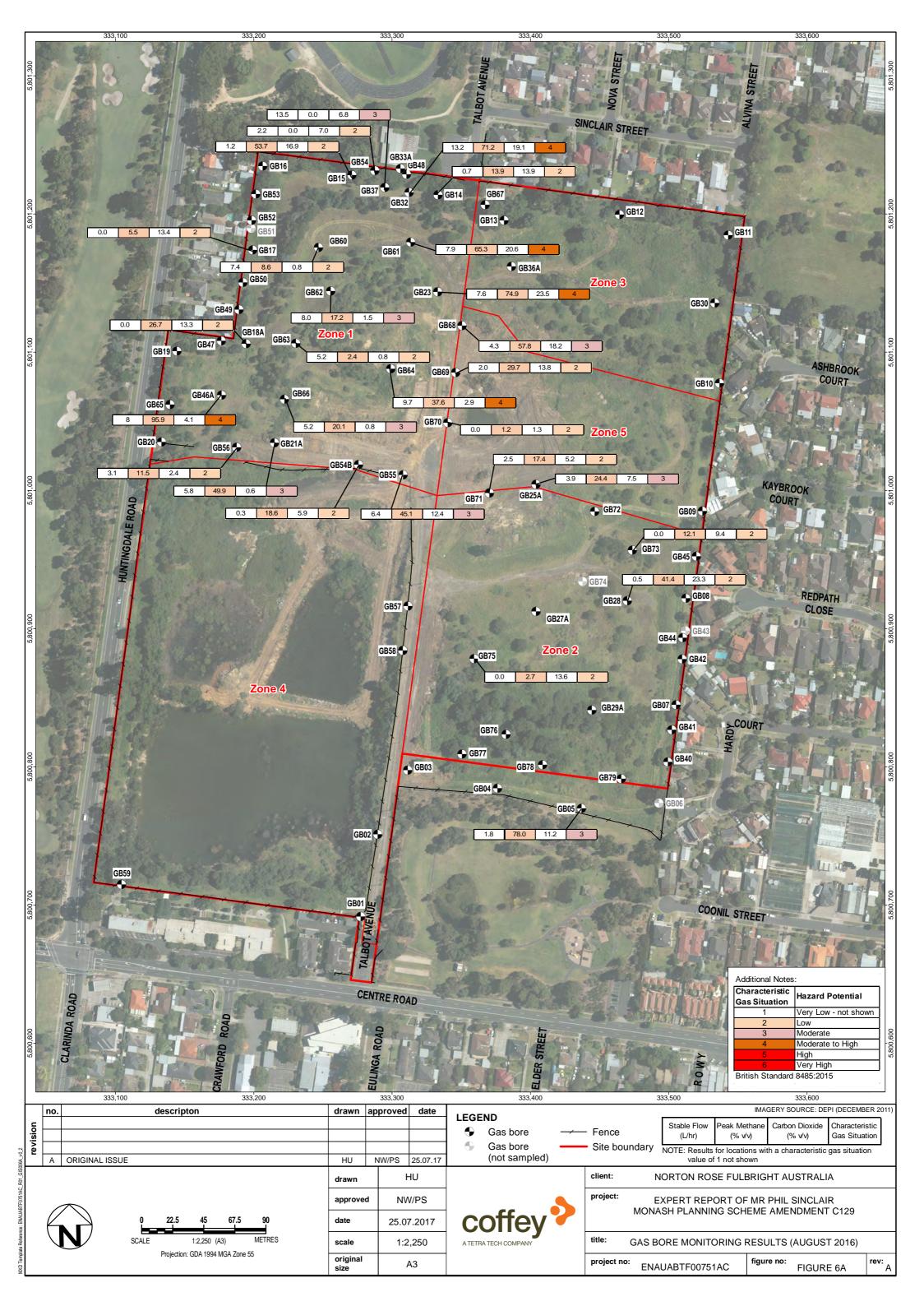


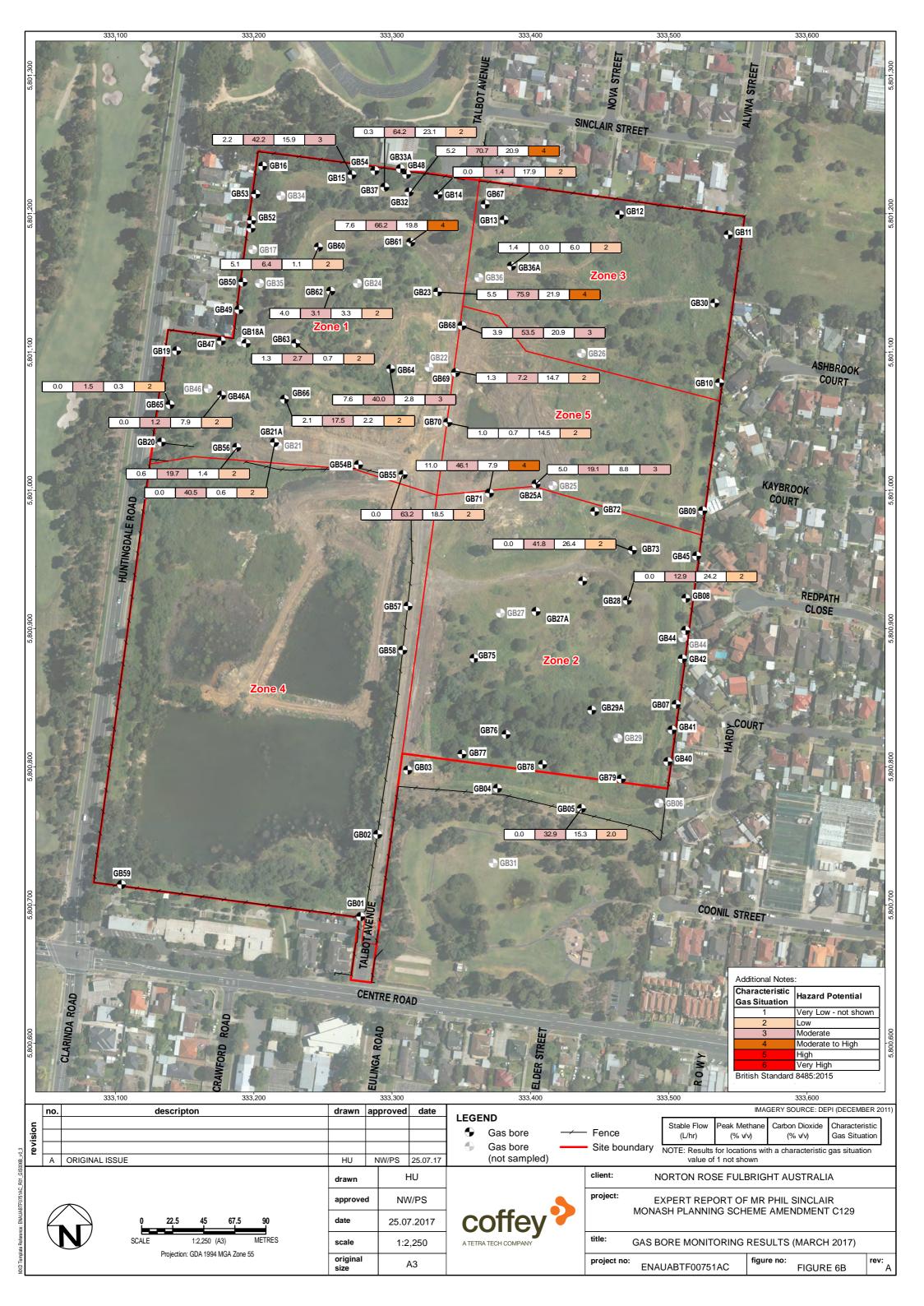


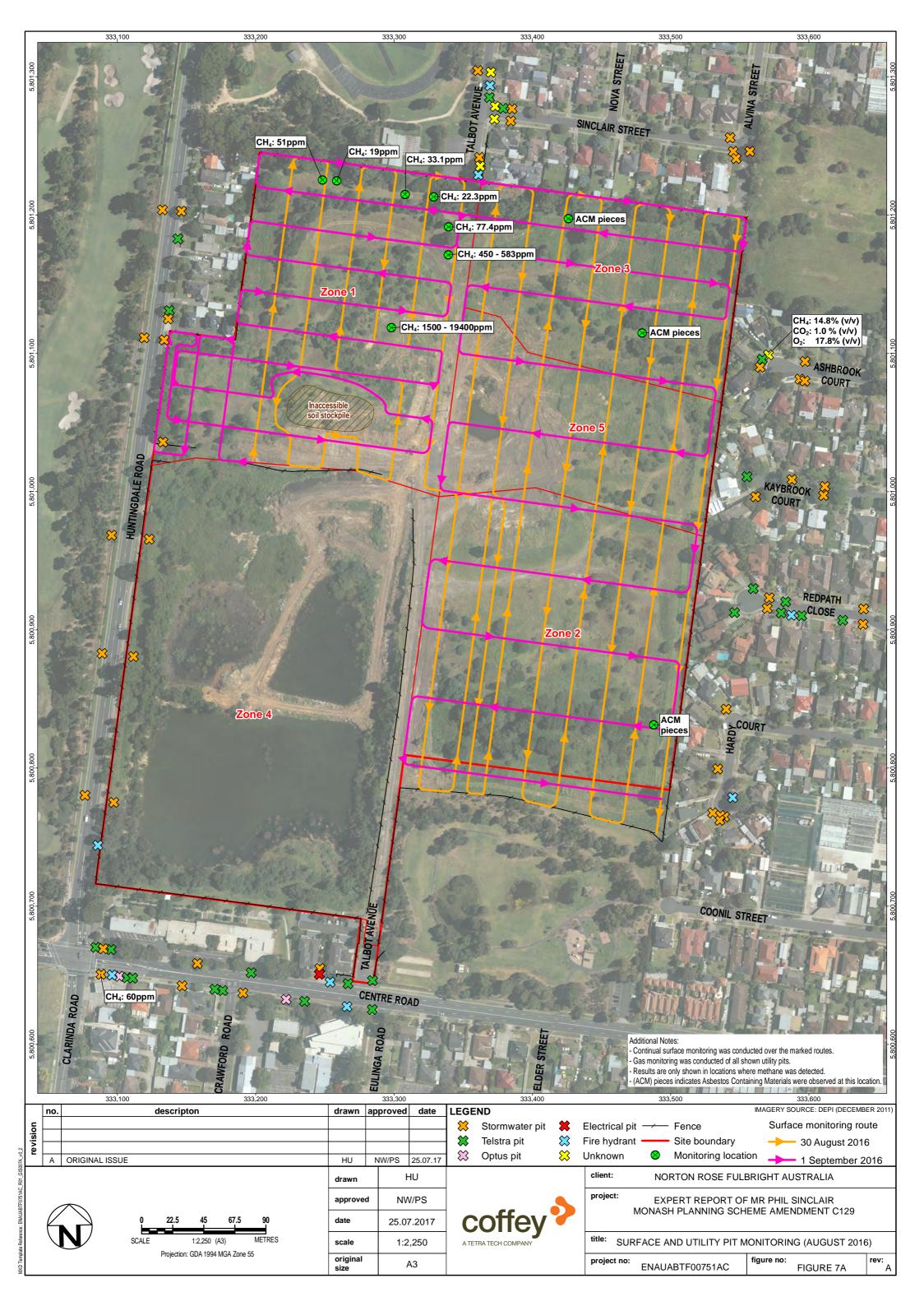


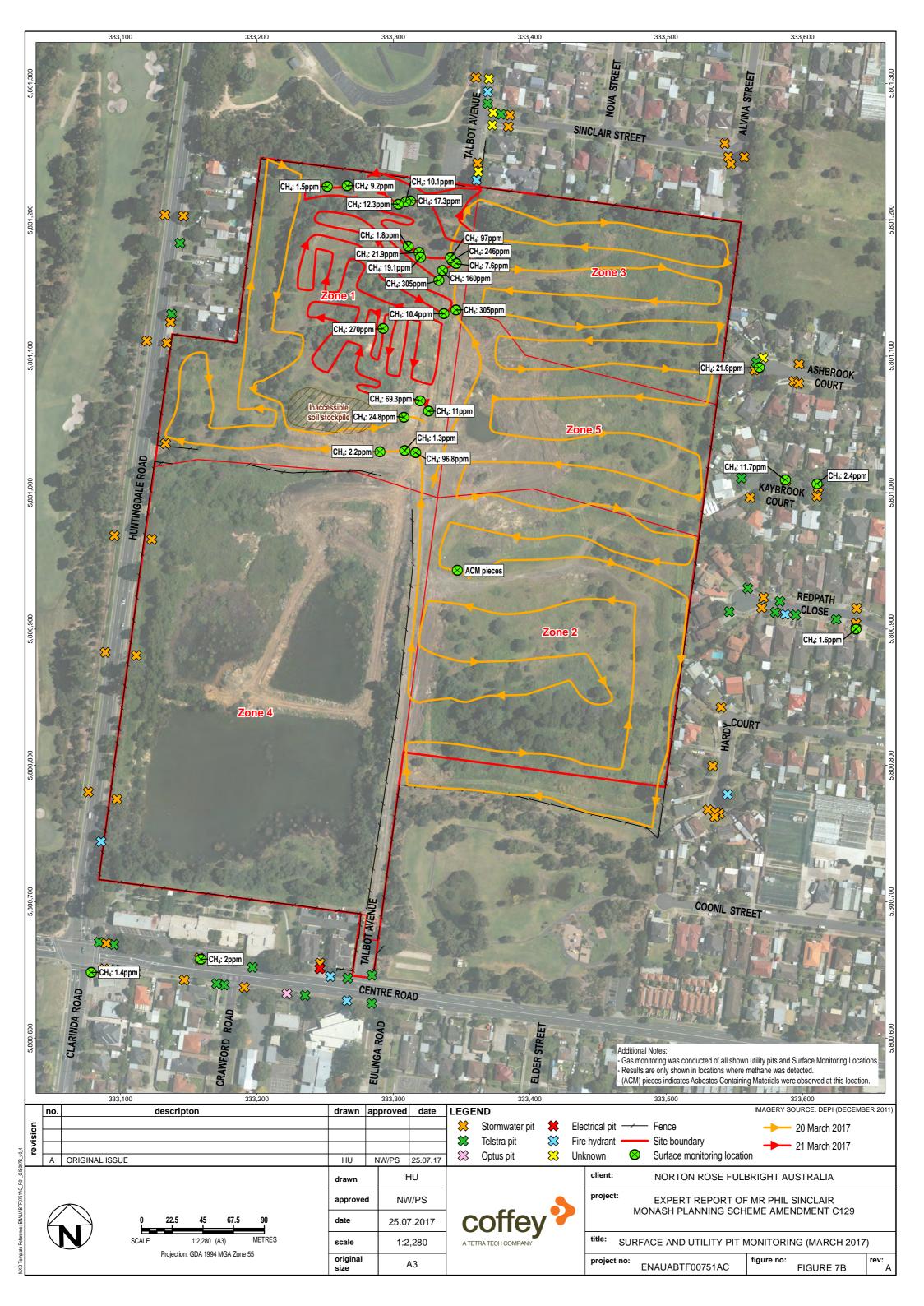


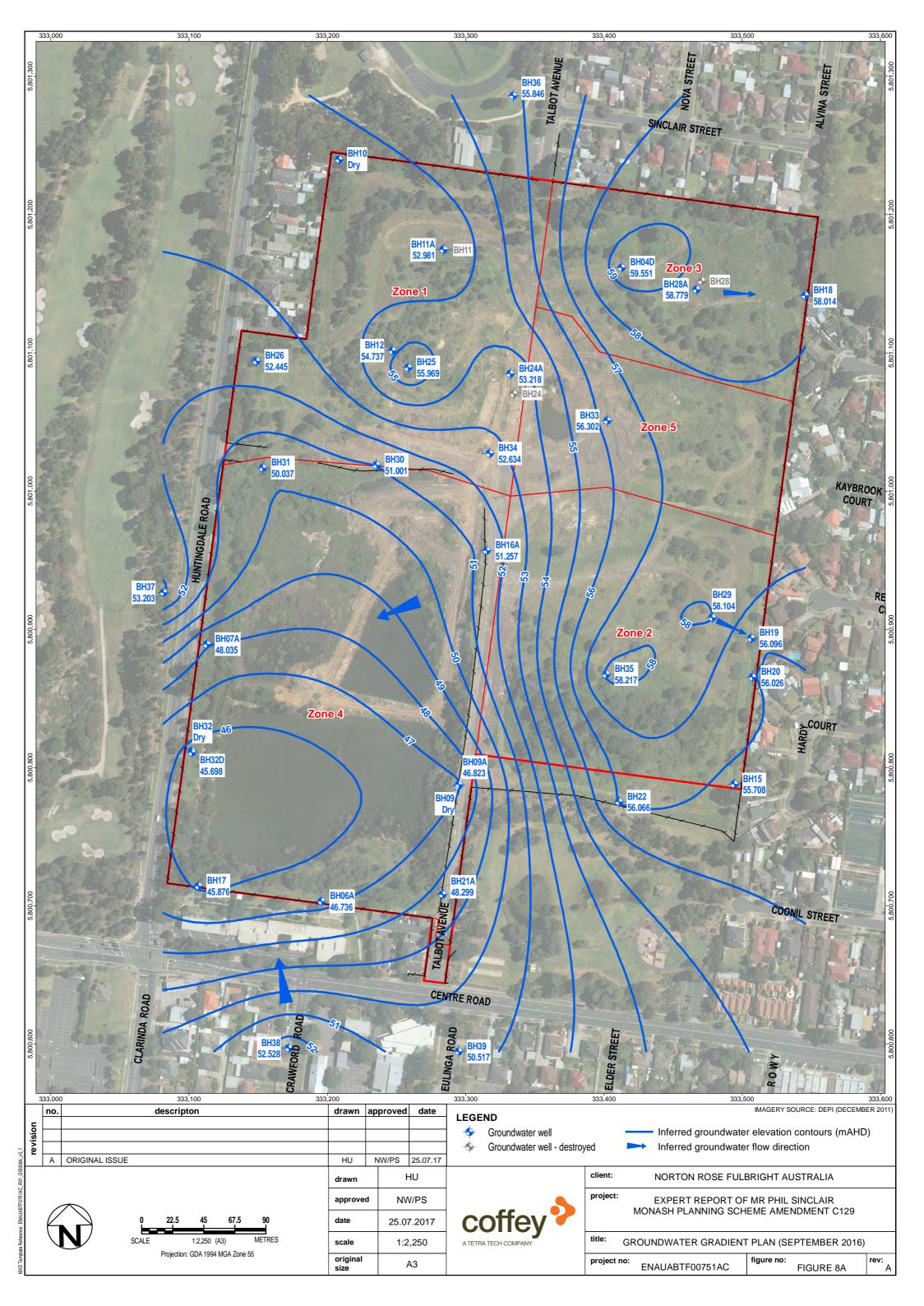


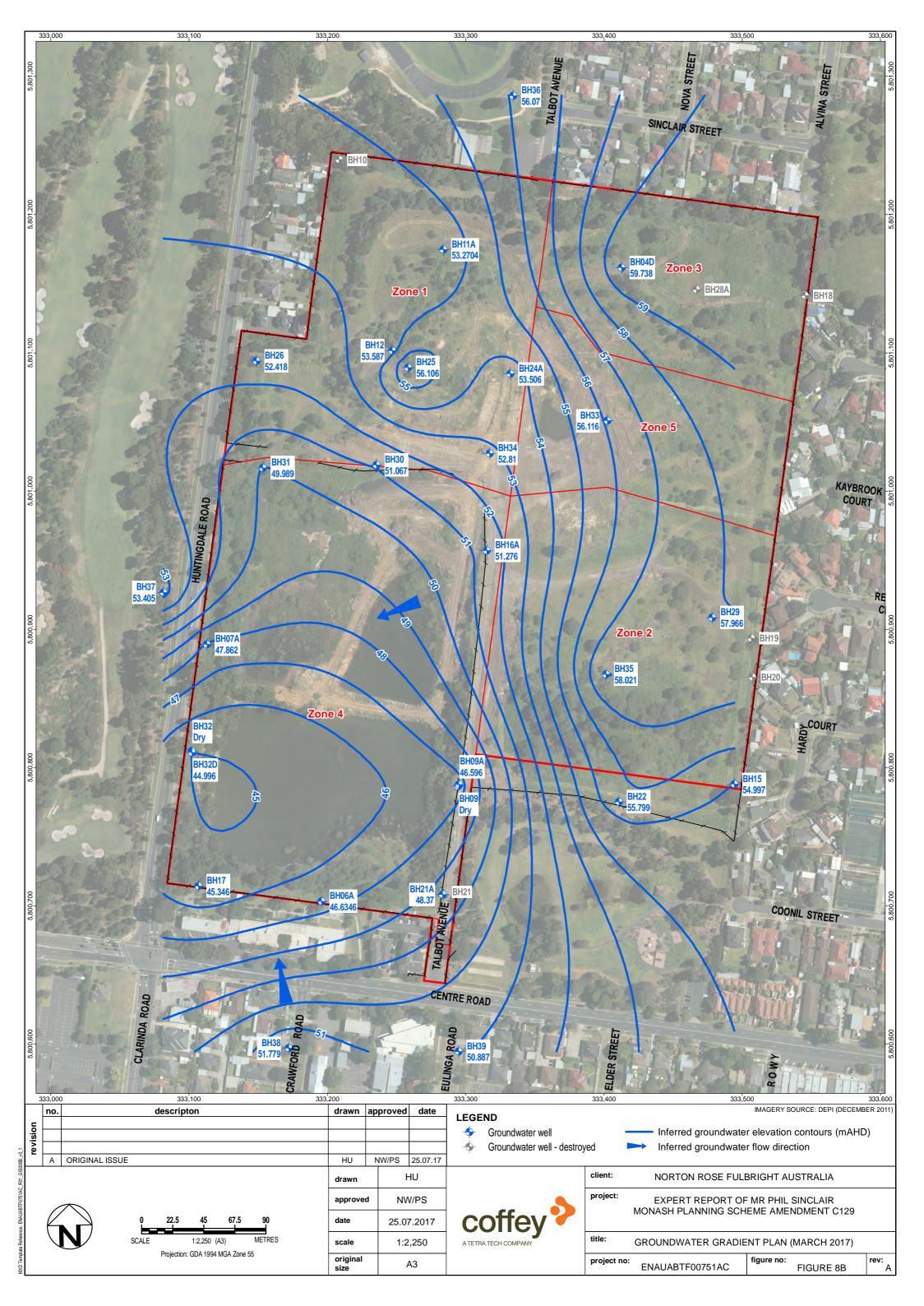


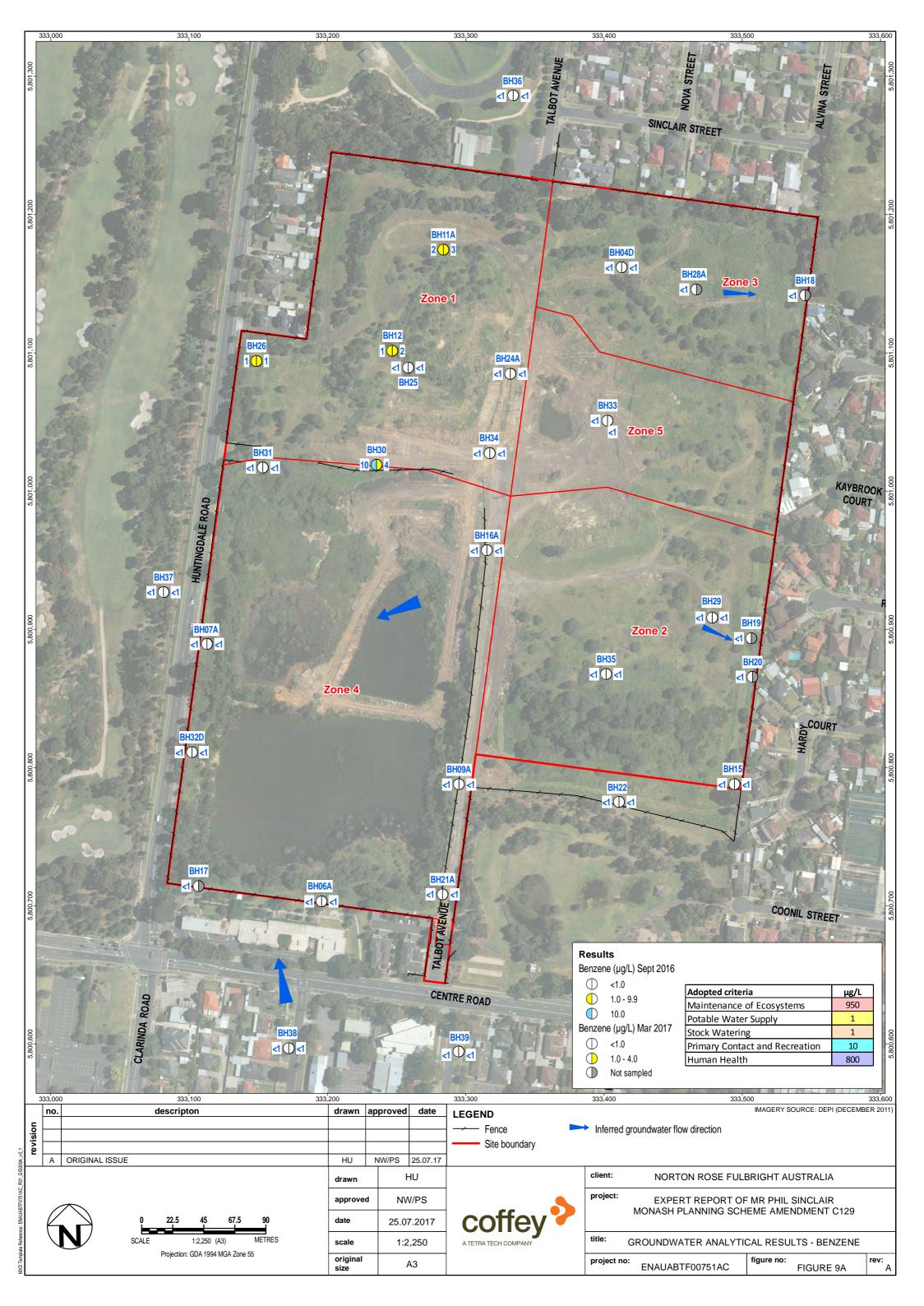


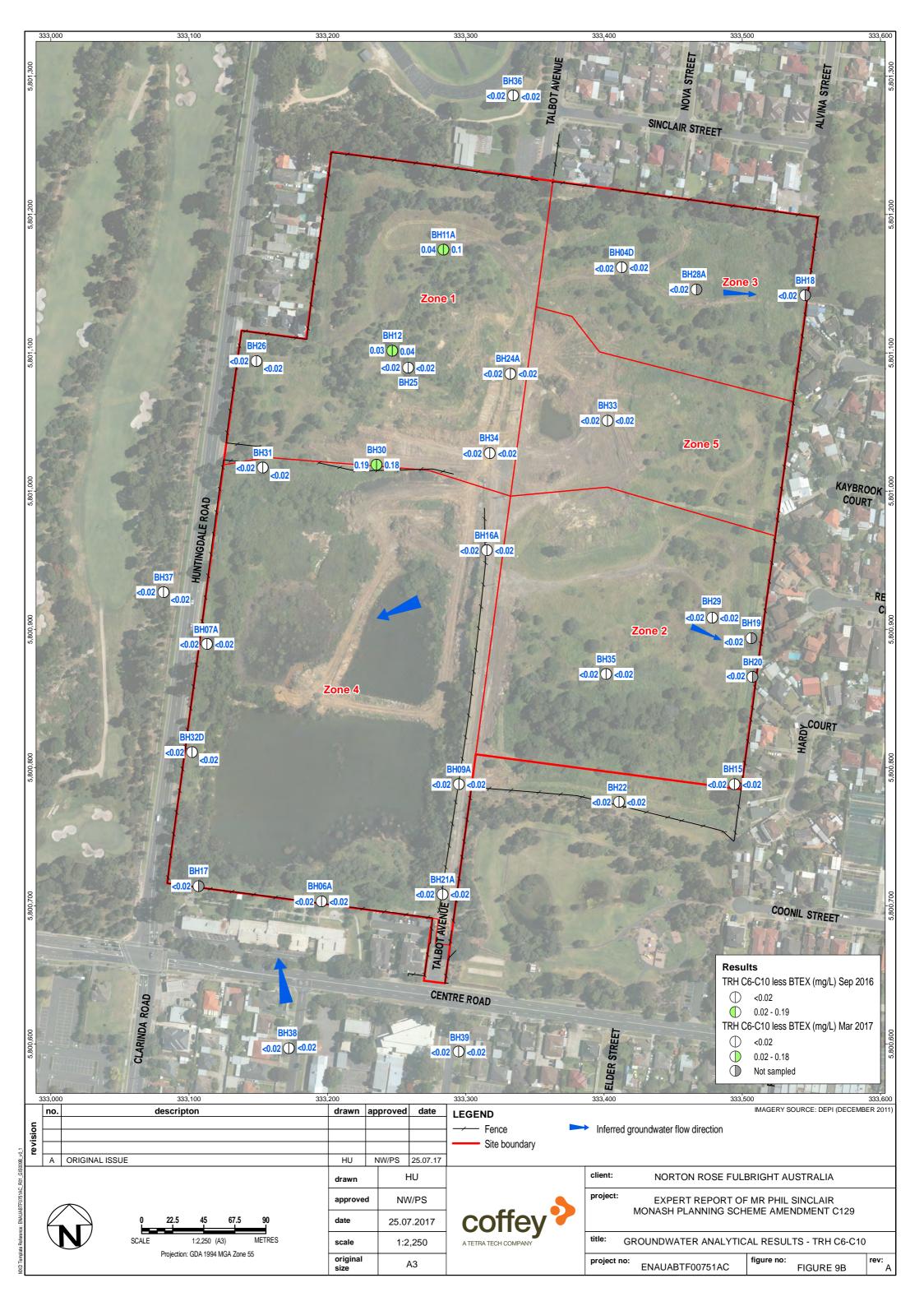


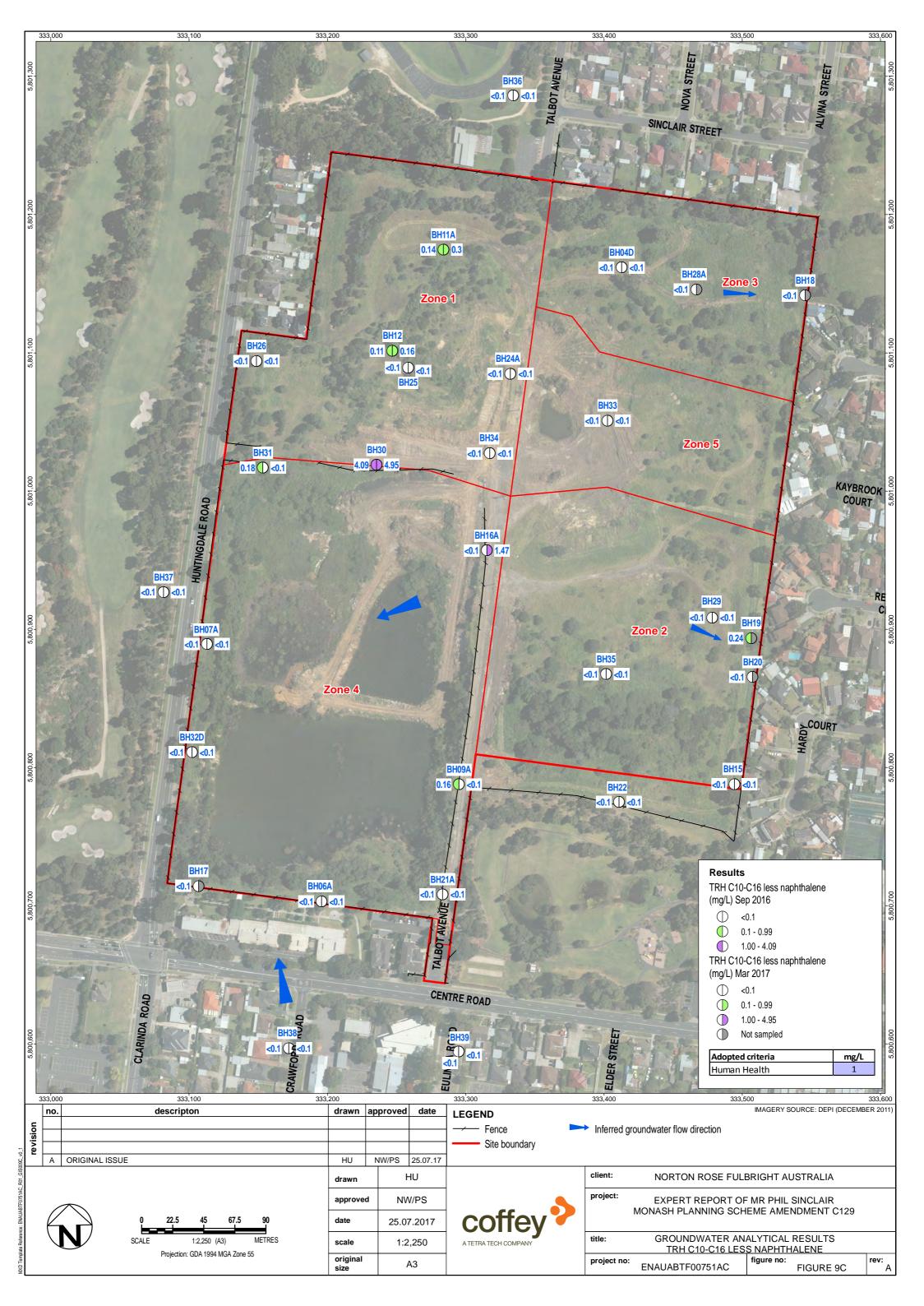


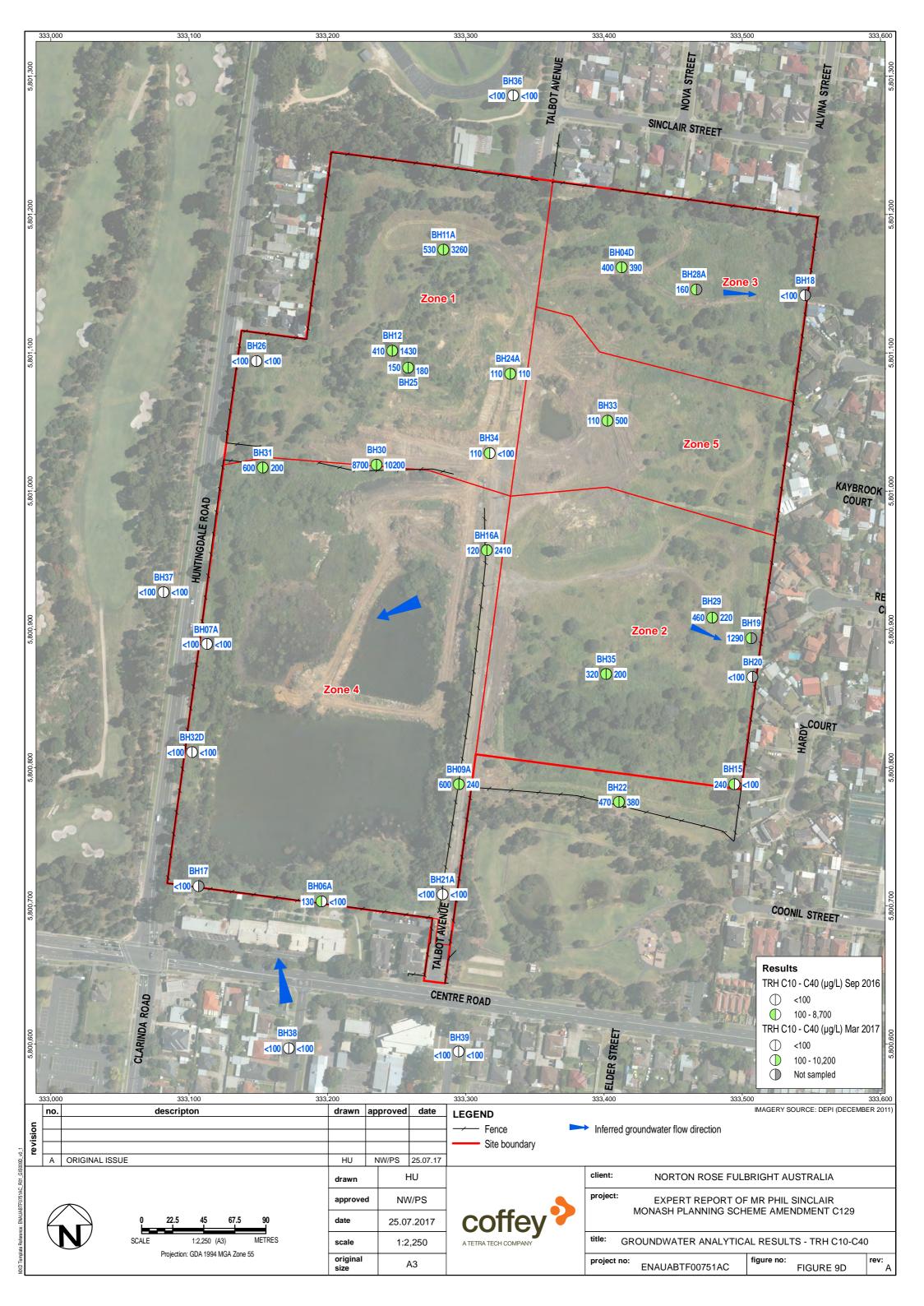


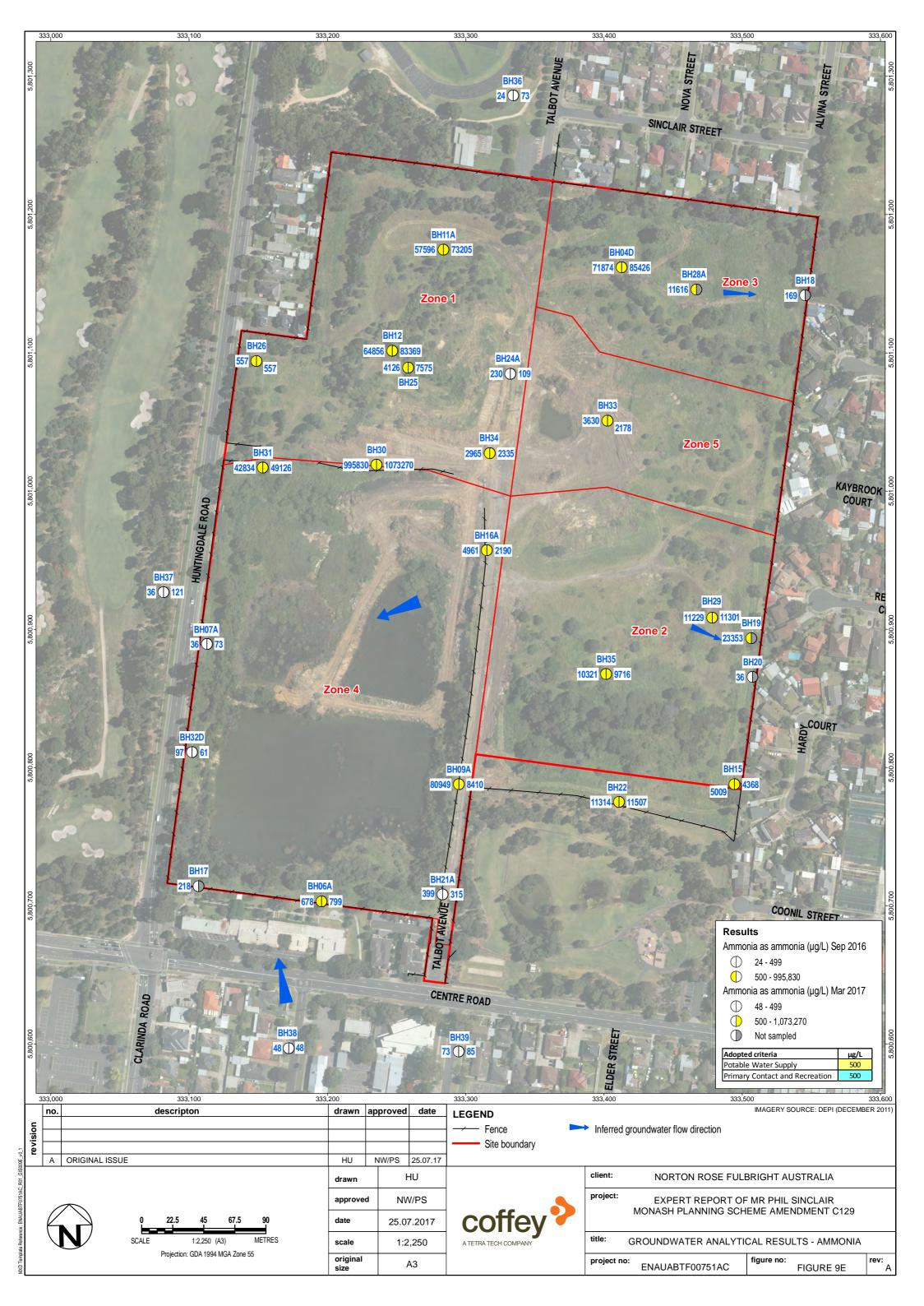


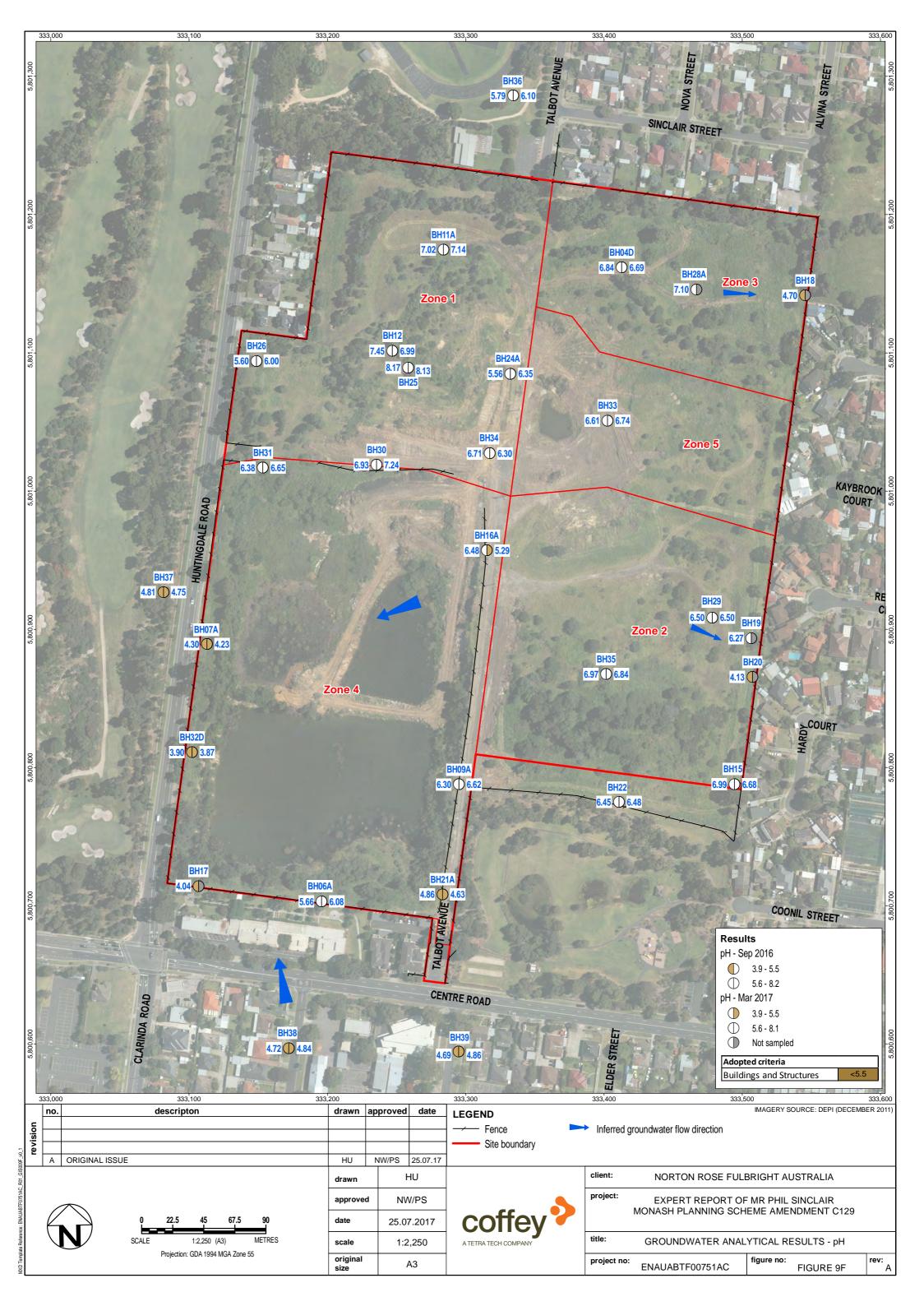


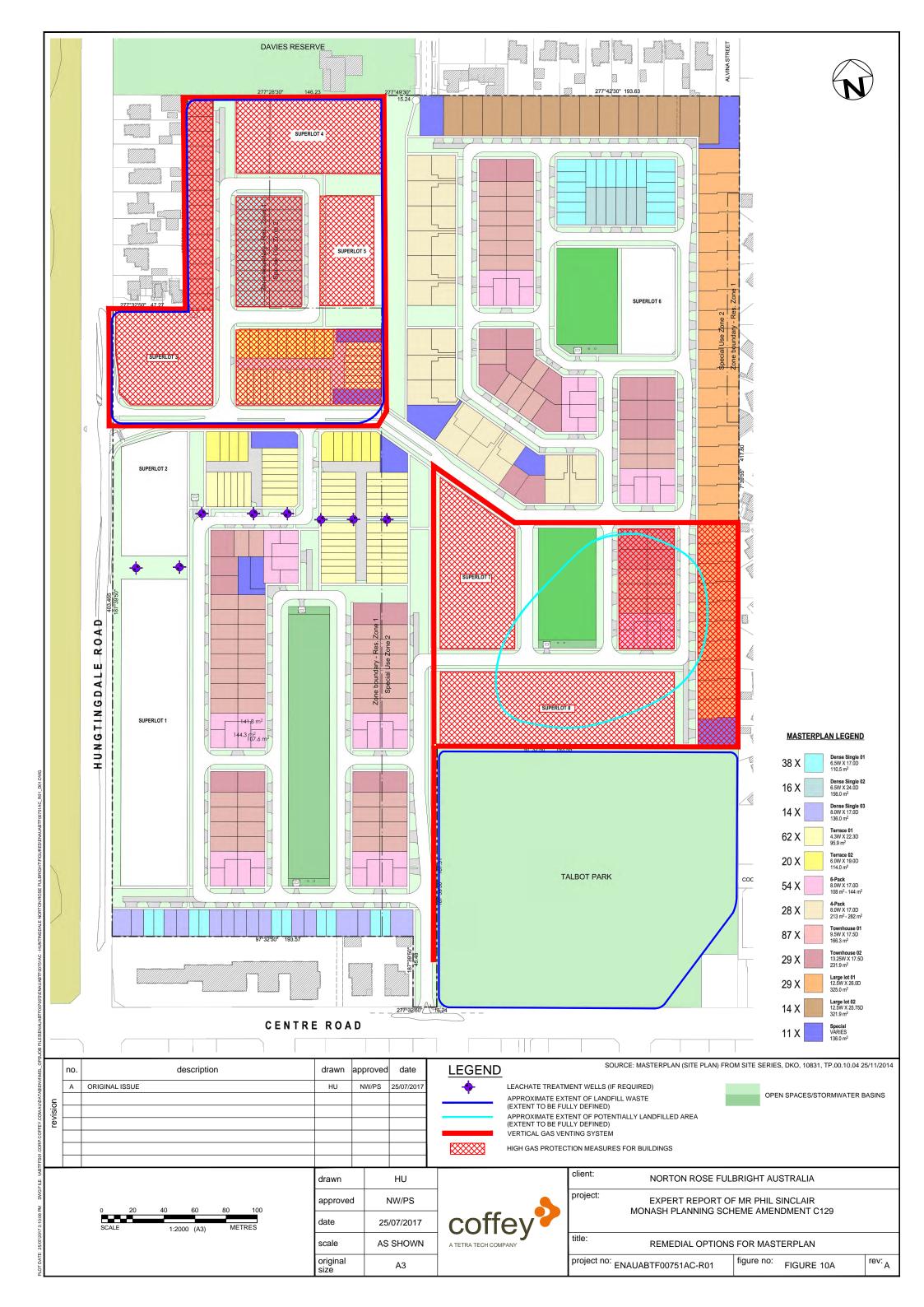


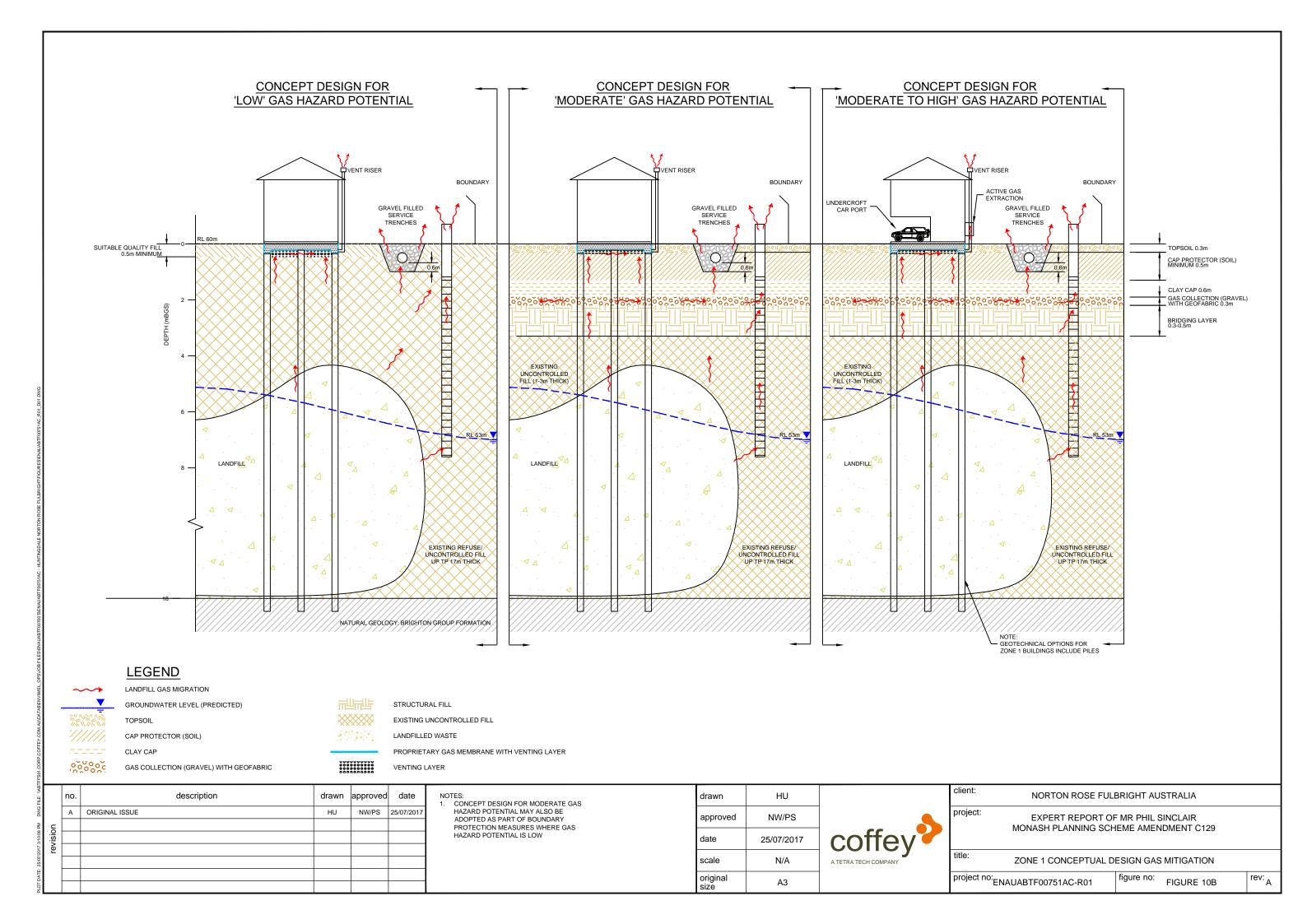


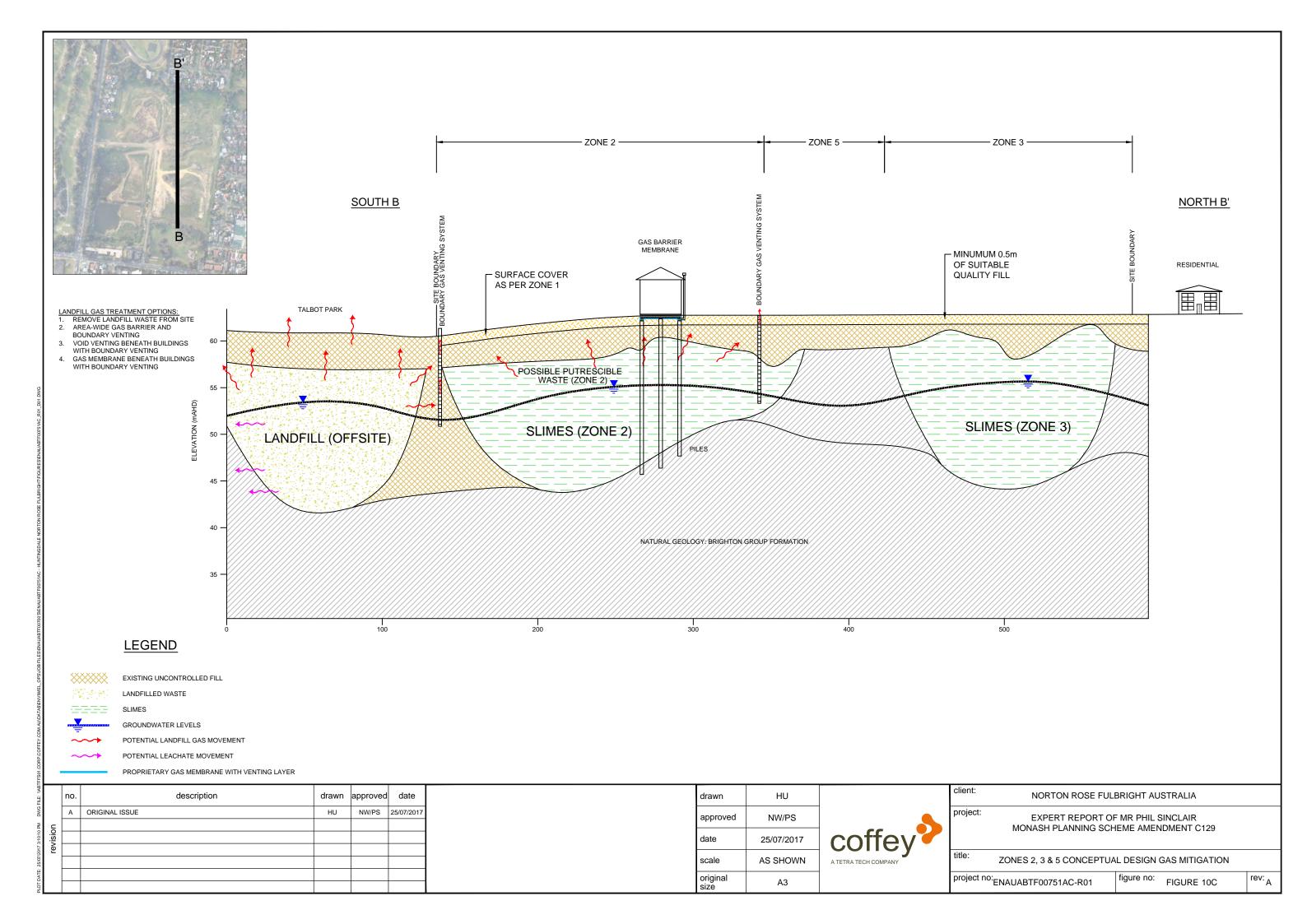


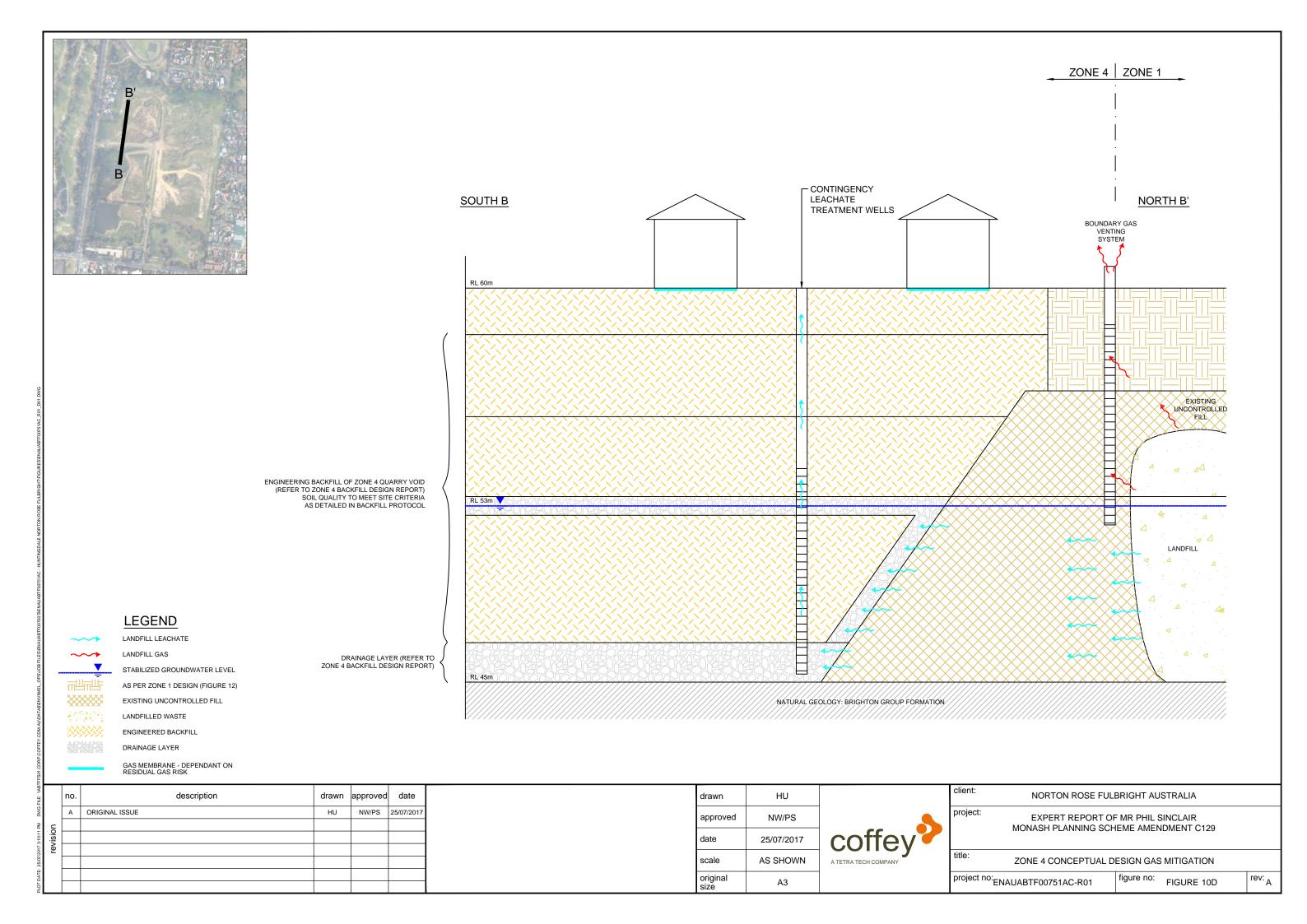












Appendix B - Tables

BH34_0.5 0.5



Table 1A: Soil Results (Hydrocarbons and Metals)

BH30-0.5

0.5

BH30-2.0

BH31-0.5

0.5

BH31-1.0

BH32-0.5

0.5

BH32-1.0

BH33-2.0

BH33-4.0

BH4D-2.0

Field_ID BH4D-1.0

				Depth (m)		4 - 4	0.5	<u> </u>	0.5	1	0.5	1		7	0.5
				Sampled_Date		15/08/2016	7/04/2014	7/04/2014	8/04/2014	8/04/2014	9/04/2014	9/04/2014	15/08/2016	15/08/2016	20/06/2016
				Soil Type		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
			ļ-	Location	Zone 3	Zone 3	Zone 1	Zone 1	Zone 4	Zone 4	Zone 4	Zone 4	Zone 5	Zone 5	Zone 1
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
Moisture	%	1			11	3.9	8.2	10	8.2	6.8	3.8	10	9.5	21	20
BTEXN	70	1			11	3.3	0.2	10	0.2	0.8	3.0	10	9.5	21	20
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.1	70	55 / INL / INL / INL	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.2			<0.5	<0.5	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.3	<0.1	<0.1	<0.1	<0.3	<0.3	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.3	105	40 / 60 / 95 / 170	<0.2	<0.2	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<0.5	<0.5	<0.2	<0.2	<0.2
Naphthalene	mg/kg mg/kg	0.2	170 ²	3 / NL / NL / NL ⁴	<0.2	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<1
HYDROCARBONS	mg/kg	0.5	1/0	3 / INL / INL / INL	<u> </u>	<u></u>	\U.3	\U.3	\U. 3	\U.3	VU.3	\U.5	1	<u></u>	<u></u>
C6 - C9	mg/kg	10			<10	<10	<20	<20	<20	<20	<20	<20	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<20	44	<20	<20	<20	<20	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	110	250	<50	76	<50	<50	<100	<100	<100
C29 - C36	mg/kg	50			<100	<100	60	150	<50	<50	<50	<50	<100	<100	<100
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	170	440	<50	76	<50	<50	<50	<50	<50
,		10	180	4400 5		<10	<20	<20	<20	<20	<20	<20	<10	<10	<10
C6 - C10	mg/kg	50	120	4400 ⁵	<10 <50	<50	<50	63	<50 <50	<50	<50	<50	<50	<50	<50
C10-C16 C16-C34	mg/kg	100	300	3,300 ⁵	<100	<100	150	370	<100	100	<100	<100	<100	<100	<100
C34-C40	mg/kg mg/kg	100	2800	4,500 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
			2800	6,300 ⁵	<100 <50	<50	<100	<100	<100	<100	<100	<100	<50	<50	<50
C10 - C40 (Sum of total) C6-C10 less BTEX (F1)	mg/kg	50		45 / 70 / 440 / 2004	<10	<10	<20	<20	<20	<20	<20	<20	<10	<10	<10
	mg/kg	10 50		45 / 70 / 110 / 2004	<50	<50	<50	63	<50	<50	<50	<50	<50	<50	<50
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	< 50	<50	<50	03	<50	<50	<50	<50	<50	<50	<50
METALS		2	400 2	100	5	.F	10	11	10	10	2.7	20	45	-F	4F
Arsenic	mg/kg	2	100 ²	100		<5	10	11	10	10	3.7	39	<5	<5	<5
Barium	mg/kg	10		CO	-	-							-	-	-
Beryllium	mg/kg	10		60	-	-							-	-	=
Boron	mg/kg	10		4500 20	<1	<1	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4		<1	
Cadmium Chromium (havayalant)	mg/kg	0.4		100			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1		<1
Chromium (hexavalent)	mg/kg	0.5	1002	100	- 16	2	25	51	20	44	<5	19	- 11	4	- 0
Chromium (Trivalent)	mg/kg	<u></u>	190 ²			+	25	21	20	44	< 5	13	11		8
Chromium (Trivalent)	mg/kg	5	190 ²	100	-	-	-						-	-	-
Cobalt	mg/kg		co 2	100 6000	- 10	- -	04	1.10	7.0	30		-F	- 14		
Copper	mg/kg	5	60 ²		18	<5	81	140	7.8	38	<5 1F	<5	14	<5 <5	5
Lead	mg/kg	5	1100 ²	300	14	<5	12	14	9.9	8.1	15	13	47	<5	9
Manganese	mg/kg	5		3800			ZO 1	-0.1	-0.1	-0.1	-0.1	40.4	- 0.2		
Mercury	mg/kg	0.1	22.2	40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	7	<2	13	28	7.9	13	<5	<5	7	<2	8
Phosphorus	mg/kg	5		200	-	-			_				-	-	=
Selenium	mg/kg	5		200	-	-				1	1		-	-	=
Vanadium	mg/kg	5	?	7400	-	-	25		25	25	12	10	- 40	-	-
Zinc	mg/kg	5	70 ²	7400	22	<5	35	55	25	35	43	10	48	7	18

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

GB36A-2.5

2.5



Table 1A: Soil Results (Hydrocarbons and Metals)

BH35_2.0

GB25A_5.0

GB25A_6.0

GB27A_0.5

0.5

GB27A_2.0

GB29A_1.0

GB29A_2.0

GB36A-1.5

1.5

BH35_0.5

0.5

Field_ID BH34_2.0

				Sampled_Date		22/06/2016	22/06/2016	21/06/2016	21/06/2016	21/06/2016	21/06/2016	21/06/2016	21/06/2016	16/08/2016	16/08/2016
				Soil Type	Natural	Fill									
			-	Location	Zone 1	Zone 2	Zone 3	Zone 3							
			Maintenance of												
	1	1	1	Human Health ³											
ChemName	Units	EQL	Ecosystems ¹												
Moisture	%	1			18.9	15.3	15.6	13.5	11.8	16.1	15.5	30.7	25.4	5.1	17.9
BTEXN															
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3 / NL / NL / NL ⁴	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
HYDROCARBONS															
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	120	<100	500	<100	<100	<100	<100	<100	<100	<100
C29 - C36	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C36 (Sum of total)	mg/kg	50			<50	120	<50	500	<50	<50	<50	<50	<50	<50	<50
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	120	<50	<50	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	200	<100	420	<100	<100	<100	<100	<100	<100	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50			<50	200	<50	540	<50	<50	<50	<50	<50	<50	<50
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	120	<50	<50	<50	<50	<50	<50	<50
METALS															
Arsenic	mg/kg	2	100 ²	100	<5	<5	5	10	<5	13	<5	75	28	<5	<5
Barium	mg/kg	10			-	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	1		60	-	-	-	-	-	-	-	-	-	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	2	190 ²		6	19	26	20	10	34	15	98	35	2	24
Chromium (Trivalent)	mg/kg	5	190 ²		-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	2		100	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	60 ²	6000	5	10	10	15	16	27	8	9	8	<5	14
Lead	mg/kg	5	1100 ²	300	18	33	31	112	68	75	16	11	17	<5	13
Manganese	mg/kg	5		3800	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	16	8	12	15	8	28	10	30	23	<2	7
Phosphorus	mg/kg	5			-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	5		200	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	5			-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	5	70 ²	7400	17	47	55	82	92	73	21	64	52	6	167

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

GB64_3.5

3.5

GB63_5.0

22/06/2016 22/06/2016 23/06/2016



Table 1A: Soil Results (Hydrocarbons and Metals)

GB60_4.0

GB61_1.0

GB61_4.0

23/06/2016

GB62_0.5

22/06/2016

0.5

GB62_3.0

22/06/2016

GB63_3.0

GB46A_3.0 GB60_2.0

Sampled_Date | 21/06/2016 | 21/06/2016 | 22/06/2016 | 22/06/2016 | 23/06/2016

Field_ID GB46A_1.0

				Soil Type	Foundry waste	Foundry waste	Fill	Foundry wast	e Fill	Fill	Fill	Foundry waste	Foundry waste	Foundry waste	e Fill
				Location		Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
				20001011	201.0 2	2001	20.10 1	_00 _		201.0 2	201.0 1	200 2	200 2	200 2	20110 2
	<u> </u>	T _	Maintenance of Ecosystems ¹	Human Health ³											
ChemName	Units	EQL	LCOSYSTEMS												
Moisture	%	1			9.9	10.4	8.1	11.2	10.3	13.9	14.6	12.8	27.5	13	14.7
BTEXN															
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540 ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
HYDROCARBONS															
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			270	140	<100	<100	<100	<100	<100	<100	150	110	<100
C29 - C36	mg/kg	50			130	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C36 (Sum of total)	mg/kg	50			400	140	<50	<50	<50	<50	<50	<50	150	110	<50
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	370	190	<100	<100	<100	<100	120	<100	180	160	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50		0,500	370	190	<50	<50	<50	<50	120	<50	180	160	<50
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
METALS	1116/116	50		110 / 240 / 440 / NL	130	1,50	130	1,50	1,50	130	130	130	130	150	130
Arsenic	mg/kg	2	100 ²	100	<5	<5	<5	<5	<5	12	<5	<5	5	11	<5
Barium	mg/kg	10	100	100	-	-	-			- 12	-	- '5	-	-	-
Beryllium	mg/kg	1		60	_	_	-	-	-	-	_	-	-	-	-
	mg/kg	10		4500	-	_	-	-	-		-	-	-	-	-
Boron	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium Chromium (hexavalent)	mg/kg	0.4		100	-	- <1	-	- <1	- <1	-	- <1	-	-	- <1	-
		0.5	400 ²	100	36	19	5	9	2	30	21	14	38	125	36
Chromium	mg/kg	<u> </u>	190 ²					-							
Chromium (Trivalent)	mg/kg	2	190 ²	100	-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	<u> </u>	50.2	100	-	-	-	-	-	-	- 20	- 21	- 204	-	- 15
Copper	mg/kg	5	60 ²	6000	75 25	64	6	25	<5	8	26	31	204	194	15
Lead	mg/kg	5	1100 ²	300	25	10	5	18	<5	25	16	9	17	18	153
Manganese	mg/kg	5		3800	-	-	-	-	- 0.1	-	-	-	-	-	-
Mercury	mg/kg	0.1	2	40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	19	18	3	5	<2	13	11	12	28	42	6
Phosphorus	mg/kg	5			-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	5		200	-	-	-	-	-	-	-	=	-	-	-
Vanadium	mg/kg	5			-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	5	70 ²	7400	157	44	24	108	10	65	116	112	142	212	140

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

GB69-2.0



Table 1A: Soil Results (Hydrocarbons and Metals)

GB65_3.5

3.5

GB65_6.0

GB66_1.0

GB66_3.0

GB67_0.5

0.5

GB67_2.0

GB68-1.0

GB68-2.0

GB69-1.0

Field_ID GB64_6.0

				Depth (m)		5.5	U	1	3	0.5	2		2		
				Sampled_Date	23/06/2016	23/06/2016	23/06/2016	21/06/2016	21/06/2016	23/06/2016	23/06/2016	16/08/2016	16/08/2016	16/08/2016	16/08/2016
				Soil Type	Fill	Natural	Natural	Foundry wast	e Foundry wast	e Fill	Natural	Fill	Fill	Fill	Fill
				Location		Zone 1	Zone 1	Zone 1	Zone 1	Zone 3	Zone 3	Zone 5	Zone 5	Zone 5	Zone 5
_			Maintenance of	Human Health ³											
ChemName	Units	EQL	Ecosystems ¹												
Moisture	%	1			17.4	12.8	21.8	7.2	7.9	8.2	8.7	15.6	8.4	5.6	10.6
BTEXN															
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2		2, 33, 33, 2, 3	<0.2	<0.2	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
HYDROCARBONS	מיי /מייי	0.0	1,0	J / 112 / 112 / 112			1			1	1		1-		
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			100	<100	<100	120	540	<100	<100	<100	<100	<100	<100
C29 - C36	mg/kg	50			<100	<100	<100	<100	300	<100	<100	<100	<100	<100	<100
C10 - C36 (Sum of total)	mg/kg	50			100	<50	<50	120	840	<50	<50	<50	<50	<50	<50
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C16-C34		100	300	4,500 ⁵	140	<100	<100	190	790	<100	<100	<100	<100	<100	<100
C34-C40	mg/kg mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	110	<100	<100	<100	<100	<100	<100
			2000	6,300	140	<50	<50	190	900	<50	<50	<50			<50
C10 - C40 (Sum of total)	mg/kg	50		1-1-011101004									<50	<50	
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 2004	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
METALS		_	2		_				_	_	_			_	
Arsenic	mg/kg	2	100 ²	100	6	6	30	<5	<5	<5	<5	8	<5	<5	<5
Barium	mg/kg	10			-	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	1		60	-	-	-	-	-	-	-	-	-	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	2	190 ²		25	9	16	72	65	6	11	39	<2	<2	<2
Chromium (Trivalent)	mg/kg	5	190 ²		-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	2		100	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	60 ²	6000	26	<5	<5	46	97	5	<5	14	<5	<5	<5
Lead	mg/kg	5	1100 ²	300	33	<5	8	14	54	8	<5	6	<5	<5	<5
Manganese	mg/kg	5		3800	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	10	4	4	13	31	3	3	8	<2	<2	<2
Phosphorus	mg/kg	5			-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	5		200	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	5			-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	5	70 ²	7400	122	<5	28	85	269	23	<5	15	<5	<5	<5

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

GB75_2.0

GB75_1.0



Table 1A: Soil Results (Hydrocarbons and Metals)

GB71_4.0

GB71_5.0

GB72_0.5

0.5

GB72_2.0

GB73_0.5

0.5

GB73_2.0

GB74_1.0

GB70-2.0

Field_ID GB70-1.0

				Depth (m)		4.0.40.0.45.5.5	7	04/06/55:5	0.5	24 /25 /23:	0.5	24/25/22:	0.4 /0.0 /0.0 : :	20 /05 /55 : :	00/00/55:5
				Sampled_Date		16/08/2016	21/06/2016	21/06/2016	21/06/2016	21/06/2016	21/06/2016	21/06/2016	21/06/2016	22/06/2016	22/06/2016
				Soil Type		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
			j	Location	Zone 5	Zone 5	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
Moisture	%	1			6.4	8.8	6.9	10.5	12.4	6	8	12.8	20	18.8	19.7
BTEXN	70	1			0.4	0.0	0.9	10.5	12.4	0	8	12.8	20	10.0	19.7
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2	70	JJ / INL / INL / INL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2	103	40/00/33/170	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
HYDROCARBONS	1118/118	0.5	170	S/ NE/ NE/ NE	12	12	1,1	12	12	12	12	12	1,1	12	12
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	110	<100	<100	<100	<100	<100	<100	<100	<100
C29 - C36	mg/kg	50			<100	<100	120	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	230	<50	<50	<50	<50	<50	<50	<50	<50
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	220	110	<100	<100	<100	<100	<100	<100	130
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50		5/5.5	<50	<50	220	110	<50	<50	<50	<50	<50	<50	130
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
METALS	J, J			,,,											
Arsenic	mg/kg	2	100 ²	100	<5	<5	<5	6	<5	7	6	<5	15	20	<5
Barium	mg/kg	10			-	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	1		60	-	-	-	-	-	-	-	-	-	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-			-	-	-	-	-	-
Chromium	mg/kg	2	190 ²		<2	7	10	15	20	20	20	9	32	33	29
Chromium (Trivalent)	mg/kg	5	190 ²		-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	2		100	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	60 ²	6000	<5	<5	12	6	75	30	17	<5	60	<5	44
Lead	mg/kg	5	1100 ²	300	<5	<5	8	21	256	108	40	10	58	19	24
Manganese	mg/kg	5		3800	-	-	-	=	-	-	-	-	=	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	<2	2	6	11	34	22	34	4	59	12	14
Phosphorus	mg/kg	5			-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	5		200	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	5			-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	5	70 ²	7400	<5	<5	18	45	578	212	46	23	108	16	211

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil

^{2:} NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

SED-4

0.1

SED-2

0.2



Table 1A: Soil Results (Hydrocarbons and Metals)

GB77_0.5

0.5

GB77_2.0

GB78_1.0

GB78_2.0

GB79_0.5

0.5

GB79_2.0

SED-1

0.7

GB76_1.0

Field_ID GB76_0.2

				Depth (m)		1 00/00/22:2	0.5	20/05/55:5	1 00/05/55:	20/05/55:	0.5	21/25/22:	0.7	0.2	0.1
				Sampled_Date		20/06/2016	20/06/2016	20/06/2016	20/06/2016	20/06/2016	21/06/2016	21/06/2016	27/02/2014	27/03/2014	27/03/2014
				Soil Type		Fill	Fill	Fill	Fill	Fill	Fill	Slimes	Sediment	Sediment	Sediment
				Location	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 4	Zone 4	Zone 4
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
	%	1			15.4	12.3	14.4	19	141	16	25	32.9	21	24	35
Moisture BTEXN	1%	1			15.4	12.3	14.4	19	14.1	10	25	32.9	31	24	35
	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1
Benzene Toluene		0.1	85		<0.2	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.5	<0.1	<0.1	<0.1
	mg/kg		70	160 / 220 / 310 / 540		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5 <0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1 <0.2	<0.1 <0.2	<0.1 <0.2
Xylene (m & p)	mg/kg	0.2													
Xylene (o)	mg/kg	0.1	405	10 / 60 / 65 / 150 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.2	2	- 1 1 1 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.5	0.5	.0.5
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5
HYDROCARBONS	- /1				-10	.10	10	.10	- 10	.10	-10	.10	20	20	.20
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<20	<20	<20
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<20	<20	<20
C15 - C28	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	<50	<50	<50
C29 - C36	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	<50	<50	<50
C10 - C36 (Sum of total)	mg/kg	50		-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C6 - C10	mg/kg	10	180	4400 5	<10	<10	<10	<10	<10	<10	<10	<10	<20	<20	<20
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	<100	<100	<100	100	<100	<100	<100	<100	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50			<50	<50	<50	<50	<50	100	<50	<50			
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<20	<20	<20
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
METALS															
Arsenic	mg/kg	2	100 ²	100	10	11	7	7	29	5	<5	45	31	16	33
Barium	mg/kg	10			-	-	-	-	-	-	-	-			
Beryllium	mg/kg	1		60	-	-	-	-	-	-	-	-	<2	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	-	-	-	<10	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	1	<1	<1	< 0.4	< 0.4	<0.4
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	-	-	-	<1	-	-
Chromium	mg/kg	2	190 ²		19	23	36	28	22	72	24	60	36	25	40
Chromium (Trivalent)	mg/kg	5	190 ²		-	-	-	-	-	-	-	-			
Cobalt	mg/kg	2		100	-	-	-	-	-	-	-	-	5.4	-	-
Copper	mg/kg	5	60 ²	6000	9	14	<5	17	13	65	<5	14	15	14	13
Lead	mg/kg	5	1100 ²	300	43	57	14	33	40	117	9	28	40	32	28
Manganese	mg/kg	5		3800	-	-	-	-	-	-	-	-	92	-	-
Mercury		0.1		40	<0.1	<0.1	<0.1	0.2	<0.1	0.1	0.2	0.3	0.3	<0.1	0.1
Nickel	mg/kg	2	30 ²	400	9	15	12	15	19	28	12	32	13	13	16
Phosphorus	mg/kg	5	50		-	-	-	-	-	-	-	-		_	
Selenium	mg/kg	5		200	-	-	-	_	-	_	_	_	<2	_	_
Vanadium	mg/kg	5		=00	-	-	-	_	-	_	_	_	1-		
Zinc	mg/kg	5	70 ²	7400	51	130	16	86	66	449	9	91	53	44	55

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

SM2_2.0

SM2_0.2

0.2

SM1_0.2

0.2

SM1_1.0



Table 1A: Soil Results (Hydrocarbons and Metals)

SED-7

0.5

SED-8

0.1

SED-9

0.1

SED-11

0.1

SED-13

0.1

SED-6

1.0

Field_ID SED-5

				Depth (m)		1.0	0.5	0.1	0.1	0.1	0.1	0.2		0.2	
				Sampled_Date	27/03/2014	27/03/2014	27/03/2014	5/03/2014	5/03/2014	5/03/2014	5/03/2014	26/05/2016	26/05/2016	26/05/2016	26/05/2016
				Soil Type	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment	Fill	Fill	Fill	Fill
				Location	Zone 4	Zone 4	Zone 4	Zone 4	Zone 4	Zone 4	Zone 4	Zone 1	Zone 1	Zone 1	Zone 1
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³						•					
	%	1			42	25	30	67	47	65	53	10.2	12.3	13.8	12.7
Moisture	%	1			43	25	30	67	47	05	55	10.2	12.3	15.8	12.7
BTEXN	/1	0.4	50	0.5 4	10.1	-0.1	10.1	10.1	10.1	10.1		<0.2	<0.2	40.2	40.2
Benzene	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-			<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.3	< 0.3	<0.3	< 0.3	<0.3	<0.3	-	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2	2				1					<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<0.5	< 0.5	< 0.5	<0.5	<0.5	< 0.5	<0.5	<1	<0.5	<1 - 0.6	<1
HYDROCARBONS		1					1					-	-	-	-
C6 - C9	mg/kg	10			<20	<20	<20	<20	<20	<20	-	<10	<10	<10	<10
C10 - C14	mg/kg	20			<20	<20	<20	<20	<20	<20	-	<50	<50	<50	<50
C15 - C28	mg/kg	50			<50	<50	<50	<50	<50	<50	-	110	<100	150	<100
C29 - C36	mg/kg	50			<50	<50	<50	<50	<50	<50	-	<100	<100	100	<100
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	<50	<50	<50	<50	-	110	<50	250	<50
C6 - C10	mg/kg	10	180	4400 ⁵	<20	<20	<20	<20	<20	<20	-	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	-	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	<100	<100	<100	<100		160	<100	240	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50		0,000								160	<50	240	<50
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<20	<20	<20	<20	<20	<20	_	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	_	<50	<50	<50	<50
METALS	1116/116	30		110 / 240 / 440 / NL	130	130	130	130	130	130		130	130	130	+ 150
Arsenic	mg/kg	2	100 ²	100	28	17	25	95	40	54	57	<5	<5	<5	7
Barium	mg/kg	10	100	100	20	17	25	33	40	J-	37	-	10	-	-
Beryllium	mg/kg	1		60	_	_	_	_	_	_	<2	_	2	_	_
Boron	mg/kg	10		4500	_	_	_	_			<10	_	<50	_	-
Cadmium	mg/kg	0.4		20	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1	<1	<1	<1
		0.4		100	<0.4		<0.4	<0.4	<0.4	<u>\U.4</u>	<0.4	-	<0.5	-	-
Chromium (hexavalent)	mg/kg	0.5	400.2	100	34	22		51	- 41	56	<.T	73	19	25	9
Chromium	mg/kg	<u> </u>	190 ²		34		31	21	41	00	-	/3	19	25	- 9
Chromium (Trivalent)	mg/kg	5	190 ²	100			1				42				
Cobalt	mg/kg	<u> </u>	60.2	100	- 0.2		- 12	- 22	- 12	1.0	12	- 63	6	- 42	-
Copper	mg/kg	5	60 ²	6000	9.3	7.7	12	32	12	16	17	62	<5	42	<5
Lead	mg/kg	5	1100 ²	300	22	20	29	37	35	32	38	21	6	35	<5
Manganese	mg/kg	5		3800	-	-	-	-	-	-	260	-	6	-	-
Mercury	mg/kg	0.1	2	40	0.1	<0.1	<0.1	0.3	0.3	<0.1	0.3	<0.1	0.2	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	14	11	12	24	16	22	26	22	6	13	5
Phosphorus	mg/kg	5					1								
Selenium	mg/kg	5		200	-	-	-	-	-	-	<2	-	<5	-	-
Vanadium	mg/kg	5										-	22	-	-
Zinc	mg/kg	5	70 ²	7400	43	34	42	120	57	81	99	355	<5	400	<5

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

SM8_3.0



Table 1A: Soil Results (Hydrocarbons and Metals)

SM4_1.0

SM4_3.0

SM5-0.5

0.5

SM6-0.5

0.5

SM5-1.0

SM7-0.2

0.2

SM7-2.0

SM8_1.0

SM3_2.0

Field_ID SM3_0.25

				Depth (m)		2= /2= /2 : : :	1 0= /0= /5 5 : 5	3	0.5	1 0 /00 /00 : 5	0.5	0.2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1	3
				Sampled_Date		27/05/2016	27/05/2016	27/05/2016	2/06/2016	2/06/2016	2/06/2016	2/06/2016	2/06/2016	26/05/2016	26/05/2016
				Soil Type		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
			 	Location	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
Moisture	%	1			6.7	10.3	3.8	6.1	2.5	1.8	3.7	10.4	13.4	10	10.3
BTEXN	/0	1			0.7	10.5	3.8	0.1	2.5	1.0	3.7	10.4	15.4	10	10.5
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2	70	JJ / INL / INL / INL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2	103	40/00/93/170	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<1	<1	<0.5	<0.5	<1	<0.5	<1	<1	<1	<1
HYDROCARBONS	1118/118	0.5	170	3/ NL/ NL/ NL	-	-	-	-	10.5	``	10.5	``	``	-	-
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	190	<100	<100	<100	<100	<100	<100	<100	<100
C29 - C36	mg/kg	50			<100	<100	100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	290	<50	<50	<50	<50	<50	<50	<50	<50
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	270	<100	<100	<100	<100	<100	<100	<100	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50		5/5.5	<50	<50	270	<50	<50	<50	<50	<50	<50	<50	<50
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
METALS				,,,											
Arsenic	mg/kg	2	100 ²	100	<5	<5	<5	8	<5	<5	<5	<5	34	47	57
Barium	mg/kg	10			-	-	-	20	-	-	-	-	-	-	-
Beryllium	mg/kg	1		60	-	-	-	<1	-	-	-	-	-	-	-
Boron	mg/kg	10		4500	-	-	-	<50	-	-	-	-	-	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	<0.5	-	-	-	-	-	-	-
Chromium	mg/kg	2	190 ²		3	2	32	8	<2	<2	11	85	22	14	10
Chromium (Trivalent)	mg/kg	5	190 ²						-	-	-	-	-		
Cobalt	mg/kg	2		100	-	=	-	<2	-	-	-	-	-	-	-
Copper	mg/kg	5	60 ²	6000	<5	<5	41	<5	<5	<5	14	46	<5	<5	<5
Lead	mg/kg	5	1100 ²	300	<5	<5	19	<5	<5	<5	6	7	10	<5	<5
Manganese	mg/kg	5		3800	-	-	-	35	-	-	-	-	-	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	2	<2	15	3	<2	<2	5	31	4	3	<2
Phosphorus	mg/kg	5							-	-	-	-	-		
Selenium	mg/kg	5		200	-	-	-	<5	-	-	-	-	-	-	-
Vanadium	mg/kg	5			-	-	-	19	-	-	-	-	-	-	-
Zinc	mg/kg	5	70 ²	7400	10	<5	253	7	<5	<5	33	37	<5	<5	<5

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

SM13_1.5

1.5



Table 1A: Soil Results (Hydrocarbons and Metals)

SM10-0.5

0.5

SM10-1.5

1.5

SM10-2.5

2.5

SM11_1.0

SM11_3.0

SM12-0.2

0.2

SM12-2.5

2.5

SM13_0.2

0.2

SM9_3.0

Field_ID SM9_1.0

				Depth (m)		J	0.5	1.5	2.5	A = /05 /55 : :	0=/0=/==:	0.2	2.5	0.2	1.5
				Sampled_Date		27/05/2016	2/06/2016	2/06/2016	2/06/2016	27/05/2016	27/05/2016	2/06/2016	2/06/2016	6/06/2016	6/06/2016
				Soil Type		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
			<u> </u>	Location	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
	%	1			12.4	11.5	12.4	10.9	12.7	7.4	15	15.5	13.1	11.2	9.4
Moisture BTEXN	%	1			12.4	11.5	12.4	10.9	12.7	7.4	15	15.5	15.1	11.2	9.4
	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzene		0.1	85	160 / 220 / 310 / 540	<0.2	<0.5	<0.5	<0.2	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.5
Toluene	mg/kg		70		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5
Xylene (m & p)	mg/kg	0.2			<0.5 <0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 <0.5	<0.5
Xylene (o)	mg/kg	0.1	105	40 / 60 / 65 / 470 4											
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2	2	- 1 - 1 - 1 - 1 - 1 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3 / NL / NL / NL ⁴	<1	<0.5	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
HYDROCARBONS					-	-				-	-				
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29 - C36	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
METALS															
Arsenic	mg/kg	2	100 ²	100	14	31	11	28	9	12	9	<5	38	8	<5
Barium	mg/kg	10			-	-	-	-	-	50	-	-	-	-	-
Beryllium	mg/kg	1		60	-	-	-	-	-	<1	-	-	-	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	<50	-	-	-	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	<0.5	-	-	-	-	-
Chromium	mg/kg	2	190 ²		14	12	13	19	16	17	16	8	16	13	12
Chromium (Trivalent)	mg/kg	5	190 ²				-	-	-			-	-	-	-
Cobalt	mg/kg	2	250	100	-	-	-	-	-	3	-	-	-	-	-
Copper	mg/kg	5	60 ²	6000	<5	<5	<5	<5	<5	12	12	13	<5	<5	<5
Lead	mg/kg	5	1100 ²	300	5	<5	<5	7	7	66	146	7	7	10	12
Manganese	mg/kg	5	1100	3800	-	-	-	-	-	184	-	-	-	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	2	2	4	3	6	7	12	4	3	4	6
Phosphorus	mg/kg	5	30	700			-	-	-	,	12	-	-	-	-
Selenium	mg/kg	5		200	-	_	-	-		<5	_		-	-	-
		5		200				-		55				-	
Vanadium	mg/kg	Э г	70 ²	7400	- -E	- - -	- - -		- - -		140		- - -		- 16
Zinc	mg/kg	15	70 ²	7400	<5	<5	<5	<5	<5	82	149	32	<5	11	16

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil

^{2:} NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

SM19_1.0



Table 1A: Soil Results (Hydrocarbons and Metals)

SM15-0.5

0.5

SM15-2.0

SM16-0.2

0.2

SM16-2.0

SM17_1.0

SM17_2.0

SM18_1.0

SM18_2.0

SM14-1.5

1.5

Field_ID SM14-0.5

				Depth (m)		1.5	0.5	2/06/2016	0.2	2/06/2016	24 /05 /221 -	24 /05 /2216	24 /05 /2246	24 /05 /2215	20/05/2016
				Sampled_Date		2/06/2016	3/06/2016	3/06/2016	3/06/2016	3/06/2016	31/05/2016	31/05/2016	31/05/2016	31/05/2016	30/05/2016
				Soil Type		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
				Location	Zone 1	Zone 1	Zone 3	Zone 3	Zone 3	Zone 3	Zone 5				
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
Moisture	%	1			5.4	2.6	7.1	2.4	4.3	4.7	4.8	7.7	14.3	30.1	3.2
BTEXN	7.0	_			3		7.12					7.7	10	30.1	0.2
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2		33711271127112	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2		10 / 00 / 30 / 17 0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<0.5	<1	<0.5	<1	<0.5	<1	<0.5	<1	<1	<1	<0.5
HYDROCARBONS											-	-	-	-	-
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	<100	<100	<100	110	140	<100	100	<100	<100
C29 - C36	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	<100	140	<100
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	<50	<50	<50	110	140	<50	100	140	<50
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	<100	140	<100	140	180	120	140	180	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50			<50	<50	<50	140	<50	140	180	120	140	180	<50
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
METALS															
Arsenic	mg/kg	2	100 ²	100	<5	<5	7	<5	<5	<5	<5	<5	<5	53	<5
Barium	mg/kg	10			-	-	-	-	<10	-	40	-	-	-	-
Beryllium	mg/kg	1		60	-	-	-	-	<1	-	<1	-	-	-	-
Boron	mg/kg	10		4500	-	-	-	-	<50	-	<50	-	-	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	<0.5	-	<0.5	-	-	-	-
Chromium	mg/kg	2	190 ²		12	12	18	21	7	32	34	56	20	50	6
Chromium (Trivalent)	mg/kg	5	190 ²		-	-	-	-	-	-					
Cobalt	mg/kg	2		100	-	-	-	-	<2	-	<2	-	-	-	-
Copper	mg/kg	5	60 ²	6000	6	25	10	12	5	38	15	25	42	21	11
Lead	mg/kg	5	1100 ²	300	25	8	42	<5	<5	6	8	30	<5	25	6
Manganese	mg/kg	5		3800	-	-	-	-	59	-	260	-	-	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Nickel	mg/kg	2	30 ²	400	7	6	7	8	4	13	6	9	12	21	4
Phosphorus	mg/kg	5			-	-	-	-	-	-					
Selenium	mg/kg	5		200	-	-	-	-	<5	-	<5	-	-	-	-
Vanadium	mg/kg	5			-	-	-	-	<5	-	<5	-	-	-	-
Zinc	mg/kg	5	70 ²	7400	62	28	39	20	12	26	65	442	15	87	23

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

SM24_2.0



Table 1A: Soil Results (Hydrocarbons and Metals)

SM20_2.0

SM21_1.0

SM21_2.0

SM22_1.0

SM22_3.0

SM23_0.2

0.2

SM23_2.5

SM24_1.0

SM20_0.5

0.5

Field_ID SM19_2.0

				Depth (m)		0.5	2	1		1	3	0.2	2.5	1	
				Sampled_Date		6/06/2016	6/06/2016	6/06/2016	6/06/2016	6/06/2016	6/06/2016	6/06/2016	6/06/2016	30/05/2016	30/05/2016
				Soil Type		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
			-	Location	Zone 5	Zone 5	Zone 5	Zone 2	Zone 2	Zone 2	Zone 2	Zone 5	Zone 5	Zone 5	Zone 5
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
		4			2.0	C 0	2.2	6.3	0.0	10.0	0.0	10.0	22.2	1.2	11.2
Moisture	%	1			3.8	6.8	3.2	6.3	9.9	10.9	9.9	10.8	23.2	4.3	11.3
BTEXN				- 4											
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<0.5	<1	<1	<1	<0.5	<1	<1	<1	<1	<0.5
HYDROCARBONS			27.0	57.1127.1127.112	-									-	-
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	<100	<100	<100	<100	150	<100	<100	<100	<100
C29 - C36		50			<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	mg/kg				<50	<50	<50		<50	<50	150	<50			<50
C10 - C36 (Sum of total)	mg/kg	50	400	5				<50					<50	<50	
C6 - C10	mg/kg	10	180	4400 5	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 5	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	130	130	<100	110	130	<100	220	<100	<100	<100	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50			130	130	<50	110	130	<50	220	<50	<50	<50	<50
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
METALS															
Arsenic	mg/kg	2	100 ²	100	<5	<5	<5	8	6	<5	<5	8	7	<5	<5
Barium	mg/kg	10			-	-	-	-	-	40	-	-	-	-	30
Beryllium	mg/kg	1		60	-	-	-	-	-	<1	-	-	-	-	<1
Boron	mg/kg	10		4500	_	_	-	-	_	<50	-	-	_	_	<50
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-		-	-		<0.5	-	-	-	-	<0.5
Chromium	mg/kg	2	190 ²	100	29	11	5	20	27	14	34	12	47	9	10
Chromium (Trivalent)	mg/kg	<u>-</u>	190 ²		23	-		-		-	J-	- 12	-	+ -	10
		2	190	100	_	-		 	-	3		-			2
Cobalt	mg/kg	<u> </u>	60 ²	6000	86	72	11	25	23	15	41	10	25	25	10
Copper	mg/kg	5	2						_		_			_	_
Lead	mg/kg	5	1100 2	300	17	<5	22	88	110	44	21	62	55	137	48
Manganese	mg/kg	5		3800	-	- 0.1			-	60	- 0.4	- 0.4		- 0.1	61
Mercury	mg/kg	0.1	2	40	0.3	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	20	11	4	20	17	8	13	5	51	8	8
Phosphorus	mg/kg	5				-	-	-	-	-	-	-	-		
Selenium	mg/kg	5		200	-	-	-	-	-	<5	-	-	-	-	<5
Vanadium	mg/kg	5			-	-	-	-	-	21	-	-	-	-	20
Zinc	mg/kg	5	70 ²	7400	115	15	48	140	166	63	260	56	76	109	58

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP1-1.5

1.5



Table 1A: Soil Results (Hydrocarbons and Metals)

SM26_0.5

0.5

SM26_2.0

SM27_1.0

SM27_2.0

SM28_0.5

0.5

SM28_1.5

1.5

SM29_1.0

SM29_2.0

SM25_2.0

Field_ID SM25_1.0

				Depth (m)		2	0.5		1		0.5	1.5	1		1.5
				Sampled_Date	7/06/2016	7/06/2016	7/06/2016	7/06/2016	7/06/2016	7/06/2016	7/06/2016	7/06/2016	7/06/2016	7/06/2016	25/02/2014
				Soil Type	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
				Location		Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 4
	Ţ		Maintenance of	Human Health ³					•	•	•				
ChemName	Units	EQL	Ecosystems ¹												
Moisture	%	1			9.4	12.3	6.9	8.6	2.8	9.4	7.6	9.3	10.6	23.2	17
BTEXN															
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	< 0.1
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.1
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.1
Xylene (m & p)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.2
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.1
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.3
Total BTEX	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<1	<0.5
HYDROCARBONS	<i></i>														
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<20
C15 - C28	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	<100	320	<50
C29 - C36	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	<100	200	<50
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	<50	<50	<50	<50	<50	<50	<50	520	<50
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	100	<100	<100	<100	<100	110	<100	<100	<100	480	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50	2000	0,300	100	<50	<50	<50	<50	110	<50	<50	<50	480	1100
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	IIIg/ kg	30		110 / 240 / 440 / INL	\30	\30	\30	\30	\30	\30	\30	\	\	\	\30
METALS Arsenic	mg/kg	2	100 ²	100	6	<5	10	8	<5	7	10	6	12	6	2.7
		10	100	100	-		- 10	-	- \	-	-	90	-	-	2.7
Barium	mg/kg	10		60			+								
Beryllium	mg/kg	10		4500	-	-	-	-	-	-	-	<1 <50	-	-	-
Boron Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<0.4
	mg/kg	0.4		100	-	-					- <1	<0.5			
Chromium (hexavalent)	mg/kg	0.5	1002	100	23			27		52	24	37	24	- 8	- 21
Chromium Chromium (Trivelent)	mg/kg	<u> </u>	190 ²			19	42		<u> </u>		+				21
Chromium (Trivalent)	mg/kg	5	190 ²	100	-	-	-	-	-	-	-		-	-	+
Cobalt	mg/kg	<u> </u>	co 2	100	- 12	- 14	7	- 7	- 12		7	7	- 0	- 10	- 10
Copper	mg/kg	5	60 ²	6000	12	14	· · · · · · · · · · · · · · · · · · ·	7	12	50		92	8	19	10
Lead	mg/kg	5	1100 ²	300	44	65	23	28	23	78	35	115	21	207	25
Manganese	mg/kg	5		3800	- 0.4	- 0.1	- 0.4			- 0.1	-	1200	- 0.1	-	0.4
Mercury	mg/kg	0.1	2	40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	0.4	<0.1
Nickel	mg/kg	2	30 ²	400	11	5	9	5	3	34	8	26	11	11	9
Phosphorus	mg/kg	5			-	-	-	-	-	-	-	-	-	-	
Selenium	mg/kg	5		200	-	-	-	-	-	-	-	<5	-	-	-
Vanadium	mg/kg	5			-	-	-	-	-	-	-	24	-	-	
Zinc	mg/kg	5	70 ²	7400	55	71	27	21	35	218	34	280	27	239	60

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP6-3.0



Table 1A: Soil Results (Hydrocarbons and Metals)

TP2-3.0

TP3-1.5

1.5

TP3-3.0

TP4-0.5

0.5

TP4-2.5

2.5

TP5-0.8

8.0

TP5-3.0

TP6-0.2

0.2

TP2-1.0

Field_ID TP1-4.0

				Depth (m)			3	1.5	3	0.5	2.5	0.0	3	0.2	<u> </u>
				Sampled_Date	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014
				Soil Type	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Natural
				Location	Zone 4	Zone 4	Zone 4	Zone 4	Zone 4	Zone 4	Zone 4	Zone 4	Zone 4	Zone 4	Zone 4
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³							•				
		EQL				1	T	1 -		-	T -		T .	1	
Moisture	%	1			23	14	17	21	18	8.1	18	19	19	8.6	21
BTEXN				4											
Benzene	mg/kg	0.1	50	0.5 4	-	-	<0.1	<0.1	-	<0.1	-	< 0.1	-	<0.1	-
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	-	-	<0.1	<0.1	-	<0.1	-	< 0.1	-	<0.1	-
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	-	-	<0.1	<0.1	-	<0.1	-	<0.1	-	< 0.1	-
Xylene (m & p)	mg/kg	0.2			-	-	< 0.2	< 0.2	-	< 0.2	-	< 0.2	-	< 0.2	-
Xylene (o)	mg/kg	0.1			-	-	< 0.1	< 0.1	-	<0.1	-	< 0.1	-	<0.1	-
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	-	-	< 0.3	< 0.3	-	< 0.3	-	< 0.3	-	< 0.3	-
Total BTEX	mg/kg	0.2													
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	-	-	< 0.5	<0.5	-	< 0.5	-	<0.5	-	< 0.5	-
HYDROCARBONS															
C6 - C9	mg/kg	10			-	_	<20	<20	_	<20	_	<20	-	<20	-
C10 - C14	mg/kg	20			-	_	<20	<20	_	<20	_	<20	-	<20	-
C15 - C28	mg/kg	50			_	_	53	<50	_	<50	_	<50	_	<50	_
C29 - C36	mg/kg	50			_	_	69	<50	_	<50	_	<50	_	<50	_
C10 - C36 (Sum of total)	mg/kg	50			_	_	120	<50	_	<50	_	<50	_	<50	_
C6 - C10	mg/kg	10	180	4400 ⁵		_	<20	<20	_	<20	_	<20	_	<20	
	mg/kg	50	120	3,300 ⁵		_	<50	<50	_	<50	-	<50	_	<50	-
C10-C16		100	300		-	-	110	<100	-	<100	-	<100	-	<100	-
C16-C34	mg/kg			4,500 ⁵				<100		<100					+
C34-C40	mg/kg	100	2800	6,300 ⁵	-	-	<100	<100	-	<100	-	<100	-	<100	-
C10 - C40 (Sum of total)	mg/kg	50					.20	.20		-20		-20		.20	
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 2004	-	-	<20	<20	-	<20	-	<20	-	<20	-
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	-	-	<50	<50	-	<50	-	<50	-	<50	-
METALS			3												
Arsenic	mg/kg	2	100 ²	100	9	3.3	5.9	8.4	6.7	10	6.2	5.4	11	9.2	25
Barium	mg/kg	10													
Beryllium	mg/kg	1		60	-	-	-	-	-	-	-	-	-	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	0.4		20	<0.4	< 0.4	<0.4	<0.4	<0.4	<0.4	< 0.4	< 0.4	<0.4	<0.4	<0.4
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	2	190 ²		25	20	19	21	21	19	21	22	23	20	25
Chromium (Trivalent)	mg/kg	5	190 ²												
Cobalt	mg/kg	2		100	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	60 ²	6000	9.7	10	10	14	13	11	6.3	17	10	12	<5
Lead	mg/kg	5	1100 ²	300	28	41	26	22	22	18	17	25	33	47	8.1
Manganese	mg/kg	5		3800	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	11	9.7	11	20	13	15	11	15	10	8.5	9.3
Phosphorus	mg/kg	5	30	100		3.,	+		13	1		15	10	0.5	
Selenium	mg/kg	5		200	_	_	_	_	_	_	_	_	_	_	-
Vanadium	mg/kg	5		200		+ -	-	_	_	_	_	_	+	-	+
			70 ²	7400	32	43	36	42	32	30	21	40	43	61	9.4
Zinc	mg/kg	5	/U	7400	32	43	30	42	32	30	21	40	43	61	9.4

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP10-4.0



Table 1A: Soil Results (Hydrocarbons and Metals)

TP8-0.5

0.5

TP8-1.0

TP8-2.0

TP9-0.2

0.2

TP9-1.0

TP9-3.0

TP10-0.5

0.5

TP10-3.0

TP7-2.5

2.5

Field_ID TP7-1.0

				Depth (m)		2.5	0.5	1	2	0.2	1 1 1 1 1 1 1	3	0.5	3	4
				Sampled_Date		25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014
				Soil Type		Natural	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
			-	Location	Zone 4	Zone 4	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
		4			24	17	1 15	12	17	F 2	1 0	12	10	0.2	0.0
Moisture	%	1			24	17	15	12	17	5.3	8	12	10	8.3	9.9
BTEXN	/1	0.4	Γ0	0.5 4		-0.1	10.1	-0.1	10.1	-0.1		40.1	10.1	-0.1	40.1
Benzene	mg/kg	0.1	50		-	<0.1	<0.1	<0.1	<0.1	<0.1 <0.1	-	<0.1 <0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540 4	-	<0.1	<0.1	<0.1	<0.1		-		<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1
Xylene (m & p)	mg/kg	0.2			-	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2
Xylene (o)	mg/kg	0.1	10-		-	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	-	<0.3	<0.3	<0.3	<0.3	<0.3	-	<0.3	<0.3	<0.3	<0.3
Total BTEX	mg/kg	0.2	2												
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HYDROCARBONS															
C6 - C9	mg/kg	10			-	<20	<20	<20	<20	<20	-	<20	<20	<20	<20
C10 - C14	mg/kg	20			-	<20	<20	<20	<20	<20	-	<20	<20	<20	<20
C15 - C28	mg/kg	50			-	<50	<50	<50	<50	54	-	<50	<50	82	<50
C29 - C36	mg/kg	50			-	58	<50	<50	<50	<50	-	<50	<50	<50	<50
C10 - C36 (Sum of total)	mg/kg	50			-	58	<50	<50	<50	54	-	<50	<50	82	<50
C6 - C10	mg/kg	10	180	4400 ⁵	-	<20	<20	<20	<20	<20	-	<20	<20	<20	<20
C10-C16	mg/kg	50	120	3,300 ⁵	-	<50	<50	<50	<50	<50	-	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵		<100	<100	<100	<100	<100		<100	<100	<100	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	-	<100	<100	<100	<100	<100	-	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50													
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	-	<20	<20	<20	<20	<20	-	<20	<20	<20	<20
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	-	<50	<50	<50	<50	<50	-	<50	<50	<50	<50
METALS															
Arsenic	mg/kg	2	100 ²	100	3.9	31	4.4	6.2	4.6	11	15	3.9	8.5	<2	5.4
Barium	mg/kg	10													
Beryllium	mg/kg	1		60	-	-	-	-	-	-	<2	-	-	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	-	<10	-	-	-	-
Cadmium	mg/kg	0.4		20	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	_	<1	-	-	-	-
Chromium	mg/kg	2	190 ²		8.3	13	18	14	25	8.3	-	25	26	13	27
Chromium (Trivalent)	mg/kg	5	190 ²												
Cobalt	mg/kg	2		100	-	-	-	-	-	-	<5	-	-	-	-
Copper	mg/kg	5	60 ²	6000	<5	<5	12	13	10	9	16	11	10	8	9.1
Lead	mg/kg	5	1100 ²	300	<5	6.2	38	30	26	57	99	32	39	43	30
Manganese	mg/kg	5	1100	3800	-	-	-	-	-	-	72	-	-	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	<5	<5	12	18	9.6	<5	8.3	11	13	5	8.9
Phosphorus	mg/kg	5	50	.00	, ,	,5	†	1	3.0	,5	0.5		+	 	3.3
Selenium	mg/kg	5		200	_	_	_	_	_	_	<2	_	_	_	_
Vanadium	mg/kg	5		200	_	-	-	_	-	_	~∠	_	_	_	_
	mg/kg	5	70 ²	7400	<5	<5	51	61	33	53	84	33	53	56	38
Zinc	lmg/κg	[5	/0	7400	<5	<5	51	ρΙ	33	53	84	33	53	50	38

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil

^{2:} NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP14-1.5

1.5



Table 1A: Soil Results (Hydrocarbons and Metals)

TP11-5.0

TP12-1.0

TP12-3.0

34

61

8.4

TP12-6.0

TP13-0.5

0.5

TP13-1.5

1.5

TP13-3.0

TP14-0.2

0.2

TP11-3.0

Field_ID TP11-1.0

8.8

33

Depth (m) 1

				Sampled_Date		25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014
				Soil Type		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
				Location		Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
				Location	ZONE 1	ZONE 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	20116 1
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
Moisture	%	1			12	18	8.8	8.8	12	14	7.8	17	14	17	15
BTEXN	7,5							3.5							
Benzene	mg/kg	0.1	50	0.5 4	<0.1	<0.1	<0.1	<0.1	<0.1	_	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.1	<0.1	<0.1	<0.1	<0.1	_	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.1	<0.1	<0.1	<0.1	<0.1	_	<0.1	<0.1	<0.1	<0.1	<0.1
Xylene (m & p)	mg/kg	0.2	70	33 / NE / NE / NE	<0.2	<0.2	<0.2	<0.2	<0.2	_	<0.2	<0.2	<0.2	<0.2	<0.2
Xylene (o)	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	_	<0.1	<0.1	<0.1	<0.1	<0.1
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.3	<0.3	<0.3	<0.3	<0.3	_	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX		0.3	103	40 / 60 / 95 / 170	<0.5	\0.3	\0.5	<0.5	<0.5	_	<0.5	\0.3	<0.5	\0.5	<0.5
	mg/kg	0.2	170 ²	2 / NII / NII / NII 4	<0.5	<0.5	<0.5	<0.5	<0.5	40 F	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	mg/kg	0.5	1/0	3/NL/NL/NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HYDROCARBONS		10			420	-20	-20	-20	-20		<20	<20	<20	-20	<20
C6 - C9	mg/kg	10			<20	<20	<20	<20	<20	-				<20	
C10 - C14	mg/kg	20			<20	<20	<20	<20	<20	-	<20	<20	<20	<20	<20
C15 - C28	mg/kg	50			<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50
C29 - C36	mg/kg	50			<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50
C10 - C36 (Sum of total)	mg/kg	50		-	<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50
C6 - C10	mg/kg	10	180	4400 5	<20	<20	<20	<20	<20	-	<20	<20	<20	<20	<20
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	<100	<100	<100		<100	<100	<100	<100	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50													
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<20	<20	<20	<20	<20	-	<20	<20	<20	<20	<20
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	-	<50	<50	<50	<50	<50
METALS															
Arsenic	mg/kg	2	100 ²	100	5.9	10	26	9.1	15	5.4	7.9	29	21	2.8	5.2
Barium	mg/kg	10													
Beryllium	mg/kg	1		60	-	-	-	-	-	<2	-	-	-	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	<10	-	-	-	-	-
Cadmium	mg/kg	0.4		20	< 0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	<1	-	-	-	-	-
Chromium	mg/kg	2	190 ²		34	36	21	20	18	_	21	23	25	25	22
Chromium (Trivalent)	mg/kg	5	190 ²		1		1						1	1	
Cobalt	mg/kg	2	130	100	_	_	_	_	_	<5	_	_	_	_	_
Copper	mg/kg	5	60 ²	6000	<5	5.6	9.8	12	13	13	10	<5	<5	14	10
Lead	mg/kg	5	1100 ²	300	11	18	9.5	110	38	56	40	9	28	32	54
Manganese	mg/kg	5	1100	3800	-	-	J.J	- 110		50	-	-	-	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	0.1	30 ²	400	9.7	14	14	8.4	8.8	7.6	11	8.9	8.6	28	10
		2	30	400	3.1	14	14	0.4	0.0	7.0	11	0.5	0.0	20	10
Phosphorus	mg/kg	 		200			1			-2					
Selenium	mg/kg	5		200	-	-	-	-	-	<2	-	-	-	-	-

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

mg/kg mg/kg

Vanadium

Zinc

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP18-0.5

0.5



Table 1A: Soil Results (Hydrocarbons and Metals)

TP15-1.5

1.5

TP15-3.0

TP16-0.2

0.2

TP16-1.5

1.5

TP16-3.0

TP17-0.5

0.5

TP17-1.5

1.5

TP17-3.0

TP15-0.2

0.2

Field_ID TP14-3.0

				Depth (m)		0.2	1.5	3	0.2	1.5	3	0.5	1.5	3	0.5
				Sampled_Date		25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014
				Soil Type		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
				Location	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
		LQL	,		- 10	T = 0	1			1					
Moisture	%	1			12	7.9	12	7.1	7.7	17	15	9.9	6.5	14	7.4
BTEXN		-		- 4	0.1	0.1	0.1		0.1	0.1	0.1	0.4		0.1	
Benzene	mg/kg	0.1	50	0.5 4	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1
Xylene (m & p)	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2
Xylene (o)	mg/kg	0.1			<0.1	< 0.1	<0.1	<0.1	< 0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	-	< 0.3	< 0.3
Total BTEX	mg/kg	0.2													
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<0.5	<0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	<0.5	<0.5	<0.5	< 0.5
HYDROCARBONS															
C6 - C9	mg/kg	10			<20	<20	<20	<20	<20	<20	<20	<20	-	<20	<20
C10 - C14	mg/kg	20			<20	<20	<20	30	<20	<20	<20	<20	-	<20	<20
C15 - C28	mg/kg	50			<50	<50	<50	130	<50	<50	<50	<50	-	<50	<50
C29 - C36	mg/kg	50			<50	<50	<50	66	<50	<50	<50	<50	_	<50	<50
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	<50	230	<50	<50	<50	<50	_	<50	<50
C6 - C10	mg/kg	10	180	4400 ⁵	<20	<20	<20	<20	<20	<20	<20	<20	_	<20	<20
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	_	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	<100	170	<100	<100	<100	<100	_	<100	<100
C34-C40	mg/kg	100	2800		<100	<100	<100	<100	<100	<100	<100	<100		<100	<100
			2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	-	<100	<100
C10 - C40 (Sum of total)	mg/kg	50			-20	-20	-20	.20	-20	-20	.20	:20		-20	-20
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 2004	<20	<20	<20	<20	<20	<20	<20	<20	-	<20	<20
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	-	<50	<50
METALS			2												
Arsenic	mg/kg	2	100 ²	100	150	4.4	15	2.1	8.1	4.7	5.6	19	2.6	4.3	18
Barium	mg/kg	10													
Beryllium	mg/kg	1		60	-	-	-	-	-	-	-	-	<2	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	-	-	-	<10	-	-
Cadmium	mg/kg	0.4		20	0.5	< 0.4	< 0.4	0.7	< 0.4	< 0.4	<0.4	< 0.4	<0.4	<0.4	<0.4
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	-	-	-	<1	-	-
Chromium	mg/kg	2	190 ²		20	18	18	40	26	21	19	22	-	20	30
Chromium (Trivalent)	mg/kg	5	190 ²												
Cobalt	mg/kg	2		100	-	-	-	-	-	-	-	-	<5	-	-
Copper	mg/kg	5	60 ²	6000	<5	7.6	6.9	180	16	10	10	10	<5	15	8
Lead	mg/kg	5	1100 ²	300	8.1	16	23	15	24	27	27	25	20	27	23
Manganese	mg/kg	5		3800	-	-	-	-	-	-	-	-	24	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	5.1	<5	7.8	16	9.9	9.3	13	9.9	<5	33	9.2
Phosphorus	mg/kg	5	30	.00	J.1	13	7.0	1	3.3	3.3	10	3.3			7.2
Selenium	mg/kg	5		200	_	_	_	_	_	_	-	_	<2	_	_
Vanadium	mg/kg	5		200		+ -	-	_	_	_	_	_	~~	_	+ -
			70 ²	7400	12	22	37	84	39	29	35	38	29	73	FO
Zinc	mg/kg	5	/U	7400	12		3/	84	39	29	33	38	29	/3	50

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP21-3.0

TP21-1.5

1.5



Table 1A: Soil Results (Hydrocarbons and Metals)

TP19-0.2

0.2

TP19-1.5

1.5

TP19-3.0

TP20-0.5

0.5

TP20-2.0

TP20-3.0

TP21-0.2

0.2

TP18-3.0

Field_ID TP18-2.0

				Depth (m)		3	0.2	1.5	3	0.5	2 - /22 /22 /	3	0.2	1.5	3
				Sampled_Date		25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014
				Soil Type		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
			-	Location	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
					4.4	1.1	1.4	0.4	10	0.4	1.0	10	7	10	1.4
Moisture	%	1			14	11	11	9.4	10	8.1	16	19	/	19	14
BTEXN	/1	0.4	Γ0	0 = 4	10.1	-0.1	10.1	-0.1	-0.1	-0.1	-0.1	10.1	10.1	-0.1	
Benzene	mg/kg	0.1	50	0.5 4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
Xylene (m & p)	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
Xylene (o)	mg/kg	0.1	10-		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-
Total BTEX	mg/kg	0.2	2		_	_		_	_		_	_	_		_
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HYDROCARBONS															
C6 - C9	mg/kg	10			<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	-
C10 - C14	mg/kg	20			<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	-
C15 - C28	mg/kg	50			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-
C29 - C36	mg/kg	50			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-
C6 - C10	mg/kg	10	180	4400 ⁵	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	-
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	-
C10 - C40 (Sum of total)	mg/kg	50		,											
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	-
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-
METALS	<i>3, 3</i>			120/210/110/112											
Arsenic	mg/kg	2	100 ²	100	4.3	7.6	3.7	7.6	4.8	5.9	6.3	9.4	4.2	<2	3.4
Barium	mg/kg	10	100			1.0		1							
Beryllium	mg/kg	1		60	_	_	_	-	_	_	_	_	_	_	<2
Boron	mg/kg	10		4500	_	_	_	_	_	_	_	_	_	_	<10
Cadmium	mg/kg	0.4		20	<0.4	<0.4	<0.4	< 0.4	0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	-	-	-	-	-	<1
Chromium	mg/kg	2	190 ²	100	23	28	13	17	20	18	25	24	17	22	-
Chromium (Trivalent)	mg/kg	5	190 ²		2.5	20	15	1/	20	10	25	27	1,		
Cobalt	mg/kg	2	130	100	_	_	_	_	_	 	_	_	_	_	10
	mg/kg	<u> </u>	60 ²	6000	17	13	8	8.7	23	9.8	9.5	12	8.8	<5	18
Copper		<u> </u>	2		_	_		_	_		_			_	
Lead	mg/kg mg/kg	5	1100 2	300 3800	16 -	40	14	19	35	35	27	28	29	8.4	63
Manganese				40	<0.1	0.5				- 0.1					
Mercury	mg/kg	0.1	20.2			_	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg		30 ²	400	28	14	6.4	12	19	<5	8.4	14	8.3	<5	25
Phosphorus	mg/kg	5		200			1			1				1	
Selenium	mg/kg	5		200	-	-	-	-	-	-	-	-	-	-	<2
Vanadium 	mg/kg	5	2	7,00										_	
Zinc	mg/kg	5	70 ²	7400	52	71	14	72	78	31	24	53	49	<5	78

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil

^{2:} NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP25_0.5

0.5

TP25_0.2

0.2



Table 1A: Soil Results (Hydrocarbons and Metals)

TP22-4.0

TP23-0.5

0.5

TP23-1.5

1.5

TP24-0.2

0.2

TP23-3.0

TP24-1.5

1.5

TP24-3.0

TP22-2.0

Field_ID TP22-0.2

				Depth (m)		2	4	0.5	1.5	3	0.2	1.5	3	0.2	0.5
				Sampled_Date		25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	27/05/2016	27/05/2016
				Soil Type		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Natural	Natural
			-	Location	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
			·		6.2	0.0	1 44		1 05	1.6		1.2	144	1.0	
Moisture	%	1			6.3	8.8	14	6.8	9.5	16	6.6	13	11	4.9	1.1
BTEXN	/1		F.0	4	.0.4	.0.4	.0.4	.0.1	.0.4	.0.4		.0.4	.0.1	.0.0	
Benzene - :	mg/kg	0.1	50	0.5 4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	<0.3	<0.3	<0.5	<0.5
Total BTEX	mg/kg	0.2	2	4			<u> </u>	1						<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1
HYDROCARBONS														-	-
C6 - C9	mg/kg	10			<20	<20	<20	<20	<20	<20	-	<20	<20	<10	<10
C10 - C14	mg/kg	20			<20	<20	<20	43	42	<20	-	<20	<20	<50	<50
C15 - C28	mg/kg	50			110	72	<50	<50	<50	<50	-	150	<50	<100	<100
C29 - C36	mg/kg	50			100	91	55	<50	<50	<50	-	150	<50	<100	<100
C10 - C36 (Sum of total)	mg/kg	50			210	160	55	<50	<50	<50	-	300	<50	<50	<50
C6 - C10	mg/kg	10	180	4400 ⁵	<20	<20	<20	<20	<20	<20	-	<20	<20	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	-	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	180	130	<100	<100	<100	<100		240	<100	<100	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50												<50	<50
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<20	<20	<20	<20	<20	<20	-	<20	<20	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	-	<50	<50	<50	<50
METALS															
Arsenic	mg/kg	2	100 ²	100	<2	5.9	6	3.5	7.4	9.3	15	16	5.4	<5	<5
Barium	mg/kg	10												-	-
Beryllium	mg/kg	1		60	-	-	-	-	-	-	<2	-	-	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	-	<10	-	-	-	-
Cadmium	mg/kg	0.4		20	< 0.4	< 0.4	<0.4	< 0.4	<0.4	< 0.4	<0.4	<0.4	< 0.4	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	-	<1	-	-	-	-
Chromium	mg/kg	2	190 ²		6.6	20	27	12	19	23	-	15	17	<2	<2
Chromium (Trivalent)	mg/kg	5	190 ²												
Cobalt	mg/kg	2		100	-	-	-	-	-	-	<5	-	-	-	-
Copper	mg/kg	5	60 ²	6000	5.6	17	14	11	7.9	16	<5	<5	11	<5	<5
Lead	mg/kg	5	1100 ²	300	<5	38	35	21	21	46	14	12	21	<5	<5
Manganese	mg/kg	5	1100	3800	-	-	-	-	-	-	23	-	-	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	12	14	10	17	11	14	7.4	5.2	8	<2	<2
Phosphorus	mg/kg	5	50	.00		†	1	+	+	<u> </u>	7	J	 	† ·-	†
Selenium	mg/kg	5		200	_	_	_	_	_	_	<2	_	-	-	-
Vanadium	mg/kg	5		200	_	_	-	_	-	_	~∠	_	_	-	-
		5	70 ²	7400	10	77	44	52	100	68	18	18	42	13	<5
Zinc	mg/kg	5	/0	7400	10	11	44	52	100	80	18	18	42	13	<5

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP27-2.0



Table 1A: Soil Results (Hydrocarbons and Metals)

TP25_4.0

TP26-0.5

0.5

TP26-1.0

TP26-2.0

TP26-3.0

TP26-4.0

TP27-0.5

0.5

TP27-1.0

TP25_2.0

Field_ID TP25_1.0

				Depth (m)			4	0.5	<u> </u>		3	4	0.5	1	Ζ
				Sampled_Date		27/05/2016	27/05/2016	2/06/2016	2/06/2016	2/06/2016	2/06/2016	2/06/2016	2/06/2016	2/06/2016	2/06/2016
				Soil Type		Natural	Natural	Fill	Fill			te Foundry wast		Fill	Foundry waste
			Ţ-	Location	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
	1	1	Maintenance of	Human Health ³											
ChemName	Units	EQL	Ecosystems ¹												
Moisture	%	1			2.5	<1	5.6	6.3	8.5	6.8	6.6	8.6	14.3	5.1	10
BTEXN															
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<1	<1	<1	<0.5	<1	<1	<1	<0.5	<1	<1
HYDROCARBONS					-	-	-								
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	<100	<100	<100	160	170	<100	<100	<100	150
C29 - C36	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	<50	<50	<50	160	170	<50	<50	<50	150
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	50	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	<100	<100	110	210	210	<100	<100	<100	180
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50			<50	<50	<50	<50	110	260	210	<50	<50	<50	180
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	50	<50	<50	<50	<50	<50
METALS															
Arsenic	mg/kg	2	100 ²	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Barium	mg/kg	10			-	-	-	-	-	-	-	-	20	-	-
Beryllium	mg/kg	1		60	-	-	-	-	-	-	-	-	<1	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	-	-	-	<50	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	-	-	-	<0.5	-	-
Chromium	mg/kg	2	190 ²		<2	<2	8	7	30	25	22	<2	10	2	5
Chromium (Trivalent)	mg/kg	5	190 ²					-	-	-	-	-	-	-	-
Cobalt	mg/kg	2		100	-	-	-	-	-	-	-	-	<2	-	-
Copper	mg/kg	5	60 ²	6000	<5	<5	<5	5	76	52	28	<5	17	5	14
Lead	mg/kg	5	1100 ²	300	<5	<5	<5	<5	27	21	8	<5	8	5	8
Manganese	mg/kg	5		3800	-	-	-	-	-	-	-	-	73	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	<2	<2	<2	5	13	16	4	<2	4	<2	7
Phosphorus	mg/kg	5						-	-	-	-	-	-	-	-
Selenium	mg/kg	5		200	-	-	-	-	-	-	-	-	<5	-	-
Vanadium	mg/kg	5			-	-	-	-	-	-	-	-	16	-	-
Zinc	mg/kg	5	70 ²	7400	<5	<5	<5	22	176	130	33	<5	28	54	29

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil

^{2:} NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP29_3.0



Table 1A: Soil Results (Hydrocarbons and Metals)

TP28_0.2

0.2

TP28_1.0

TP28_2.0

TP28_3.0

TP28_4.0

TP29_0.2

0.2

TP29_1.0

TP29_2.0

TP27-4.0

Field_ID TP27-3.0

				Depth (m)		0/00/00:0	0.2	6/06/55:5	6/06/55:5	5 (00 (00)	6 (0.0 (0.0)	0.2	A= (0= (= = : :	0= 10= 1====	0=/0=/===
				Sampled_Date		2/06/2016	6/06/2016	6/06/2016	6/06/2016	6/06/2016	6/06/2016	27/05/2016	27/05/2016	27/05/2016	27/05/2016
						Foundry waste		Fill	Natural	Natural	Natural	Fill	Fill	Fill	Fill
			1	Location	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
Moisture	%	1			18.2	16.9	7.3	6.4	7.8	15.8	19.4	10.6	5.6	1.6	15.8
BTEXN	,,														
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2		33711271127112	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2		107 007 337 170	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1 - 1.3
HYDROCARBONS		0.0	170	37 1127 1127 112		_			_			-	-	-	-
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	120	230	<100	280
C29 - C36	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	110	<100	170
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	<50	<50	<50	<50	<50	120	340	<50	450
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	<100	<100	<100	<100	<100	190	330	<100	400
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50		,	<50	<50	<50	<50	<50	<50	<50	190	330	<50	400
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
METALS	J, J			,,,											
Arsenic	mg/kg	2	100 ²	100	<5	10	<5	<5	<5	28	<5	<5	<5	<5	<5
Barium	mg/kg	10			-	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	1		60	-	-	-	-	-	-	-	-	-	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-			-	-	-	-
Chromium	mg/kg	2	190 ²		29	17	7	2	8	38	20	49	46	<2	31
Chromium (Trivalent)	mg/kg	5	190 ²		-	-	-	-	-	-	-				
Cobalt	mg/kg	2		100	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	60 ²	6000	<5	8	5	<5	<5	<5	<5	58	93	11	83
Lead	mg/kg	5	1100 ²	300	6	41	14	<5	<5	8	<5	24	35	16	34
Manganese	mg/kg	5		3800	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	6	4	2	<2	<2	23	3	13	17	<2	20
Phosphorus	mg/kg	5			-	-	-	-	-	-	-				
Selenium	mg/kg	5		200	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	5			-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	5	70 ²	7400	<5	32	15	<5	<5	<5	<5	398	924	21	236

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil

^{2:} NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP31_4.0



Table 1A: Soil Results (Hydrocarbons and Metals)

TP30_1.0

TP30_2.0

TP30_3.0

TP30_4.0

TP31_0.5

0.5

TP31_1.0

TP31_2.0

TP31_3.0

TP30_0.5

0.5

Field_ID TP29_4.0

				Depth (m)		0.5	1		3	4	0.5		2	3	4
				Sampled_Date		27/05/2016	27/05/2016	27/05/2016	27/05/2016	27/05/2016	27/05/2016	27/05/2016	27/05/2016	27/05/2016	27/05/2016
				Soil Type	Landfill	Fill	Fill	Foundry wast	e Foundry wast	e Foundry was	te Fill	Foundry wast	e Foundry waste	Foundry waste	e Foundry waste
			-	Location	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
			Maintenance of	11											
ChemName	Units	EQL	Ecosystems ¹	Human Health ³											
Moisture	%	1			4.8	11.2	8.9	13.8	8.8	8.8	6	8.7	6.3	5.7	9.9
BTEXN															
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2		10 / 00 / 33 / 170	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<1	<1	<1	<1 - 0.9	<1	<1	<1	<1	<1	<1
HYDROCARBONS	1115/115	0.5	1/0	J / INL / INL / INL	-	-	-	-	-	-	-	-	-	-	-
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	<100	<100	280	170	<100	240	120	180	520
C29 - C36	mg/kg	50			<100	<100	<100	<100	170	<100	<100	120	<100	160	300
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	<50	<50	450	170	<50	360	120	340	820
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	60	<50	<50	70	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	120	<100	<100	410	230	<100	320	170	330	790
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	150
C10 - C40 (Sum of total)	mg/kg	50	2000	0,300	<50	120	<50	<50	470	230	<50	390	170	330	940
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 2004	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		45 / 70 / 110 / 200 ⁴	<50	<50	<50	<50	60	<50	<50	70	<50	<50	<50
	IIIg/ kg	30		110 / 240 / 440 / NL ⁴	\ 30	\ 30	\30	\30	00	\30	\ 30	70	\30	\30	\30
METALS	/I	2	100 ²	100	4 F	12	<5	14	<5	<5	<5	10	<5	<5	<5
Arsenic	mg/kg	10	100	100	<5			14	130		< 5	10			
Barium	mg/kg	10		CO	-	-	-	-		-	-	-	-	-	-
Beryllium	mg/kg	10		60	-	-	-	-	<1	-	-	-	-	-	-
Boron	mg/kg	10		4500	-	-	- 11	-	<50		-	- 2		-	
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1 <0.5	<1	<1	2	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5	100 2	100		- 27	-	-		- 20		- 20	- 22	- 10	-
Chromium	mg/kg		190 ²		<2	37	6	14	52	28	<2	39	32	19	4
Chromium (Trivalent)	mg/kg	5	190 ²	100		+							+	+	+
Cobalt	mg/kg	2	60.2	100	- 4F	- 24	- 4F	-	4	-	-	- 200	- 67	- 42	-
Copper	mg/kg	5	60 2	6000	<5 .5	34	<5	<5	100	44	<5	200	67	42	6
Lead	mg/kg	5	1100 2	300	<5	11	<5	6	23	19	<5	59	8	23	44
Manganese	mg/kg	5		3800	0.4	0.1	0.1	0.4	1790	0.4	0.1	0.1	0.1	0.1	0.4
Mercury	mg/kg	0.1	_ 2	40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	<2	12	3	3	20	8	<2	28	16	9	5
Phosphorus	mg/kg	5													
Selenium	mg/kg	5		200	-	-	-	-	<5	-	-	-	-	-	-
Vanadium	mg/kg	5	2		-	-	-	-	9	-	-	-	-	-	-
Zinc	mg/kg	5	70 ²	7400	<5	56	17	8	198	118	12	330	21	123	62

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil

^{2:} NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP33_5.0



Table 1A: Soil Results (Hydrocarbons and Metals)

TP32-2.0

TP32-3.0

TP32-4.0

TP33_0.2

0.2

TP33_1.0

TP33_2.0

TP33_3.0

TP33_4.0

TP32-1.0

Field_ID TP32-0.2

				Depth (m)		1	2	J	4	0.2	1	2	3	4	
				Sampled_Date	2/06/2016	2/06/2016	2/06/2016	2/06/2016	2/06/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016
				Soil Type	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Natural	Natural
				Location		Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1				
			Maintananca of			•	•	•	•	•	•	- 1	•	•	
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
Moisture	%	1			8.7	8.1	8	10.2	19.6	10.5	7.3	18.4	9	17.3	12.5
BTEXN	,,														
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2	70	33 / INL / INL / INL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.3	103	40 / 60 / 95 / 170	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
		0.2	170 ²	2 / NH / NH / NH 4	<0.2	<1	<1	<1	<1						
Naphthalene	mg/kg	0.5	1/0	3/NL/NL/NL ⁴	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
HYDROCARBONS	//	10			:10	-10	-10	:40	-10	- 110		10		- 110	
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29 - C36	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C6 - C10	mg/kg	10	180	4400 5	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
METALS	<u> </u>														
Arsenic	mg/kg	2	100 ²	100	<5	<5	<5	<5	<5	<5	7	14	<5	<5	29
Barium	mg/kg	10			-	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	1		60	_	_	_	_	_	_	_	_	-	_	_
Boron	mg/kg	10		4500	_	_	_	_	-	-	_	-	_	-	_
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	2	190 ²	-00	7	2	7	7	30	18	18	24	2	12	16
Chromium (Trivalent)	mg/kg	5	190 ²		-	-			-	10	1	<u> </u>	_		+
Cobalt	mg/kg	2	130	100	_	_		-		-	_	_	_	-	-
	mg/kg	<u> </u>	60 ²	6000	12	<5	<5	<5	<5	108	24	7	<5	<5	<5
Copper		5	1100 ²	300	15	<5	<5	<5	9	41	16	9	<5	5	<5
Lead	mg/kg mg/kg	5	1100	3800	- 15			- \5	- 9	- 41	- 10	- 9		-	-
Manganese					<0.1	<0.1				<0.1			<0.1		<0.1
Mercury	mg/kg	0.1	22	40			<0.1	<0.1	<0.1		<0.1	<0.1	_	<0.1	
Nickel	mg/kg	<u></u>	30 ²	400	5	2	3	<2	6	8	7	6	<2	2	<2
Phosphorus	mg/kg	5			-	-	-	-	-			1			+
Selenium	mg/kg	5		200	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	5	2		-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	5	70 ²	7400	42	<5	<5	<5	5	243	115	26	<5	<5	<5

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP36-0.5 0.5



Table 1A: Soil Results (Hydrocarbons and Metals)

TP34_2.0

TP34_3.0

TP34_4.0

TP35-0.2

0.2

TP35-1.0

TP35-2.0

TP35-4.0

TP35-6.0

TP34_1.0

Field_ID TP34_0.5

				Depth (m)		1	2	3	4	0.2	1	2	4	U	0.5
				Sampled_Date	30/05/2016	30/05/2016	30/05/2016	30/05/2016	30/05/2016	3/06/2016	3/06/2016	3/06/2016	3/06/2016	3/06/2016	2/06/2016
				Soil Type	Fill	Fill	Landfill	Landfill	Landfill	Fill	Foundry wast	te Foundry waste	Foundry waste	Landfill	Fill
				Location		Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
			Maintenance of	Human Health ³						•	•			•	
ChemName	Units	EQL	Ecosystems ¹	numan neam											
Moisture	%	1			6.8	5.6	29.8	11.7	11.1	8.3	6.8	5.4	7.7	16.9	12
BTEXN															
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2	_00	.0,00,55,170	<0.2	<0.2	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<0.5	<1	<1	<1	<1 - 1.3	<1	<1	<1	<1	<1
HYDROCARBONS	1118/118	0.0	170	S / INC / INC / INC	-	-	-	-	-	1 1.3		1.2	1.2	1.2	1
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	<100	280	200	260	200	130	220	230	<100
C29 - C36	mg/kg	50			<100	<100	<100	120	<100	110	<100	<100	100	480	<100
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	<50	400	200	370	200	130	320	710	<50
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	50	<50	<50	<50	<50	<50
C16-C34		100	300	4,500 ⁵	<100	<100	<100	360	260	350	250	160	280	570	<100
C34-C40	mg/kg mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	310	<100
		50	2000	6,300	<50	<50	<50	360	260	400	250	160	280	880	<50
C10 - C40 (Sum of total)	mg/kg			45 / 70 / 440 / 2004							<10		<10		<10
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 2004	<10	<10	<10	<10	<10	<10		<10		<10	
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	50	<50	<50	<50	<50	<50
METALS			2	100		1.0		_					 	<u> </u>	
Arsenic	mg/kg	2	100 2	100	<5	10	<5	<5	<5	<5	<5	<5	<5	7	16
Barium	mg/kg	10			-	-	-	-	-	200	-	-	-	-	-
Beryllium	mg/kg	1		60	-	-	-	-	-	<1	-	-	-	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	<50	-	-	-	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	3	<1	4	<1	<1
Chromium (hexavalent)	mg/kg	0.5	2	100	-	-	-	-	-	<0.5	-	-	-	-	-
Chromium	mg/kg	2	190 ²		10	10	29	43	30	43	97	22	29	33	92
Chromium (Trivalent)	mg/kg	5	190 ²							-	-	-	-	-	-
Cobalt	mg/kg	2		100	-	-	-	-	-	2	-	-	-	-	-
Copper	mg/kg	5	60 ²	6000	18	13	124	108	53	31	32	32	88	26	38
Lead	mg/kg	5	1100 ²	300	9	7	24	25	15	14	49	12	66	130	13
Manganese	mg/kg	5		3800	-	-	-	-	-	594	-	-	-	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1
Nickel	mg/kg	2	30 ²	400	5	5	15	20	7	18	5	6	11	18	23
Phosphorus	mg/kg	5								-	-	-	-	-	-
Selenium	mg/kg	5		200	-	-	-	-	-	<5	-	-	-	-	-
Vanadium	mg/kg	5			-	-	-	-	-	7	-	-	-	-	-
Zinc	mg/kg	5	70 ²	7400	46	34	259	267	151	67	321	69	351	417	43

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP38_1.0



Table 1A: Soil Results (Hydrocarbons and Metals)

TP36-3.0

TP36-4.0

TP37_0.5

0.5

TP37_1.0

TP37_2.0

TP37_3.0

TP37_4.0

TP38_0.5

0.5

TP36-2.0

Field_ID TP36-1.0

				Depth (m)		Z	3	4	0.5	1		3	4	0.5	1
				Sampled_Date		2/06/2016	2/06/2016	2/06/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016	27/05/2016	27/05/2016
				Soil Type		Fill	Foundry waste		Fill	Foundry wast	e Foundry wast	e Foundry wast	e Foundry waste	e Fill	Foundry waste
			1	Location	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
			Maintenance of	Human Health ³											
ChemName	Units	EQL	Ecosystems ¹												
Moisture	%	1			7.9	3.4	3.3	7.4	14.3	8.8	11.2	9.9	11.4	9.7	5.2
BTEXN															
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<1	<1	<1	<1	<1	<1 - 2.7	<1	<1	<1	<1
HYDROCARBONS				, , , , , , , , ,					-	-	-	-	-	-	-
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	<100	<100	200	240	380	210	<100	150	150
C29 - C36	mg/kg	50			<100	<100	<100	<100	<100	<100	120	<100	<100	<100	<100
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	<50	<50	200	240	550	210	<50	150	150
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	80	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	<100	<100	260	290	440	260	120	220	210
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50	2000	0,500	<50	<50	<50	<50	260	290	520	260	120	220	210
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	80	<50	<50	<50	<50
METALS	1118/118	30		110 / 240 / 440 / NL	130	1,50	130	130	130	1,50	- 55	130	130	130	130
Arsenic	mg/kg	2	100 ²	100	8	<5	<5	<5	7	<5	<5	<5	<5	<5	<5
Barium	mg/kg	10	100	100	-	-		-	-	-	-	-		-	-
Beryllium	mg/kg	1		60	-	_	_	_	_	_	_	_	_	_	_
Boron	mg/kg	10		4500	_	_	_	_	_	_	_	_	_	_	_
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	2	190 ²	200	27	2	<2	4	29	70	14	48	25	15	6
Chromium (Trivalent)	mg/kg	5	190 ²		-	-	-	-		, ,				10	† •
Cobalt	mg/kg	2	130	100	_	_	_	_	_	_	_	_	_	_	_
Copper	mg/kg	5	60 ²	6000	12	<5	<5	<5	28	32	35	143	105	33	18
Lead	mg/kg	5	1100 ²	300	9	<5	<5	<5	27	17	19	10	10	7	<5
Manganese	mg/kg	5	1100	3800	-		-		-	-	-	-	-	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	7	<2	<2	<2	13	10	8	31	15	13	4
Phosphorus	mg/kg	5	50	700	-	-	-	-	13	10	8	31	1.0	13	+
) -		200			+						1		
Selenium	mg/kg) E		200	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	5	70.2	7400	- 22			5			100	- 66	- 50	- 56	12
Zinc	mg/kg	15	70 ²	7400	23	<5	<5	<5	101	121	108	66	50	56	12

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil

^{2:} NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP40-3.0



Table 1A: Soil Results (Hydrocarbons and Metals)

TP38_4.0

TP39_3.5

3.5

TP39_4.0

TP39_5.0

TP40-0.2

0.2

TP39_7.0

TP40-1.0

TP40-2.0

TP38_3.0

Field_ID TP38_2.0

			Depth (m)		3	4	3.5	((3	7	0.2	1 2 2 2 2 2 2 2	2	3
														2/06/2016
		l							Natural	Natural				Fill
		ī —	Location	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
	T	Maintenance of	Human Health ³											
Units	EQL	LCOSYSTEMS												
%	1			11.3	9.9	11.4	15.6	17.2	8.5	16.7	12.8	7.2	3.1	5.2
	0.1							<0.2						<0.2
				<0.5										<0.5
		70	55 / NL / NL / NL ⁴	<0.5										<0.5
					1.2	<0.5	<0.5	<0.5						<0.5
mg/kg				<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5
mg/kg		105	40 / 60 / 95 / 170 4	<0.5	1.2	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5
mg/kg				<0.2	2.4	<0.2	<0.2	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2
mg/kg	0.5	170 ²	3 / NL / NL / NL ⁴	<1 - 1.5	2	<1	<1	<1	<1	<1	<0.5	<1	<0.5	<1
				-	-	-								
mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	50			270	270	200	<100	<100	<100	<100	<100	<100	<100	<100
	50			140	110	130	<100	<100	<100	<100	<100	<100	<100	<100
	50			410	380	330	<50	<50	<50	<50	<50	<50	<50	<50
		180	4400 ⁵	<10	10	<10	<10	<10	<10	<10	<10	<10	<10	<10
		120	3,300 ⁵	80	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	100	300		360	330	290	<100	<100	<100	100	<100	<100	<100	<100
		2800		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	50			440	330	290	<50	<50	<50	100	<50	<50	<50	<50
	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
				80	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
mg/kg	2	100 ²	100	7	<5	<5	58	5	<5	6	<5	<5	<5	<5
	10			160	-	-	-	-	-	-	-	-		-
	1		60	1	-	-	-	-	-	-	-	-		-
	10		4500	<50	-	-	-	-	-	-	-	-		-
			20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
					-	-	-	-	-	-	-	-		-
	2	190 ²			26	36	31	18	6	58	19	5		<2
	5						-	-	-	-	-	-	-	-
	2		100	4	-	-	-	-	-	-	-	-	<2	-
	5	60 ²		268	83	118	<5	16	16	49	6	8		<5
	5	1		_	_	_		_	_					<5
	5	2200			-	-	-	-	-	-	-	-		-
					0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
	2	30 ²									_		_	2
	5	30	.00			1			-		-			-
	5		200	<5	-	_	_	_	_	_	_		-	_
	5		200		-		_	_	_		+	+		_
mg/kg	+-	70 ²	7400	37	97	44	14	58	73	106	30	10	<5	55
	mg/kg	% 1	Units EQL Ecosystems¹ % 1 mg/kg 0.1 50 mg/kg 0.1 85 mg/kg 0.2 70 mg/kg 0.2 70 mg/kg 0.2 70 mg/kg 0.3 105 mg/kg 0.2 70 mg/kg 10 180 mg/kg 10 180 mg/kg 10 180 mg/kg 10 2800 mg/kg 10 70 mg/kg 10 70	Maintenance of Ecosystems	Maintenance of Ecosystems	Sampled Date 27/05/2016 27/05/2016 Soil Type Foundry waste Foundry waste Location Zone 1 Zone 2 Zone 1 Zone 2 Zone	Sampled_Date 27/05/2016 27/05/2016 27/05/2016 Soil Type Foundry waste Foundry waste Foundry waste Foundry waste Tourned Tour	Maintenance of Ecosystems	Sampled Date 27/05/2016 27/05/2016 23/05/2016 2	Maintenance of Ecosystems		Sampled Date 27/08/2016 27/08/2016 27/08/2016 23/08/2016 2	Maintenance of Ecosystems	

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP42_3.0



Table 1A: Soil Results (Hydrocarbons and Metals)

TP41_0.5

0.5

TP41_1.0

TP41_2.0

TP41_3.0

TP41_4.0

TP42_0.2

0.2

TP42_1.0

TP42_2.0

TP40-5.0

Field_ID TP40-4.0

				Depth (m)		3	0.5	1		3	4	0.2	1		3
				Sampled_Date		2/06/2016		26/05/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016
				Soil Type		Fill	Foundry waste			Fill	Landfill	Fill			Foundry waste
			P	Location	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
		EQL	,										1		
Moisture	%	1			16	15.1	24.2	6.4	11.5	9.6	19.8	11.9	5.8	6.2	6.6
BTEXN		-		1											
Benzene 	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1		4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	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
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<1	<1	<1 - 0.8	<1	<1	<1	<1	<1	<1	<1
HYDROCARBONS							-	-	-	-	-	-	-	-	-
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	190	240	<100	<100	<100	<100	240	330	310
C29 - C36	mg/kg	50			<100	<100	100	110	<100	<100	<100	<100	120	150	210
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	290	350	<50	<50	<50	<50	360	480	520
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	50	<50	<50	<50	<50	<50	70	100
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	250	320	<100	<100	<100	<100	330	440	440
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	120
C10 - C40 (Sum of total)	mg/kg	50			<50	<50	250	370	<50	<50	<50	<50	330	510	660
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	50	<50	<50	<50	<50	<50	70	100
METALS															
Arsenic	mg/kg	2	100 ²	100	8	28	<5	<5	9	<5	6	14	<5	<5	<5
Barium	mg/kg	10			-	-	-	50	-	-	-	-	-	-	-
Beryllium	mg/kg	1		60	-	-	-	<1	-	-	-	-	-	-	-
Boron	mg/kg	10		4500	-	-	-	<50	-	-	-	-	-	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	<0.5	-	-	-	-	-	-	-
Chromium	mg/kg	2	190 ²		21	23	84	37	10	8	30	30	59	40	16
Chromium (Trivalent)	mg/kg	5	190 ²		-	-									
Cobalt	mg/kg	2		100	-	-	-	<2	-	-	-	-	-	-	-
Copper	mg/kg	5	60 ²	6000	<5	<5	89	60	9	11	<5	14	53	188	27
Lead	mg/kg	5	1100 ²	300	8	<5	17	6	7	<5	18	62	23	10	11
Manganese	mg/kg	5		3800	-	-	-	319	-	-	-	-	-	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	8	3	44	17	20	21	6	13	17	16	8
Phosphorus	mg/kg	5			-	-									
Selenium	mg/kg	5		200	-	-	-	<5	-	-	-	-	-	-	-
Vanadium	mg/kg	5			-	-	-	<5	-	-	-	-	-	-	-
Zinc	mg/kg	5	70 ²	7400	<5	<5	151	32	21	12	19	63	295	50	52
LITE	IIIS/NS	ر ا	70	7-100	``	\ \	131	J 2		14	1.0	0.5	233	50	J2

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil

^{2:} NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP44_4.0



Table 1A: Soil Results (Hydrocarbons and Metals)

TP43_1.0

TP43_2.0

TP43_3.0

TP43_4.0

TP44_0.5

0.5

TP44_1.0

TP44_2.0

TP44_3.0

TP43_0.5

0.5

Field_ID TP42_4.0

				Depth (m)		0.5	1	2	3	4	0.5	1	2	3	4
				Sampled_Date		26/05/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016
				Soil Type	Foundry waste	Fill	Fill	Foundry wast	e Foundry wast	te Foundry wast	e Fill	Foundry wast	e Foundry waste	Foundry waste	Foundry waste
			-	Location	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
			Maintenance of												
ChemName	Units	EQL	Ecosystems ¹	Human Health ³											
Moisture	%	1			12.3	10.5	16.3	13	15.6	12	19	12.1	11.3	8.6	15.3
BTEXN															
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	0.3	<0.2	0.4	<0.2	0.4	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2		33 / 112 / 112 / 112	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	0.6	<0.5	0.6	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	0.6	<0.5	0.6	<0.5	<0.5
Total BTEX	mg/kg	0.2	103	40/00/33/170	<0.2	<0.2	<0.2	<0.2	1	<0.2	1.5	<0.2	1.5	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<1	<1	<1	2	<1	<1 - 0.6	<1	<1	<1	<1
HYDROCARBONS	IIIg/ kg	0.5	170	3 / INL / INL / INL	-	-	-	-	-	-	-	-	-	-	-
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			50	<50	<50	<50	100	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			430	<100	<100	110	870	260	170	<100	230	120	<100
C29 - C36	mg/kg	50			160	<100	<100	<100	330	120	130	<100	240	<100	<100
C10 - C36 (Sum of total)	mg/kg	50			640	<50	<50	110	1300	380	300	<50	470	120	<50
C6 - C10		10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	mg/kg	50	120		80	<50	<50	<50	190	60	60	<50	100	<50	<10 <50
C10-C16	mg/kg			3,300 ⁵				_		340	260	100	340		
C16-C34	mg/kg	100 100	300	4,500 ⁵	510	<100	<100	140	1090	<100			150	170	<100
C34-C40	mg/kg		2800	6,300 ⁵	<100	<100 <50	<100 <50	<100	120	_	<100 320	<100		<100	<100
C10 - C40 (Sum of total)	mg/kg	50		/ / 4	590			140	1400	400		100	590	170	<50
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 2004	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	80	<50	<50	<50	190	60	60	<50	100	<50	<50
METALS			?	100		_	_	_					_	1.0	_
Arsenic	mg/kg	2	100 ²	100	<5	6	7	<5	<5	<5	<5	<5	<5	10	<5
Barium	mg/kg	10			-	-	-	=	-	-	-	-	=	-	-
Beryllium	mg/kg	1		60	-	-	-	-	-	-	-	-	-	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	4	<1
Chromium (hexavalent)	mg/kg	0.5	2	100	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	2	190 ²		29	18	18	43	10	38	34	32	81	138	12
Chromium (Trivalent)	mg/kg	5	190 ²											<u> </u>	
Cobalt	mg/kg	2	2	100	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	60 ²	6000	76	12	18	63	16	73	69	76	76	550	24
Lead	mg/kg	5	1100 2	300	15	54	146	8	16	19	8	<5	<5	67	10
Manganese	mg/kg	5		3800	-	-	-	-	-	-	-	-	-	-	-
Mercury		0.1		40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	14	9	7	16	8	16	22	15	48	72	6
Phosphorus	mg/kg	5													
Selenium	mg/kg	5		200	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	5			-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	5	70 ²	7400	77	70	195	55	83	132	27	10	12	362	42

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil

^{2:} NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP48_0.2 0.2



Table 1A: Soil Results (Hydrocarbons and Metals)

TP45_2.0

TP45_3.0

TP45_4.0

TP46-0.5

0.5

TP46-2.0

TP46-3.0

TP47-0.5

0.5

TP47-2.0

TP45_1.0

Field_ID TP45_0.5

Depth (m) 0.5

				Sampled_Date	26/05/2016	26/05/2016	26/05/2016	26/05/2016	26/05/2016	3/06/2016	3/06/2016	3/06/2016	3/06/2016	3/06/2016	31/05/2016
				Soil Type		Fill	Fill	Fill	Natural	Fill	Fill	Fill	Fill	Fill	Fill
				Location	Zone 1	Zone 3									
			Maintenance of												
		T	Ecosystems ¹	Human Health ³											
ChemName	Units	EQL	Leosystems												
Moisture	%	1			8.7	8.2	14.4	12.2	17.7	9.5	5.8	6.4	23.2	28.6	24.2
BTEXN				4											
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.6	0.5	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2	2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.6	1.1	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<0.5	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1
HYDROCARBONS					-	-	-	-	-						-
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	60	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	<100	<100	<100	150	130	240	<100	<100	<100
C29 - C36	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	150	<100	120
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	<50	<50	<50	150	130	300	150	<50	120
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	90	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	120	<100	<100	<100	<100	200	160	290	170	<100	170
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50			120	<50	<50	<50	<50	200	160	380	170	<50	170
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	90	<50	<50	<50
METALS															
Arsenic	mg/kg	2	100 ²	100	<5	<5	<5	<5	<5	<5	<5	<5	35	125	30
Barium	mg/kg	10			10	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	1		60	<1	-	-	-	-	-	-	-	-	-	-
Boron	mg/kg	10		4500	<50	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	<0.5	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	2	190 ²		3	<2	2	9	24	9	11	12	37	58	21
Chromium (Trivalent)	mg/kg	5	190 ²							-	-	-	-	-	
Cobalt	mg/kg	2		100	<2	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	5	60 ²	6000	6	<5	<5	<5	<5	6	9	12	16	9	20
Lead	mg/kg	5	1100 ²	300	8	<5	<5	<5	9	15	26	22	31	12	23
Manganese	mg/kg	5		3800	11	-	-	-	-	-	-	-	-	-	-
Mercury		0.1		40	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	0.2	0.2	0.1
Nickel	mg/kg	2	30 ²	400	4	<2	<2	2	4	4	6	6	24	17	15
Phosphorus	mg/kg	5								-	-	-	-	-	
Selenium	mg/kg	5		200	<5	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	5			8	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	5	70 ²	7400	13	<5	<5	<5	<5	86	175	1690	87	23	73

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP53_2.0



Table 1A: Soil Results (Hydrocarbons and Metals)

TP49_2.0

TP50_1.0

TP50_4.0

TP51_0.2

0.2

TP52_0.5

0.5

TP51_2.0

TP52_2.0

TP53_0.2

0.2

TP49_1.0

Field_ID TP48_1.0

				Depth (m)		1	24/25/22/2	1	4	0.2	21/25/55:	0.5	2.4.40= /2.2.4	0.2	24 /25 /22 : 2
				Sampled_Date		31/05/2016	31/05/2016	31/05/2016	31/05/2016	31/05/2016	31/05/2016	31/05/2016	31/05/2016	31/05/2016	31/05/2016
				Soil Type		Fill	Fill	Fill							
			ļ	Location	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
Moisture	%	1			27.3	27.9	38.1	12	14.7	9.9	10	14	11.7	8.5	32.5
BTEXN	/0	1			27.3	27.3	36.1	12	14.7	3.3	10	14	11.7	8.5	32.3
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2	70	55 / INL / INL / INL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2	103	40 / 60 / 93 / 170	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3 / NL / NL / NL ⁴	<1	<1	<0.5	<1	<1 - 0.7	<1	<1	<1	<1	<1	<1
HYDROCARBONS	IIIg/ kg	0.5	170	3 / INL / INL / INL	-	-	-	-	-	-	-	-	-	-	-
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	<100	150	130	<100	<100	<100	220	<100	<100
C29 - C36	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	140	<100	100
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	<50	150	130	<50	<50	<50	360	<50	100
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	60	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	<100	210	170	<100	<100	<100	330	150	160
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50	2000	0,300	<50	<50	<50	210	170	<50	<50	<50	390	150	160
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	60	<50	<50
METALS		30		110 / 240 / 440 / NE	.55	130	.50	.55	130	130	130	130		.55	150
Arsenic	mg/kg	2	100 ²	100	106	57	46	<5	<5	<5	<5	<5	<5	<5	38
Barium	mg/kg	10	100	200	-	-	30	-	40	-	-	-	-	-	-
Beryllium	mg/kg	1		60	-	-	1	_	<1	_	_	_	-	-	_
Boron	mg/kg	10		4500	-	-	<50	_	<50	_	_	_	-	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	<0.5	-	<0.5	-	-	-	-	-	-
Chromium	mg/kg	2	190 ²		49	70	87	28	11	9	5	48	120	30	48
Chromium (Trivalent)	mg/kg	5	190 ²												
Cobalt	mg/kg	2		100	-	-	7	-	2	-	-	-	-	-	-
Copper	mg/kg	5	60 ²	6000	8	11	10	37	39	40	<5	73	204	17	10
Lead	mg/kg	5	1100 ²	300	17	14	14	33	6	9	6	9	12	21	16
Manganese	mg/kg	5		3800	-	-	13	-	206	-	-	-	-	-	-
Mercury	mg/kg	0.1		40	0.2	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
Nickel	mg/kg	2	30 ²	400	19	21	26	9	7	8	<2	28	70	12	22
Phosphorus	mg/kg	5	50												
Selenium	mg/kg	5		200	-	-	<5	-	<5	-	-	-	-	-	-
Vanadium	mg/kg	5			-	-	268	-	<5	-	-	-	-	-	-
Zinc	mg/kg	5	70 ²	7400	22	33	24	164	50	88	8	57	20	38	41

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP59_2.0



Table 1A: Soil Results (Hydrocarbons and Metals)

TP55_0.5

0.5

TP55_2.0

TP56_2.0

TP56_3.0

TP57_0.5

0.5

TP57_2.0

TP58_0.5

0.5

TP58_2.0

TP54_2.0

Field_ID TP54_0.5

Depth (m) 0.5

				Depth (m)		24 /27 /22 : 2	0.5	20/05/55:5	20/05/55:	3	0.5	20/07/22:	0.5	20/05/55:5	20/05/22:2
				Sampled_Date		31/05/2016	30/05/2016	30/05/2016	30/05/2016	30/05/2016	30/05/2016	30/05/2016	30/05/2016	30/05/2016	30/05/2016
				Soil Type		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
			 	Location	Zone 5	Zone 5	Zone 5	Zone 5	Zone 5	Zone 5	Zone 3	Zone 3	Zone 5	Zone 5	Zone 5
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
Moisture	%	1			6.3	17	7.2	15.6	3.6	15.3	7.7	30.6	13.5	9	10.6
BTEXN	70	1			0.3	1/	7.2	13.0	3.0	13.3	7.7	30.0	13.3	3	10.0
	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Benzene Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene		0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
,	mg/kg mg/kg	0.1	70	55 / INL / INL / INL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)		0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg		105	40 / 60 / 05 / 470 4						<0.5	<0.5				
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2	170 ²	2 / 511 / 511 / 511 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	1/0 -	3/NL/NL/NL ⁴	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<0.5
HYDROCARBONS	/1	10													
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50 -100	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	<100	200	<100	<100	<100	<100	<100	<100	<100
C29 - C36	mg/kg	50			<100	<100	<100	200	<100	<100	<100	<100	<100	<100	<100
C10 - C36 (Sum of total)	mg/kg	50	100	5	<50	<50	<50	400	<50	<50	<50	<50	<50	<50	<50
C6 - C10	mg/kg	10	180	4400 5	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	<100	370	<100	<100	<100	<100	<100	<100	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50		4	<50	<50	<50	370	<50	<50	<50	<50	<50	<50	<50
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 2004	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
METALS			2												
Arsenic	mg/kg	2	100 ²	100	<5	13	6	12	<5	<5	5	38	8	<5	<5
Barium	mg/kg	10			-	-	-	-	-	-	-	-	-	-	40
Beryllium	mg/kg	1		60	-	-	-	-	-	-	-	-	-	-	<1
Boron	mg/kg	10		4500	-	-	-	-	-	-	-	-	-	-	<50
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	-	-	-	-	-	<0.5
Chromium	mg/kg	2	190 ²		3	8	33	16	9	14	8	43	22	8	9
Chromium (Trivalent)	mg/kg	5	190 ²												
Cobalt	mg/kg	2		100	-	-	-	-	-	-	-	-	-	-	4
Copper	mg/kg	5	60 ²	6000	<5	<5	14	40	42	<5	11	10	15	<5	37
Lead	mg/kg	5	1100 ²	300	<5	<5	20	210	77	6	57	25	86	<5	90
Manganese	mg/kg	5		3800	-	-	-	-	-	-	-	-	-	-	92
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	<2	<2	19	18	9	4	9	18	16	<2	16
Phosphorus	mg/kg	5													
Selenium	mg/kg	5		200	-	-	-	-	-	-	-	-	-	-	<5
Vanadium	mg/kg	5			-	-	-	-	-	-	-	-	-	-	13
Zinc	mg/kg	5	70 ²	7400	31	<5	40	200	97	6	49	48	68	<5	90

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP64_0.2

0.2



Table 1A: Soil Results (Hydrocarbons and Metals)

TP60_3.0

TP61_0.2

0.2

TP61_2.0

TP62_0.5

0.5

TP62_2.0

TP63_0.5

0.5

TP63_3.0

TP63_5.0

TP60_1.0

Field_ID TP59_4.0

			Depth (m)		1	3	0.2	<u> </u>	0.5	2	0.5	3	5	0.2
														6/06/2016
										Fill				Fill
			Location	Zone 5	Zone 5	Zone 5	Zone 5	Zone 5	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2
	I	Maintenance of	Human Health ³											
Units	EQL	LCOSYSTEMS												
%	1			24	1.9	29.5	8.4	42.7	8.6	16.8	14.8	15.6	19.5	10.1
mg/kg	0.1			<0.2	<0.2	<0.2	<0.2	<0.2					<0.2	<0.2
				<0.5	<0.5									<0.5
		70	55 / NL / NL / NL ⁴											<0.5
														<0.5
mg/kg				<0.5	<0.5	<0.5	<0.5	<0.5		<0.5				<0.5
mg/kg		105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5	<0.5	<0.5
mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<1	<1	13	<1	<0.5	<1	<1	<1	<1	<1
				-	-	-	-	-						
mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
mg/kg	20			<50	<50	<50	200	<50	<50	<50	<50	<50	<50	<50
	50			<100	<100	<100	1990	<100	<100	<100	<100	<100	<100	<100
	50			<100	<100	<100	850	<100	<100	<100	<100	<100	<100	<100
	50			<50	<50	<50	3040	<50	<50	<50	<50	<50	<50	<50
	10	180	4400 ⁵	<10	<10	<10	290*	<10	<10	<10	<10	<10	<10	<10
	50	120	3,300 ⁵	<50	<50	<50	380	<50	<50	<50	<50	<50	<50	<50
	100	300		<100	<100	<100	2540	<100	<100	<100	<100	<100	<100	<100
	100	2800		<100	<100	<100	350	<100	<100	<100	<100	<100	<100	<100
	50			<50	<50	<50	3270	<50	<50	<50	<50	<50	<50	<50
			45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
mg/kg	50			<50	<50	<50	370	<50	<50	<50	<50	<50	<50	<50
mg/kg	2	100 ²	100	<5	<5	12	<5	23	17	9	5	6	<5	6
mg/kg	10			-	-	-	-	-	-	-	-	-	-	-
	1		60	-	-	-	-	-	-	-	-	-	-	-
	10		4500	-	-	-	-	-	-	-	-	-	-	-
mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
mg/kg	0.5		100	-				-	-	-	-	-	-	-
	2	190 ²		8	<2	29	14	52	19	26	17	29	23	15
mg/kg	5	190 ²							-	-	-	-	-	-
	2		100	-	-	-	-	-	-	-	-	-	-	-
mg/kg	5	60 ²	6000	<5	<5	<5	22	10	8	8	14	22	20	8
	5	1100 ²	300	<5	<5	7	22	14	20	19	46	49	29	27
mg/kg	5		3800	-	-	-	-	-	-	-	-	-	-	-
	0.1		40	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.3	<0.1	<0.1	<0.1
	2	30 ²	400	<2	<2	8	58	18	10	13	9		11	13
	5	•							-	-	-	-	-	-
	5		200	-	-	-	-	-	-	-	-	-	-	-
	5			-	-	-	-	-	-	-	-	-	-	-
	5	70 ²	7400	<5	<5	9	46	16	28	24	74	134	62	36
	mg/kg	% 1 mg/kg 0.1 mg/kg 0.1 mg/kg 0.2 mg/kg 0.2 mg/kg 0.3 mg/kg 0.2 mg/kg 0.5 mg/kg 10 mg/kg 50 mg/kg 50 mg/kg 50 mg/kg 50 mg/kg 10 mg/kg 50 mg/kg 10 mg/kg 50 mg/kg 10 mg/kg 10 mg/kg 50 mg/kg 10 mg/kg 2	Units EQL Ecosystems¹ % 1 mg/kg 0.1 50 mg/kg 0.1 85 mg/kg 0.2 70 mg/kg 0.2 70 mg/kg 0.1 70 mg/kg 0.2 70 mg/kg 10 180 mg/kg 10 180 mg/kg 10 180 mg/kg 10 2800 mg/kg 10 300 mg/kg 10 300	Maintenance of Ecosystems	Maintenance of Ecosystems	Sampled_Date 30/05/2016 30/05/2016 Soil Type Fill Fill Location Zone 5 Zone 5 Zone 5	Sampled Date 30/05/2016 30/05/2016 30/05/2016 30/05/2016 Soil Type Fill Fill Fill Location Zone 5 Zone 5 Zone 5 Zone 5	Maintenance of Ecosystems	Sampled Date 30/05/2016 30/05/2	Sampled Date 30/05/2016		Sampled Date 30/05/2016 30/05/2016 30/05/2016 30/05/2016 30/05/2016 50/	Sampled Date 30/05/2016 30/05/2016 30/05/2016 00/05/2016 6	No. Sampled Date 10/05/2016 30/05/2016 30/05/2016 30/05/2016 6/06/2016 6/0

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP69_3.0



Table 1A: Soil Results (Hydrocarbons and Metals)

TP65_2.0

TP66_0.2

TP66_2.0

TP67_0.5

TP67_2.0

TP68_.0

TP68_0.2

TP69_1.0

TP65_0.5

Field_ID TP64_2.0

					1764_2.0	1705_0.5	1705_2.0	1700_0.2	1200_2.0	1707_0.5	1767_2.0	17080	1708_0.2	1769_1.0	1769_3.0
				Depth (m)		0.5	2	0.2	2	0.5	2	0	0.2	1	3
				Sampled_Date		6/06/2016	6/06/2016	7/06/2016	7/06/2016	7/06/2016	7/06/2016	7/06/2016	7/06/2016	6/06/2016	6/06/2016
				Soil Type		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
				Location	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2
		T	Maintenance of	Human Health ³											
ChemName	Units	EQL	Ecosystems ¹												
Moisture	%	1			14.5	8.9	17.6	15.2	11	15.5	10.4	8.4	17.7	7.2	18.6
BTEXN															
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540 ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<0.5	<1	<1	<1	<1	<1	<0.5	<1	<1	<1
HYDROCARBONS															
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			110	<100	<100	<100	<100	<100	<100	<100	130	<100	<100
C29 - C36	mg/kg	50			160	<100	100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C36 (Sum of total)	mg/kg	50			270	<50	100	<50	<50	<50	<50	<50	130	<50	<50
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	230	<100	140	<100	<100	<100	120	<100	190	<100	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	160	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50			390	<50	140	<50	<50	<50	120	<50	190	<50	<50
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
METALS	<i>U. U</i>														
Arsenic	mg/kg	2	100 ²	100	18	10	<5	5	<5	7	<5	<5	7	20	14
Barium	mg/kg	10			-	-	-	-	-	-	-	80	-	-	-
Beryllium	mg/kg	1		60	-	-	-	-	-	-	-	<1	-	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	-	-	<50	-	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	-	-	<0.5	-	-	-
Chromium	mg/kg	2	190 ²		22	30	12	23	5	25	8	28	26	12	43
Chromium (Trivalent)	mg/kg	5	190 ²		-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	2		100	-	-	-	-	-	-	-	4	-	-	-
Copper		5	60 ²	6000	39	<5	19	13	6	18	9	39	37	26	12
Lead	mg/kg	5	1100 ²	300	99	8	105	32	6	17	56	83	52	75	47
Manganese	mg/kg	5	1100	3800	-	-	-	-	-	-	-	559	-	-	-
Mercury		0.1		40	0.2	<0.1	0.1	<0.1	<0.1	0.3	0.1	<0.1	0.5	0.1	<0.1
Nickel	mg/kg	2	30 ²	400	12	5	6	21	3	39	6	16	29	2	22
Phosphorus	mg/kg	5	30	700	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	5		200		-	-					<5	-	-	-
Vanadium	mg/kg	5		200		-		 -				16	-	-	-
		J	70 ²	7400	73	9	144	46	18	50	285	178	126	20	26
Zinc	mg/kg	5	/0 -	7400	/3	9	144	46	18	50	285	1/8	126	20	26

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

TP75_0.5

0.5



Table 1A: Soil Results (Hydrocarbons and Metals)

TP71_0.2

0.2

TP71_2.0

TP72_0.5

0.5

TP72_2.0

TP73_0.2

0.2

TP73_1.0

TP74_0.2

0.2

TP74_2.0

TP70_2.0

Field_ID TP70_0.5

Depth (m) 0.5

				Depth (m)		- 10 0 1	0.2	- 1 1	0.5	- 12 2 1	0.2		0.2	_ / _ / /	0.5
				Sampled_Date		7/06/2016	7/06/2016	7/06/2016	7/06/2016	7/06/2016	7/06/2016	7/06/2016	7/06/2016	7/06/2016	7/06/2016
				Soil Type		Fill	Fill	Slimes	Fill						
			·	Location	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Human Health ³											
Moisture	%	1			9.6	14.5	13.2	13.5	3.7	20.4	13	11.1	11.3	21.6	5.8
BTEXN	70	1			9.0	14.5	13.2	13.3	3.7	20.4	15	11.1	11.3	21.0	3.8
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.1	70	55 / INL / INL / INL	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.2			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total BTEX	mg/kg	0.3	103	40/60/95/1/0	<0.2	<0.2	<0.2	<0.2	<0.3	<0.3	<0.3	<0.2	<0.2	<0.2	<0.2
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<1	<1
HYDROCARBONS	IIIg/Ng	0.5	1/0	3 / INL / INL / INL								\0.3	~0.3		
C6 - C9	mg/kg	10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29 - C36	mg/kg	50			<100	<100	<100	<100	<100	<100	<100	<100	<100	110	<100
C10 - C36 (Sum of total)	mg/kg	50			<50	<50	<50	<50	<50	<50	<50	<50	<50	110	<50
C6 - C10	mg/kg	10	180	4400 ⁵	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	160	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50		0,500	<50	<50	<50	<50	<50	<50	<50	<50	<50	160	<50
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
METALS	<i>Si S</i>			110/110/110/110											
Arsenic	mg/kg	2	100 ²	100	40	<5	<5	7	<5	5	<5	6	7	6	7
Barium	mg/kg	10			-	-	-	-	-	-	-	-	70	-	-
Beryllium	mg/kg	1		60	-	-	-	-	-	-	-	-	<1	-	-
Boron	mg/kg	10		4500	-	-	-	-	-	-	-	-	<50	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	-	-	-	-	-	<0.5	-	-
Chromium	mg/kg	2	190 ²		20	23	24	18	61	21	23	24	23	24	22
Chromium (Trivalent)	mg/kg	5	190 ²		-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	2		100	-	-	-	-	-	-	-	-	8	-	-
Copper	mg/kg	5	60 ²	6000	<5	13	28	23	63	16	10	30	15	37	8
Lead	mg/kg	5	1100 ²	300	12	16	37	139	70	32	17	46	39	89	33
Manganese	mg/kg	5		3800	-	-	-	-	-	-	-	-	165	-	-
Mercury	mg/kg	0.1		40	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1
Nickel	mg/kg	2	30 ²	400	6	19	28	12	62	19	15	65	24	17	12
Phosphorus	mg/kg	5			-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	5		200	-	-	-	-	-	-	-	-	<5	-	-
Vanadium	mg/kg	5			-	-	-	-	-	-	-	-	34	-	-
Zinc	mg/kg	5	70 ²	7400	7	58	87	169	171	86	21	70	62	352	43

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

⁰m to <1m / 1m to <2m / 2m to <4m / 4m+

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted



Table 1A: Soil Results (Hydrocarbons and Metals)

				Field ID	TP75_2.0	TP75 4.0	TP76 0.2	TP76 1.0
				Depth (m)		4	0.2	1
				Sampled_Date		7/06/2016	7/06/2016	7/06/2016
				Soil Type		Slimes	Fill	Fill
				Location		Zone 2	Zone 2	Zone 2
			_	200001011				
			Maintenance of	Human Health ³				
ChemName	Units	EQL	Ecosystems ¹	Humanneam				
Moisture	%	1			7.1	32.1	15.1	7.8
BTEXN	70	1			7.1	52.1	15.1	7.0
Benzene	mg/kg	0.1	50	0.5 4	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	0.1	85	160 / 220 / 310 / 540 4	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	0.1	70	55 / NL / NL / NL ⁴	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	mg/kg	0.2	70	JJ / INL / INL / INL	<0.5	<0.5	<0.5	<0.5
Xylene (o)	mg/kg	0.1			<0.5	<0.5	<0.5	<0.5
Xylene Total	mg/kg	0.3	105	40 / 60 / 95 / 170 4	<0.5	<0.5	<0.5	<0.5
			105	40 / 60 / 95 / 170	<0.2	<0.2		<0.2
Total BTEX	mg/kg	0.2	470 2	2 / 211 / 211 / 211 4			<0.2	
Naphthalene	mg/kg	0.5	170 ²	3/NL/NL/NL ⁴	<1	<1	<1	<1
HYDROCARBONS	/1	10			-40	-10	:10	-40
C6 - C9	mg/kg	10			<10	<10	<10	<10
C10 - C14	mg/kg	20			<50	<50	<50	<50
C15 - C28	mg/kg	50			<100	<100	<100	<100
C29 - C36	mg/kg	50			<100	<100	<100	<100
C10 - C36 (Sum of total)	mg/kg	50		E	<50	<50	<50	<50
C6 - C10	mg/kg	10	180	4400 5	<10	<10	<10	<10
C10-C16	mg/kg	50	120	3,300 ⁵	<50	<50	<50	<50
C16-C34	mg/kg	100	300	4,500 ⁵	<100	<100	<100	<100
C34-C40	mg/kg	100	2800	6,300 ⁵	<100	<100	<100	<100
C10 - C40 (Sum of total)	mg/kg	50			<50	<50	<50	<50
C6-C10 less BTEX (F1)	mg/kg	10		45 / 70 / 110 / 200 ⁴	<10	<10	<10	<10
F2-NAPHTHALENE	mg/kg	50		110 / 240 / 440 / NL ⁴	<50	<50	<50	<50
METALS								
Arsenic	mg/kg	2	100 ²	100	<5	61	12	<5
Barium	mg/kg	10			-	-	-	-
Beryllium	mg/kg	1		60	-	-	-	-
Boron	mg/kg	10		4500	-	-	-	-
Cadmium	mg/kg	0.4		20	<1	<1	<1	<1
Chromium (hexavalent)	mg/kg	0.5		100	-	-	-	=
Chromium	mg/kg	2	190 ²		20	96	30	40
Chromium (Trivalent)	mg/kg	5	190 ²		-	-	-	-
Cobalt	mg/kg	2		100	-	-	-	-
Copper	mg/kg	5	60 ²	6000	54	6	10	28
Lead	mg/kg	5	1100 ²	300	16	11	26	58
Manganese	mg/kg	5		3800	-	-	-	-
Mercury	mg/kg	0.1		40	<0.1	0.2	<0.1	<0.1
Nickel	mg/kg	2	30 ²	400	17	25	10	18
Phosphorus	mg/kg	5	50		-	-	-	-
Selenium	mg/kg	5		200	_	_	-	_
Vanadium	mg/kg	5		200	_	_	-	_
Zinc	mg/kg	5	70 ²	7400	68	24	46	77
LIIIC	JUIS/NS	J	70	7-700	50		T-0	7.7

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil 2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

0m to <1m / 1m to <2m / 2m to <4m / 4m+

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand,

^{5:} CRC Care (2011) Soil Health Screening Levels for Direct Contact - Low Density Residential

NL: Not Limiting

^{*:} Duplicate / Triplicate Result adopted

SM9_3.0

SM6-0.5

BH31-1.0

BH32-0.5

0.5

BH32-1.0

SED-1

0.7

SED-13

0.1

SM1_1.0

SM2_0.2

0.2

SM4_3.0

SM5-0.5

0.5

Field_ID BH30-0.5

Depth (m) 0.5

BH30-2.0

BH31-0.5



				Sampled_Date	7/04/2014	7/04/2014	8/04/2014	8/04/2014	9/04/2014	9/04/2014	27/02/2014	5/03/2014	26/05/2016	26/05/2016	27/05/2016	2/06/2016	2/06/2016	27/05/2016
				Soil Type		Fill	Fill	Fill	Fill	Fill		Sediment	Fill	Fill	Fill	Fill	Fill	Fill
				Location	Zone 1	Zone 1	Zone 4	Zone 4	Zone 4	Zone 4	Zone 4	Zone 4	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1
						•	•	•	•						•	•	•	
			Maintenance of	Human Health ³														
ChemName	Units	EQL	Ecosystems ¹	Traman ricatin														
PAHs							1	1	1	T .			$\overline{}$	1	1	1		1
		0.5			40 F	40 F	40 F				-O.F	-0 F	-0.F	٠0 F	40 F	40 F	-O.F	40 F
Acenaphthene	mg/kg	0.5			<0.5 <0.5	<0.5	<0.5 <0.5	-	-	-	<0.5	<0.5	<0.5 <0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene		0.5				<0.5		-	-	-	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)anthracene	mg/kg	0.5	0.7		<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	mg/kg	0.5	0.7		<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5			<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5			<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo[b+j]fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5			<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5			<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5			<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5			<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PAHs	mg/kg	0.5		300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5		3									0.6	0.6	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5		3									1.2	1.2	1.2	1.2	1.2	1.2
PHENOLS																		
2,4,5-trichlorophenol	mg/kg	0.5											<0.5	-	<0.5	-	-	-
2,4,6-trichlorophenol	mg/kg	0.5											<0.5	-	<0.5	-	-	-
2,4-dichlorophenol	mg/kg	0.5											<0.5	-	<0.5	-	-	-
2,4-dimethylphenol	mg/kg	0.5											<0.5	-	<0.5	-	-	-
2,4-dinitrophenol	mg/kg	5														-	-	
2,6-dichlorophenol	mg/kg	0.5											<0.5	-	<0.5	-	-	-
2-chlorophenol	mg/kg	0.5											<0.5	-	<0.5	-	-	-
2-methylphenol	mg/kg	0.2																
2-nitrophenol	mg/kg	0.5											<0.5	-	<0.5	-	-	-
3-&4-methylphenol	mg/kg	0.4									< 0.4	< 0.4	<1	-	<1	-	-	-
4,6-Dinitro-2-methylphenol	mg/kg	5									1					-	-	
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	20									1					-	-	
4-chloro-3-methylphenol	mg/kg	0.5									1	1	<0.5	_	<0.5	-	_	-
4-nitrophenol	mg/kg	5									†	1	+			_	_	
Dinoseb	mg/kg	20									+	+				_	-	
Pentachlorophenol	mg/kg	1		100							+	1	+			1		
Phenol	mg/kg	0.5		3000	 	+	+				<0.5	<0.5	<0.5	_	<0.5	_	_	-
Phenols (Total Halogenated)	mg/kg	1		3000		+	 		1	<u> </u>	10.5	10.3	+ 30.5	 	10.5	<u>-</u>	-	+
Phenols (Total Non Halogenated)	mg/kg	20				+	+				+	+	+				<u> </u>	
tetrachlorophenols	mg/kg	1				+	 		1	<u> </u>	+	+	+			-	+	+
2,4,5-Trichlorophenoxy acetic acid	mg/kg	1			 	+	+				<0.5	<0.5	+	+		_	_	
2,4-Dichlorophenoxy acetic acid	mg/kg	 				+	+				<0.5	<0.5	+			†	+	+
2-Methyl-4-chlorophenoxy acetic acid	mg/kg					+	+	+	+	+	<0.5	<0.5	+		+	†	+	
2-Methyl-4-Chlorophenoxy butanoic acid	mg/kg	+				+	+	+			<0.5	<0.5	+	+	+	+	+	
PCBs	IIIg/Kg					+				<u> </u>	\U.J	\U.J	+			1	+	
Arochlor 1221	mg/kg	0.1			1	+	+				<0.1	<0.1	+	-		_	+	
Arochior 1221 Aroclor 1016		0.1			1	+		1		+	<0.1	<0.1	+	+	+	-	-	+
Aroclor 1016 Aroclor 1232		0.1			1	+	+	+			<0.1	<0.1	+	+				+
					-	+	+	1					+	+		-	-	
Arodor 1242		0.1			-	-	+				<0.1	<0.1 <0.1	+	+		-	-	
Aroclor 1248		0.1				+	1	1			<0.1		+		1	-	-	
Aroclor 1254	mg/kg	0.1			1	1	1				<0.1	<0.1	+			-	-	
Aroclor 1260		0.1				+		1			<0.1	<0.1	+	-		-	-	+
PCBs (Sum of total)	mg/kg	0.1		1	ļ	 	+	1		1	<0.1	<0.1	<0.1	-	<0.1	-	-	-
INORGANICS		<u> </u>			ļ		-	-		ļ					-	 		
Cyanide (Free)	mg/kg	5		250		1	 				<5	<5				-	-	
Cyanide WAD	mg/kg												<1		<1	1		
Sulphide	mg/kg							1										

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil

^{2:} NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand, 0m to <1m

TP17-1.5

TP12-6.0

SM16-0.2

SM17_1.0

SM19_1.0

SM20_0.5

SM22_1.0

SM24_2.0

SM28_1.5

SM29_1.0

TP9-1.0

Field_ID SM11_1.0

SM14-0.5

SM15-0.5



			,	_	SM11_1.0	SM14-0.5	SM15-0.5	SM16-0.2	SM17_1.0	SM19_1.0	SM20_0.5	SM22_1.0	SM24_2.0	SM28_1.5	SM29_1.0	TP9-1.0	TP12-6.0	TP17-1.5
			,	Depth (m)	-	0.5	0.5	0.2	1	1	0.5	1	2	1.5	1	1	6	1.5
			,	Sampled_Date		2/06/2016	3/06/2016	3/06/2016	31/05/2016	30/05/2016	6/06/2016	6/06/2016		7/06/2016	7/06/2016	25/02/2014	25/02/2014	25/02/2014
				Soil Type		Fill	Fill	Fill	Fill	Fill	Fill	Fill						
				Location	Zone 1	Zone 1	Zone 3	Zone 3	Zone 3	Zone 5	Zone 5	Zone 2	Zone 5	Zone 2	Zone 2	Zone 1	Zone 1	Zone 1
		!	Maintenance of	Human Health ³														
ChemName	Units	EQL	Ecosystems ¹	numan neam														
PAHs						1	1	1										
Acenaphthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	0.6	<0.5	<0.5	<0.5
Benzo(a)pyrene	mg/kg	0.5	0.7		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	0.6	<0.5	< 0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	0.7	<0.5	<0.5	<0.5
Benzo[b+j]fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	0.6	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.5	<0.5	1.7	0.8	<0.5	<0.5
Fluorene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 <0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 <0.5
Phenanthrene Dyrono	mg/kg	0.5			<0.5 <0.5	<0.5	0.5 2.5	<0.5 <0.5	1.7	0.6	<0.5 <0.5	<0.5						
Pyrene Total PAHs	mg/kg mg/kg	0.5		300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	11.2	<0.5	6.9	2.1	<0.5	<0.5
Benzo(a)pyrene TEQ (half LOR)	mg/kg mg/kg	0.5		300	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	11.2	0.6	1	- 2.1	\(\cdot\). 3	\0.3
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5		3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	2	1.2	1.3	+	+	+
PHENOLS	IIIg/ Ng	0.5		J		1.2	1.2	1.2	1.2	1.2	1.2	1.2		1.2	1.3			+
2,4,5-trichlorophenol	mg/kg	0.5			<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-		1	
2,4,6-trichlorophenol	mg/kg	0.5			<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-			
2,4-dichlorophenol	mg/kg	0.5			<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-			
2,4-dimethylphenol	mg/kg	0.5			<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-			
2,4-dinitrophenol	mg/kg	5				-	-	-			-	-		-	-			
2,6-dichlorophenol	mg/kg	0.5			<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-			
2-chlorophenol	mg/kg	0.5			<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-			
2-methylphenol	mg/kg	0.2									 					<0.2	<0.2	<0.2
2-nitrophenol	mg/kg	0.5			<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	0.4		
3-&4-methylphenol	mg/kg	0.4			<1	-	-	<1	<1	-	-	<1	<1	<1	-	<0.4	<0.4	<0.4
4,6-Dinitro-2-methylphenol	mg/kg	20				-	-	-	+	+	-	-	+	-	-		+	+
4,6-Dinitro-o-cyclohexyl phenol 4-chloro-3-methylphenol	mg/kg mg/kg	0.5			<0.5	-	-	<0.5	<0.5	_	-	<0.5	<0.5	<0.5	-	-	+	
4-nitrophenol	mg/kg	5			10.5		_		 	+			10.5				+	+
Dinoseb	mg/kg	20				_	_	_	+	+	_	-	+	-	_	+	+	+
Pentachlorophenol	mg/kg	1		100					+	-	+	+	+	+	+	<1	<1	<1
Phenol	mg/kg	0.5		3000	<0.5	-	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5
Phenols (Total Halogenated)	mg/kg	1			1	-	-	-			-	-	1	-	-			
Phenols (Total Non Halogenated)	mg/kg	20				-	-	-			-	-		-	-			
tetrachlorophenols	mg/kg	1				-	-	-			-	-		-	-			
2,4,5-Trichlorophenoxy acetic acid	mg/kg	<u> </u>			4			1								<0.5	<0.5	<0.5
2,4-Dichlorophenoxy acetic acid	mg/kg	 '			4			1						+		<0.5	<0.5	<0.5
2-Methyl-4-chlorophenoxy acetic acid	mg/kg	 '							+				+	+		<0.5	<0.5	<0.5
2-Methyl-4-Chlorophenoxy butanoic acid	mg/kg	 '			₩				+	+	+	+	+	+	+	<0.5	<0.5	<0.5
PCBs	no a /1:-	0.1							+	+	+	+	+	+	+	-O 1	-0.1	<0.1
Arochlor 1221 Aroclor 1016	mg/kg	0.1				-	-	-	+	+	-	-	+	-	-	<0.1 <0.1	<0.1 <0.1	<0.1 <0.1
Aroclor 1016 Aroclor 1232	mg/kg mg/kg	0.1				-	-	-	+	+	-	-	+	-	-	<0.1	<0.1	<0.1
Aroclor 1232 Aroclor 1242	mg/kg mg/kg	0.1				-	-	-	+	+	-	-	+	-	-	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	0.1				-	_	-	<u> </u>	+	_	-	+	_	-	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	0.1				-	-	-	<u> </u>	+	-	-	+	-	-	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	0.1				-	-	-	<u> </u>	+	-	-	<u> </u>	-	-	<0.1	<0.1	<0.1
PCBs (Sum of total)	mg/kg	0.1		1	<0.1	-	-	<0.1	<0.1	-		<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1
INORGANICS																		
Cyanide (Free)	mg/kg	5		250		-	-	-			-	-		-	-	<5	<5	<5
Cyanide WAD	mg/kg				<1			<1	<1			<1	<1	<1				
Sulphide	mg/kg	1			4	1	1	1	1	1	1	1		1	1	1.1	1.2	<1

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil

^{2:} NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand, 0m to <1m

TP41_1.0

TP40-2.0

TP27-0.5

TP29_3.0

TP30_3.0

TP32-0.2

TP34_1.0

TP35-0.2

TP37_2.0

TP38_2.0

TP40-0.2

Field_ID TP21-3.0

TP24-0.2

TP26-1.0



					TP21-3.0	TP24-0.2	TP26-1.0	TP27-0.5	TP29_3.0	TP30_3.0	TP32-0.2	TP34_1.0	TP35-0.2	TP37_2.0	TP38_2.0	TP40-0.2	TP40-2.0	TP41_1.0
				Depth (m)		0.2	2/05/2055	0.5	37/05/22:5	3	0.2	1	0.2	20/05/2010	2	0.2	2 /05/2015	1
				Sampled_Date		- 	2/06/2016	2/06/2016	27/05/2016		2/06/2016	30/05/2016	3/06/2016	26/05/2016	27/05/2016	2/06/2016	2/06/2016	26/05/2016
				Soil Type Location		Fill Zone 1	Fill Zone 1	Fill Zone 1	Fill Zone 1	Foundry waste Zone 1	Zone 1	Fill Zone 1	Fill Zone 1	Zone 1	te Foundry waste Zone 1	Zone 1	Fill Zone 1	Foundry waste Zone 1
			_	Location	Zone 1	zone i	zone i	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	zone 1
	1	_	Maintenance of	Human Health ³														
ChemName	Units	EQL	Ecosystems ¹															
PAHs																		
Acenaphthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	mg/kg	0.5	0.7		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	mg/kg	0.5			<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5
Chrysene Benzo[b+i]fluoranthene	mg/kg mg/kg	0.5 0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	0.9	0.6	<0.5	<0.5	0.8	1.5	0.6	<0.5	<0.5	0.6
Pyrene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total PAHs	mg/kg	0.5		300	<0.5	<0.5	<0.5	<0.5	2.2	1.5	<0.5	<0.5	2.1	4.7	2.1	<0.5	<0.5	1.4
Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5		3			0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5		3			1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
PHENOLS																		
2,4,5-trichlorophenol	mg/kg	0.5				ļ	-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	<0.5	<0.5
2,4,6-trichlorophenol	mg/kg	0.5					-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	<0.5	<0.5
2,4-dichlorophenol	mg/kg	0.5					-	<0.5 <0.5	-	<0.5 <0.5	-	-	<0.5	-	<0.5 <0.5	-	<0.5 <0.5	<0.5 <0.5
2,4-dimethylphenol 2,4-dinitrophenol	mg/kg mg/kg	0.5				-	-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	<0.5	<0.5
2,6-dichlorophenol	mg/kg	0.5					-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	<0.5	<0.5
2-chlorophenol	mg/kg	0.5					_	<0.5	_	<0.5	_	_	<0.5	_	<0.5	_	<0.5	<0.5
2-methylphenol	mg/kg	0.2			<0.2	<0.2		10.5	+	10.5	1		٧٥.5		10.5		10.5	10.5
2-nitrophenol	mg/kg	0.5					-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	<0.5	<0.5
3-&4-methylphenol	mg/kg	0.4			< 0.4	< 0.4	-	<1	-	<1	-	-	<1	-	<1	-	<1	<1
4,6-Dinitro-2-methylphenol	mg/kg	5					-	-			-		-			-	-	
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	20					-	-			-		-			-	-	
4-chloro-3-methylphenol	mg/kg	0.5					-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	<0.5	<0.5
4-nitrophenol	mg/kg	5					-	-			-		-			-	-	
Dinoseb	mg/kg	20					-	-			-		-			-	-	
Pentachlorophenol	mg/kg	1		100	<1	<1						-						
Phenol	mg/kg	0.5		3000	<0.5	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	<0.5	<0.5
Phenois (Total Halogenated)	mg/kg	20					-	-	+	+	-	+	-			-	-	+
Phenols (Total Non Halogenated) tetrachlorophenols	mg/kg mg/kg	2U 1				+	-	-	+	+	-	+	-		1	-	-	+
2,4,5-Trichlorophenoxy acetic acid	mg/kg mg/kg	1			<0.5	<0.5	 	-	+	+	-	+	 			-	-	+
2,4-Dichlorophenoxy acetic acid	mg/kg				<0.5	<0.5	1		<u> </u>	+	1		†		1			+
2-Methyl-4-chlorophenoxy acetic acid	mg/kg				<0.5	<0.5				+	1		1		1			
2-Methyl-4-Chlorophenoxy butanoic acid	mg/kg				<0.5	<0.5	1		<u> </u>	 			1			1		
PCBs	5, 0								1	\top								
Arochlor 1221	mg/kg	0.1			<0.1	<0.1	-	-			-		-			-	-	
Aroclor 1016	mg/kg	0.1			<0.1	<0.1	-	-			-		-			-	-	
Aroclor 1232	mg/kg	0.1			<0.1	<0.1	-	-			-		-			-	-	
Aroclor 1242	mg/kg	0.1			<0.1	<0.1	-	-			-		-			-	-	
Aroclor 1248	mg/kg	0.1			<0.1	<0.1	-	-			-	1	-			-	-	
Aroclor 1254	mg/kg	0.1			<0.1	<0.1	-	-			-	-	-			-	-	
Aroclor 1260	mg/kg	0.1			<0.1	<0.1	-	0.4	+		-	-				-	0.1	.0.1
PCBs (Sum of total)	mg/kg	0.1		1	<0.1	<0.1	-	<0.1		<0.1	-	-	<0.1	-	<0.1	-	<0.1	<0.1
INORGANICS	m a /1:=	-		250		.F	+	1	+	+		+	+	+		+		+
Cyanide (Free) Cyanide WAD	mg/kg	5		250	<5	<5	-	<1	+	<1	-		<1		<1	-	<1	<1
Cyanide WAD Sulphide	mg/kg mg/kg				2.9	<1	+		+	+ '1	1	+	\ \	+	<u></u>	1		1 1
13ulphiluc	IIIIg/Kg	1			2.3	/1	1	I			1	I	1	1		1		ı

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil

^{2:} NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand, 0m to <1m

TP74_0.2

TP49_2.0

TP50_4.0

TP55_2.0

TP59_2.0

TP62_0.5

TP65_0.5

TP68_.0

TP73_1.0

TP47-0.5

Field_ID TP44_0.5



				Field_ID Depth (m)	TP44_0.5	TP45_0.5 0.5	TP47-0.5 0.5	TP49_2.0	TP50_4.0	TP55_2.0	TP59_2.0	TP62_0.5 0.5	TP65_0.5 0.5	TP680	TP73_1.0	0.2 TP74_0.2
				Sampled_Date		26/05/2016	3/06/2016	31/05/2016	31/05/2016	30/05/2016	30/05/2016	6/06/2016	6/06/2016	7/06/2016	7/06/2016	7/06/2016
				Soil Type		Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	7/06/2016 Fill	Fill	Fill
				Location		Zone 1	Zone 3	Zone 3	Zone 3	Zone 5	Zone 5	Zone 2	Zone 2	Zone 2	Zone 2	Zone 2
				Location	ZOTIE I	Zone 1	Zone 3	Zone 3	Zone 3	Zone 3	Zone 3	Zone Z	ZOTIE Z	ZONE Z	Zone Z	ZOTIC Z
			Maintenance of	Human Health ³												
ChemName	Units	EQL	Ecosystems ¹	Huillali Healtii												
PAHs							1	1								
Acenaphthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	mg/kg	0.5	0.7		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo[b+j]fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5
Dibenz(a,h)anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	0.7	<0.5	0.7	0.7	<0.5
Fluorene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	0.7	<0.5	0.7	0.8	<0.5
Total PAHs	mg/kg	0.5		300	0.6	<0.5	<0.5	<0.5	0.7	1.7	<0.5	1.4	<0.5	1.4	2.1	<0.5
Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5		3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5		3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
PHENOLS								0.5	2.5	+				0.5		0.5
2,4,5-trichlorophenol	mg/kg	0.5			-	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	-	<0.5
2,4,6-trichlorophenol	mg/kg	0.5			-	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	-	<0.5
2,4-dichlorophenol	mg/kg	0.5			-	<0.5 <0.5	-	<0.5 <0.5	<0.5 <0.5	-	<0.5 <0.5	-	-	<0.5 <0.5	-	<0.5
2,4-dimethylphenol	mg/kg	0.5			-	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	-	<0.5
2,4-dinitrophenol 2,6-dichlorophenol	mg/kg mg/kg	0.5			_	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	-	<0.5
2-chlorophenol	mg/kg	0.5			-	<0.5	-	<0.5	<0.5	-	<0.5		-	<0.5		<0.5
2-methylphenol	mg/kg	0.2				\0.5	_	\0.3	\0.5	<u> </u>	\(\cdot\)		 	\(\cdot\)	<u> </u>	V0.5
2-nitrophenol	mg/kg	0.5			_	<0.5	_	<0.5	<0.5	_	<0.5	_	_	<0.5	_	<0.5
3-&4-methylphenol	mg/kg	0.4			_	<1	_	<1	<1	_	<1	_	_	<1	-	<1
4,6-Dinitro-2-methylphenol	mg/kg	5				1.2	_	12	1-1-		`-	_	_	-	_	-
4,6-Dinitro-o-cyclohexyl phenol	mg/kg	20					_					_	_	_	_	_
4-chloro-3-methylphenol	mg/kg	0.5			_	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	-	<0.5
4-nitrophenol	mg/kg	5					-					-	-	-	-	-
Dinoseb	mg/kg	20					-					-	-	-	-	-
Pentachlorophenol	mg/kg	1		100												
Phenol	mg/kg	0.5		3000	-	<0.5	-	<0.5	<0.5	-	<0.5	-	-	<0.5	-	<0.5
Phenols (Total Halogenated)	mg/kg	1					-		<u> </u>		<u> </u>	-	-	-	-	-
Phenols (Total Non Halogenated)	mg/kg	20					-					-	-	-	-	-
tetrachlorophenols	mg/kg	1					-					-	-	-	-	-
2,4,5-Trichlorophenoxy acetic acid	mg/kg															
2,4-Dichlorophenoxy acetic acid	mg/kg							1								
2-Methyl-4-chlorophenoxy acetic acid	mg/kg					1				1						
2-Methyl-4-Chlorophenoxy butanoic acid	mg/kg															
PCBs		1				1				1			1		1	
Arochlor 1221	mg/kg	0.1				+	-	1		+	-	-	-	-	-	-
Aroclor 1016	mg/kg	0.1				1	-	1		1		-	-	-	-	-
Aroclor 1232	mg/kg	0.1				1	-	1	+	1	1	-	-	-	-	-
Aroclor 1242	mg/kg	0.1				+	-			+		-	-	-	-	-
Aroclor 1248	mg/kg	0.1				1	-			1		-	-	-	-	-
Aroclor 1254 Aroclor 1260	mg/kg	0.1				1	-			1		-	-	-	-	-
Arocior 1260 PCBs (Sum of total)	mg/kg mg/kg	0.1		1		<0.1	-	<0.1	<0.1	+	0.2	-	-	<0.1	-	<0.1
INORGANICS	mg/kg	0.1		1	_	\U.1	-	\U.1	\U.1	 	0.2	+ -	-	VU.1	-	\U.1
Cyanide (Free)	mg/kg	5		250		+	_		+	+		_	_	_	_	_
Cyanide WAD	mg/kg	,		230		<1	 	<1	<1	+	<1	+ -	-	<1	+ -	<1
Sulphide	mg/kg	+				``		``	``	1	``		+	`1	+	`1
ou.p.nac	1116/ NB					1	1	1	1	1	1	1	1	<u> </u>		1

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil

^{2:} NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space

^{3:} NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand, 0m to <1m





				Field_ID		SED-2	SED-4	SED-5	SED-6	SED-7	SED-8	SED-9	SED-11	SED-13	SM1_1.0	SM4_3.0	SM11_1.0	SM16-0.2	SM17_1.0	SM22_1.0
				Depth (m)		0.2	0.1	0.1	1.0	0.5	0.1	0.1	0.1	0.1	1	3	1	0.2	1	1
				Sampled_Date		_	27/03/2014	27/03/2014	27/03/2014	27/03/2014	5/03/2014	5/03/2014	5/03/2014	5/03/2014	26/05/2016 Fill	27/05/2016	27/05/2016	3/06/2016 Fill	31/05/2016	6/06/2016
				Soil Type Location	Sediment	Sediment Zone 4	Sediment Zone 4	Sediment Zone 4	Sediment Zone 4	Sediment Zone 4	Sediment Zone 4	Sediment Zone 4	Sediment Zone 4	Sediment Zone 4	Zone 1	Zone 1	Fill Zone 1	Zone 3	Fill Zone 3	Fill Zone 2
		ŗ	Maintenance of	Location	20110 4	20110 4	ZONC 4	Zone 4	Zone 4	Zone 4	20110 4	ZONC 4	Zone 4	Zone 4	Zone 1	Zone 1	Zone 1	ZONC 3	Zone 3	Zone Z
ChemName	Units	EQL	Ecosystems ¹	Human Health ³																
OCPs	Onits																			
4,4-DDE	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	mg/kg	0.05			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin + Dieldrin	mg/kg	0.05		6											<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
b-BHC	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlordane cis-Chlordane	mg/kg mg/kg	0.1		50	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
d-BHC	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	_	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDD	mg/kg	0.05			< 0.05	<0.05	<0.05	< 0.05	<0.05	< 0.05	< 0.05	<0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT	mg/kg	0.05	180 ²		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
DDT+DDE+DDD	mg/kg	0.05		240											<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan	mg/kg	0.05 0.05		270	-0.0F	-0.0F	<0.0F	<0.0F	20 OF	-0.0F	-0.0F	-0.0F	<0.0F	20 OF	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan I Endosulfan II	mg/kg mg/kg	0.05			<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
Endosulfan sulphate	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	mg/kg	0.05		10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin ketone	mg/kg	0.05			<0.05	< 0.05	< 0.05	<0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
g-BHC (Lindane)	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	mg/kg	0.05 0.05		6	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
Heptachlor epoxide Hexachlorobenzene	mg/kg mg/kg	0.05		10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	mg/kg	0.05		300	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toxaphene	mg/kg	1		20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				-		-
trans-chlordane	mg/kg	0.05													< 0.05	<0.05	< 0.05	<0.05	<0.05	<0.05
OPPs																				
Azinophos methyl	mg/kg	0.05			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	mg/kg	0.05												+	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion Chlorfenvinphos	mg/kg mg/kg	0.05				+	+	+	+	+		+	+	+	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
Chlorpyrifos	mg/kg	0.05		160	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	mg/kg	0.05													<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	mg/kg	0.05													< 0.05	<0.05	< 0.05	<0.05	<0.05	<0.05
Diazinon	mg/kg	0.05			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorvos	mg/kg	0.05			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dimethoate Ethion	mg/kg mg/kg	0.05 0.05			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	+	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
Fenamiphos	mg/kg	0.05			<u> </u>	<0.2	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	+	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	mg/kg	0.05				_	+	+		+		+	+	+	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Malathion	mg/kg	0.05												1	< 0.05	<0.05	< 0.05	<0.05	<0.05	<0.05
Methyl parathion	mg/kg	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	<0.2
Monocrotophos	mg/kg	0.2						<u> </u>					<u> </u>		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion	mg/kg	0.2					+	+	+	+		+	+	+	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05	<0.2	<0.2 <0.05
Pirimphos-ethyl Prothiofos	mg/kg mg/kg	0.05				+	+	+	+	+	+	+	+	+	<0.05	<0.05	<0.05	<0.05	<0.05 <0.05	<0.05
Bolstar (Sulprofos)	mg/kg	0.03			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	10.03	10.05	10.05	10.05	10.05	10.05
Demeton-O	mg/kg				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-				<u> </u>	<u> </u>	<u> </u>
Disulfoton	mg/kg				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-						
Ethoprop	mg/kg	/			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-						
Fenitrothion	mg/kg	/			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	+	+		+	+	+	+
Fensulfothion Fenthion	mg/kg mg/kg	+			<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 <0.2	<0.2 <0.2	-	+	+	+	+	+	+
Merphos	mg/kg	+			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	+	+	+	+	+	+
Mevinphos (Phosdrin)	mg/kg	+			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	1	 	1		1	
Naled (Dibrom)	mg/kg				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-						
Phorate	mg/kg	$\perp \perp \perp \rfloor$			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-						
Ronnel	mg/kg	/			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-			+	+	+	+
Trichloronate	mg/kg mg/kg	+			<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 <0.2	<0.2 <0.2	-	+		+	+	+	+
Tokuthion HERBICIDE / INSECTICIDE	rng/kg	+			<u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></u.z<></td></u.z<></td></u.z<></td></u.z<></td></u.z<></td></u.z<></td></u.z<></td></u.z<></td></u.z<>	<u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></u.z<></td></u.z<></td></u.z<></td></u.z<></td></u.z<></td></u.z<></td></u.z<></td></u.z<>	<u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></u.z<></td></u.z<></td></u.z<></td></u.z<></td></u.z<></td></u.z<></td></u.z<>	<u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></u.z<></td></u.z<></td></u.z<></td></u.z<></td></u.z<></td></u.z<>	<u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></u.z<></td></u.z<></td></u.z<></td></u.z<></td></u.z<>	<u.z< td=""><td><u.z< td=""><td><u.z< td=""><td><u.z< td=""><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></u.z<></td></u.z<></td></u.z<></td></u.z<>	<u.z< td=""><td><u.z< td=""><td><u.z< td=""><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></u.z<></td></u.z<></td></u.z<>	<u.z< td=""><td><u.z< td=""><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></u.z<></td></u.z<>	<u.z< td=""><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></u.z<>	+	+	+	+	+	+	+
Atrazine	mg/kg	0.05		320	<0.2	-	-		_	-	_			<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bifenthrin	mg/kg	0.05		600	<2	-	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Mirex	mg/kg	0.05		10	< 0.01	-	-	-	-			-	-	<0.05	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
In a	mg/kg				< 0.5	-	-	-	_	_	_	_	-	< 0.5						
Mecoprop Picloram	mg/kg			<u> </u>	< 0.01				+			+		< 0.01					-	

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil
2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space
3: NEPM (2013) Health Investigation Levels - Residential Setting A
4: NEPM (2013) Health Screening Levels - Low-high density residential, sand, 0m to <1m



TP17-1.5

TP24-0.2

TP27-0.5

TP35-0.2

TP38_2.0

TP40-2.0

TP41_1.0

Field_ID SM24_2.0

Depth (m) 2

SM28_1.5



				Sampled_Date	30/05/2016	7/06/2016	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014	2/06/2016	27/05/2016	3/06/2016	27/05/2016	2/06/2016	26/05/2016	26/05/2016	31/05/2016	31/05/2016
				Soil Type	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Foundry waste		Foundry waste	e Fill	Foundry waste	: Fill	Fill	Fill
				Location	Zone 5	Zone 2	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 3	Zone 3
			Maintenance of	,																
ChemName	Units	EQL	Ecosystems ¹	Human Health³																
	Offics	EQL	<u> </u>																	
OCPs 4,4-DDE	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
a-BHC	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	mg/kg	0.05			<0.05	<0.05	< 0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin + Dieldrin	mg/kg	0.05		6	0.06	<0.05	10100	10.03	10.03	10103		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
b-BHC	mg/kg	0.05			<0.05	<0.05	1	1				< 0.05	<0.05	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05
Chlordane	mg/kg	0.1		50		-	0.5	<0.1	<0.1	<0.1	<0.1	-		-		-				
cis-Chlordane	mg/kg	0.05			<0.05	<0.05						<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
d-BHC	mg/kg	0.05			<0.05	<0.05						<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDD	mg/kg	0.05	?		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DDT DDT+DDE+DDD	mg/kg mg/kg	0.05	180 ²	240	<0.2 <0.05	<0.2 <0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05
Dieldrin	mg/kg	0.05		240	0.06	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan	mg/kg	0.05		270	<0.05	<0.05	0.00	(0.03	٧٥.03	10.03	10.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan I	mg/kg	0.05			<0.05	<0.05	< 0.05	<0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulphate	mg/kg	0.05			<0.05	<0.05	< 0.05	<0.05	< 0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	mg/kg	0.05		10	<0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	mg/kg	0.05			< 0.05	<0.05						<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin ketone	mg/kg	0.05			<0.05	<0.05						<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
g-BHC (Lindane)	mg/kg	0.05			<0.05	<0.05	-0.05	-0.05	40.0F	-0.05	-0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	mg/kg mg/kg	0.05		6	<0.05 <0.05	<0.05 <0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
Heptachlor epoxide Hexachlorobenzene	mg/kg	0.05		10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	mg/kg	0.05		300	<0.2	<0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.03	<0.03	<0.03	<0.2	<0.2	<0.2	<0.2	<0.2
Toxaphene	mg/kg	1		20	10.2	-	<1	<1	<1	<1	<1	-	10.2	-	10.2	-	10.2	10.2	10.2	10.2
trans-chlordane	mg/kg	0.05			<0.05	<0.05	1	1				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
OPPs							1								1					
Azinophos methyl	mg/kg	0.05			<0.05	<0.05						<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	mg/kg	0.05			<0.05	<0.05						<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	mg/kg	0.05			<0.05	<0.05						<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	mg/kg	0.05		150	<0.05	<0.05						<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	mg/kg	0.05		160	<0.05	<0.05	<0.2	<0.2	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl Demeton-S-methyl	mg/kg	0.05			<0.05 <0.05	<0.05 <0.05	+	+	+	+	+	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05	<0.05 <0.05
Diazinon	mg/kg mg/kg	0.05			<0.05	<0.05	+	+	+	+	+	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorvos	mg/kg	0.05			<0.05	<0.05	+	+	 	+	+	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dimethoate	mg/kg	0.05			<0.05	<0.05	+	<u> </u>	+	+		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	mg/kg	0.05			<0.05	<0.05	1	1				<0.05	<0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	mg/kg	0.05			< 0.05	<0.05				·]		<0.05	<0.05	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	< 0.05
Fenthion	mg/kg	0.05			<0.05	<0.05						<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Malathion	mg/kg	0.05			<0.05	<0.05						<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl parathion	mg/kg	0.2			<0.2	<0.2	+					<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Monocrotophos	mg/kg	0.2			<0.2	<0.2	+	+		+	+	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion Pirimphos-ethyl	mg/kg mg/kg	0.2			<0.2 <0.05	<0.2 <0.05	+	+	+	+	+	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05	<0.2 <0.05
Pirimphos-ethyl Prothiofos	mg/kg mg/kg	0.05			<0.05	<0.05	+	+	+	+	+	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bolstar (Sulprofos)	mg/kg	0.03			\U.U3	~0.03	+	+	+	+	+	\0.03	<u> </u>	\0.03	~0.03	~0.03	\(\cdot \).03	~0.03	\(\cdot \)	\0.03
Demeton-O	mg/kg	+				+	1	†	 	†	+	1	†		1	1	+	1	1	1
Disulfoton	mg/kg	1				1	1	1	1	1	1	1	T		1	1	1	1	1	1
Ethoprop	mg/kg															<u> </u>			<u> </u>	
Fenitrothion	mg/kg															I				
Fensulfothion	mg/kg													<u> </u>						
Fenthion	mg/kg	'			4								 '							 '
Merphos	mg/kg	 '			4	+	+	+	+	+	+	+	 	 	+	+	+	+	+	
Mevinphos (Phosdrin)	mg/kg	 '			4		+	+	+	+		+	+	 	+	+	+		+	 '
Naled (Dibrom)	mg/kg mg/kg	+				+	+	+	+	+	+	+	+	 	+	+	+	+	+	+
Phorate Ronnel	mg/kg mg/kg	+			+	+	+	+	+	+	+	+	+	 	+	+	+	+	+	+
Trichloronate	mg/kg	+			$\overline{}$	+	+	+		+	+	+	+	 	+	+	+	+	+	+
Tokuthion	mg/kg	+			 	+	1	†		+	1	†	†		+	1	+		1	+
HERBICIDE / INSECTICIDE		\top				1	1	1	1	1		1	 		1	†	1	1	1	1
Atrazine	mg/kg	0.05		320	<0.05	<0.05	<0.2	<0.2	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bifenthrin	mg/kg	0.05		600	<0.05	<0.05	<2	<2	<2	<2	<2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Mirex	mg/kg	0.05		10	<0.2	<0.2	<0.01	<0.01	< 0.01	< 0.01	< 0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Mecoprop	mg/kg	1		4	4	1	< 0.5	< 0.5	40 F	.0. =	40 F	1	1	1	1	1	1	1	1	
Picloram	mg/kg						<0.01	<0.01	<0.5 <0.01	<0.5 <0.01	<0.5 <0.01	4	4							

^{1:} NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil
2: NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space
3: NEPM (2013) Health Investigation Levels - Residential Setting A
4: NEPM (2013) Health Screening Levels - Low-high density residential, sand, 0m to <1m



				Field_ID	TP59 2.0	TP68 .0	TP74 0.2
				Depth (m)		0	0.2
				Sampled Date		7/06/2016	7/06/2016
						Fill	Fill
				Soil Type			
				Location	Zone 5	Zone 2	Zone 2
			Maintenance of				
				Human Health ³			
ChemName	Units	EQL	Ecosystems ¹				
OCPs .							
1,4-DDE	ma/ka	0.05			<0.05	<0.05	<0.05
,	mg/kg	0.05					
a-BHC	mg/kg	0.05			<0.05	<0.05	<0.05
Aldrin	mg/kg	0.05			<0.05	< 0.05	<0.05
Aldrin + Dieldrin	mg/kg	0.05		6	< 0.05	< 0.05	< 0.05
o-BHC	mg/kg	0.05			< 0.05	< 0.05	< 0.05
Chlordane	mg/kg	0.1		50			_
	mg/kg	0.05		30	<0.05	<0.05	<0.05
cis-Chlordane							
I-BHC	mg/kg	0.05			<0.05	<0.05	<0.05
DDD	mg/kg	0.05			< 0.05	< 0.05	< 0.05
DDT	mg/kg	0.05	180 ²		<0.2	<0.2	<0.2
DDT+DDE+DDD	mg/kg	0.05		240	<0.05	<0.05	<0.05
Dieldrin	mg/kg	0.05		240	<0.05	<0.05	<0.05
				270			
ndosulfan	mg/kg	0.05		270	<0.05	<0.05	<0.05
Endosulfan I	mg/kg	0.05			<0.05	<0.05	<0.05
Endosulfan II	mg/kg	0.05			< 0.05	< 0.05	<0.05
Endosulfan sulphate	mg/kg	0.05			< 0.05	< 0.05	< 0.05
Endrin	mg/kg	0.05		10	<0.05	< 0.05	<0.05
Endrin aldehyde		0.05		10	<0.05	<0.05	<0.05
	mg/kg						
Endrin ketone	mg/kg	0.05			<0.05	<0.05	<0.05
g-BHC (Lindane)	mg/kg	0.05			<0.05	<0.05	<0.05
Heptachlor	mg/kg	0.05		6	< 0.05	< 0.05	<0.05
Heptachlor epoxide	mg/kg	0.05			< 0.05	< 0.05	< 0.05
Hexachlorobenzene	mg/kg	0.05		10	<0.05	<0.05	<0.05
Methoxychlor		0.05		300	<0.2	<0.2	<0.2
,	mg/kg				<0.2		
Toxaphene	mg/kg	1		20		-	-
rans-chlordane	mg/kg	0.05			< 0.05	< 0.05	< 0.05
OPPs							
Azinophos methyl	mg/kg	0.05			< 0.05	< 0.05	< 0.05
Bromophos-ethyl	mg/kg	0.05			<0.05	<0.05	<0.05
					<0.05		<0.05
Carbophenothion	mg/kg	0.05				<0.05	
Chlorfenvinphos	mg/kg	0.05			<0.05	<0.05	<0.05
Chlorpyrifos	mg/kg	0.05		160	< 0.05	< 0.05	< 0.05
Chlorpyrifos-methyl	mg/kg	0.05			< 0.05	< 0.05	< 0.05
Demeton-S-methyl	mg/kg	0.05			< 0.05	< 0.05	< 0.05
Diazinon	mg/kg	0.05			<0.05	<0.05	<0.05
Dichloryos	mg/kg	0.05			<0.05	<0.05	<0.05
Dimethoate	mg/kg	0.05			<0.05	<0.05	<0.05
Ethion	mg/kg	0.05			<0.05	<0.05	<0.05
enamiphos	mg/kg	0.05			< 0.05	< 0.05	<0.05
enthion	mg/kg	0.05			< 0.05	< 0.05	< 0.05
Malathion	mg/kg	0.05			<0.05	<0.05	<0.05
Methyl parathion	mg/kg	0.03			<0.2	<0.2	<0.2
Monocrotophos	mg/kg	0.2			<0.2	<0.2	<0.2
Parathion	mg/kg	0.2			<0.2	<0.2	<0.2
Pirimphos-ethyl	mg/kg	0.05			<0.05	< 0.05	<0.05
Prothiofos	mg/kg	0.05			< 0.05	< 0.05	< 0.05
Bolstar (Sulprofos)	mg/kg	1					
Demeton-O	mg/kg	1				1	1
		+				1	+
Disulfoton	mg/kg	+				-	+
Ethoprop	mg/kg					ļ	-
enitrothion	mg/kg					<u> </u>	
ensulfothion	mg/kg	<u></u>					
enthion	mg/kg						
Verphos	mg/kg					1	İ
Mevinphos (Phosdrin)	mg/kg	 				1	
		1				1	+
Naled (Dibrom)	mg/kg	1				_	
Phorate	mg/kg					<u> </u>	
Ronnel	mg/kg					1	
Trichloronate	mg/kg	1					
Tokuthion	mg/kg	†				1	
	mg/kg	1				+	+
HERBICIDE / INSECTICIDE		1				1	-
Atrazine	mg/kg	0.05		320	<0.05	< 0.05	<0.05
Bifenthrin	mg/kg	0.05		600	< 0.05	< 0.05	< 0.05
JII CIICIIIII							
	mø/kø	0.05		10	<0.7	<() /	<(1)
Mirex Mecoprop	mg/kg mg/kg	0.05		10	<0.2	<0.2	<0.2

NEPM (2013) Ecological Screening Levels - Urban Residential and Public Open Space, Coarse Soil
 NEPM (2013) Ecological Investigation Levels - Urban Residential and Public Open Space
 NEPM (2013) Health Investigation Levels - Residential Setting A

^{4:} NEPM (2013) Health Screening Levels - Low-high density residential, sand, 0m to <1m





	ſ	Field_ID	SM3_0.25	SM5-0.5	SM7-0.2	SM11_1.0	SM14-0.5	TP26-0.5	TP27-0.5	TP29_1.0	TP31_2.0	TP32-0.2	TP35-0.2	TP36-0.2	TP37_1.0	TP38_0.2	TP40-0.2	TP41_0.5	TP42_0.2	TP53-0.2	TP58-0.5	TP63_5.0
		Depth (m)	0.25	0.5	0.2	1	0.5	0.5	0.5	1	2	0.2	0.2	0.2	1	0.2	0.2	0.5	0.2	0.2	0.5	5
		Sampled_Date 2	27/05/2016	2/06/2016	2/06/2016	27/05/2016	2/06/2016	2/06/2016	2/06/2016	27/05/2016	27/05/2016	2/06/2016	3/06/2016	2/06/2016	26/05/2016	27/05/2016	2/06/2016	26/05/2016	26/05/2016	31/05/2016	30/05/2016	6/06/2016
		Soil Type	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Foundry waste	Fill	Fill	Fill	Foundry wast	e Fill	Fill	Foundry wast	e Fill	Fill	Fill	Fill
		Location	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 1	Zone 3	Zone 5	Zone 2
	Maintenance of	Human Health ³																				
ChemName	Ecosystems ¹	Tramair ricatii																				
ASBESTOS IN SOIL																						
Asbestos Deteted			No	No	No	No	No	No	No	No	No	No	Yes	No	No	No	No	No	No	No	No	No
Asbestos Type													(Ch + Am)									

Table 1E: Soil Results (Physical Properties) Huntingdale Estate 1221-1249 Centre Rd 22 Talbot Ave Oakleigh South

		Ī	Field_ID	BH4D-2.0	BH33-4.0	GB27A_0.5	GB46A_2.0	GB60_2.0	GB64_3.5	GB67_0.5	GB68-1.0	GB71_4.0	GB79_2.0	SM3_2.0	SM11_3.0	SM14-1.5	SM16-0.2	SM17_1.0	SM22_3.0	SM26_0.5	SM28_1.5	TP9-1.0	TP12-6.0	TP17-1.5	TP21-3.0	TP24-0.2
			Depth (m)	2	4	0.5	2	2	3.5	0.5	1	4	2	2	3	1.5	0.2	1	3	0.5	1.5	1	6	1.5	3	0.2
			Sampled_Date	15/08/2016	15/08/2016	21/06/2016	21/06/2016	22/06/2016	23/06/2016	23/06/2016	16/08/2016	21/06/2016	21/06/2016	27/05/2016	27/05/2016	2/06/2016	3/06/2016	31/05/2016	6/06/2016	7/06/2016	7/06/2016	25/02/2014	25/02/2014	25/02/2014	25/02/2014	25/02/2014
			Soil Type	Fill	Fill	Fill	Foundry wast	e Fill	Fill	Fill	Fill	Fill	Slimes	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
			Location	Zone 3	Zone 5	Zone 2	Zone 1	Zone 1	Zone 1	Zone 3	Zone 5	Zone 2	Zone 2	Zone 1	Zone 1	Zone 1	Zone 3	Zone 3	Zone 2	Zone 2	Zone 2	Zone 1				
			Buildings and																							
ChemName	Units	EQL	Structures ¹																							
SOIL PROPERTIES																										
pH (CaCl2)	pH Unit	0.1	<5.5	6.8	5.8	7.9	7.6	6.6	6.5	4.3	7.5	9.3	6.3	4.7	6.6	6.8	5.4	7.1	7.2	6.3	7.1	8	8.1	8.9	8.4	8.1
Cation Exchange Capacity	meq/100g	0.1		0.7	6.1	9.7	8	1.4	13.9	2.5	14.9	24.1	19													
Chloride	mg/kg	5		-	-	-	-	-	-	-	-	-	-	10	40	30	<10	<10	30	40	10	44	130	84	82	6.5
Sulphate (as SO₄)	mg/kg	50	5,000	-	-	-	-	-	-	-	-	-	-	<50	240	<50	<50	160	<50	480	380					

1: AS 2159-2009 Piling Design and Installation Limit for mild exposure classification of soil conditions A



_			_											Character-	
Bore Number	Date	Time	Barometric Pressure	Relative Pressure	Stable Flow	Peak Methane	Sustained Methane	Carbon Dioxide	Oxygen	Carbon Monoxide	Hydrogen Sulfide	GSV CH₄	GSV CO₂	istic	Comments
GB01	21-Mar-17	11:48	1004	0.00	0.0	0.0	0.0	8.0	12.6	0	0	NA	NA	Situation ¹	
GB02	21-Mar-17	11:42	1004	0.00	0.0	0.0	0.0	0.9	19.8	0	0	NA NA	NA NA	1	
GB03	21-Mar-17	10:31	1004	0.00	0.0	0.0	0.0	5.3	15.5	0	0	NA	NA	1	Good condition
GB04	21-Mar-17	10:26	1004	0.00	0.0	0.0	0.0	0.7	19.9	0	0	NA	NA	1	Grass growing in stickup
GB05	21-Mar-17	9:59	1004	0.00	0.0	32.9	32.8	15.3	0.0	0	0	NA	NA	2	Good condition
GB06 GB07	21-Mar-17 21-Mar-17	9:38	1004	0.00	0.0	0.0	0.0	3.2	17.6	0	0	NA	NA	1	Not sampled Good condition
GB08	21-Mar-17	9:08	1004	0.00	0.0	0.0	0.0	3.0	17.7	0	0	NA	NA	1	Good condition.
GB09	20-Mar-17	15:15	1003	0.00	0.0	0.0	0.0	2.2	18.5	0	0	NA	NA	1	Good condition.
GB10	20-Mar-17	15:10	1003	0.00	0.0	0.0	0.0	3.7	17.4	0	0	NA	NA	1	Good condition.
GB11	20-Mar-17	15:01	1003	0.00	0.0	0.0	0.0	6.9	14.5	1	0	NA	NA	1	Good condition.
GB12	20-Mar-17	14:55	1004	0.01	0.1	0.0	0.0	5.2	15.0	1	0	0.00	0.01	1	Good condition.
GB13 GB14	20-Mar-17 20-Mar-17	14:50 13:05	1006 1006	0.00	0.0	0.0	0.0	4.7 17.9	13.1 0.1	0	0	NA NA	NA NA	1 2	Good condition Good condition
GB15	20-Mar-17	12:40	1005	0.10	2.2	42.2	39.8	15.9	0.2	3	1	0.93	0.35	3	Good condition
GB16	20-Mar-17	12:35	1005	0.00	0.0	0.0	0.0	1.1	19.8	0	0	NA	NA	1	Good condition
GB17	20-Mar-17					Well De	stroyed								
GB18A	20-Mar-17	11:46	1006	0.00	0.0	0.0	0.0	8.6	9.6	0	0	NA	NA	1	Good condition.
GB19	20-Mar-17	11:30	1006	0.00	0.0	0.0	0.0	0.8	20.0	0	0	NA NA	NA NA	1	Good condition.
GB20 GB21A	20-Mar-17 20-Mar-17	11:08 10:50	1007	0.00	0.0	0.9 40.5	0.9 40.0	0.2	18.6 4.5	0.0	1.0	NA NA	NA NA	2	Good condition. Good condition
GB21A	20-Mar-17	14:17	1007	0.30	5.5	75.9	75.9	21.9	0.0	1	1.0	4.17	1.20	4	Good condition
GB25A	20-Mar-17	15:26	1002	0.24	5	19.1	19.1	8.8	0.0	0	0	0.96	0.44	3	Good condition
GB27A	21-Mar-17	11:23	1004	0	0	0.0	0.0	11.1	10.1	0	0	NA	NA	1	Good condition
GB28	21-Mar-17	11:06	1004	0.00	0.0	12.9	12.9	24.2	0.0	1	1	NA	NA	2	
GB29A	21-Mar-17	11:11	1004	0.00	0.0	0.1	0.0	14.7	8.6	0	0	NA NA	NA NA	1	Good condition
GB30 GB32	20-Mar-17 20-Mar-17	15:06 13:00	1003 1005	0.00	0.0 5.2	0.0 70.7	0.0 70.7	7.1 20.9	12.6 0.0	0	0	NA 3.68	NA 1.09	1	Good condition. Good condition
GB33A	21-Mar-17	14:14	1003	0.00	0.0	0.0	0.0	1.2	19.5	0	0	NA	NA	1	Good condition
GB36A	20-Mar-17	14:45	1007	0.05	1.4	0.0	0.0	6.0	5.2	0	0	0.00	0.08	2	Broken stickup cover. PVC seems ok
GB37	20-Mar-17	12:55	1005	0.01	0.3	64.2	64.2	23.1	0.0	5	1	0.19	0.07	2	Good condition
GB40	21-Mar-17	9:48	1004	0.00	0.0	0.0	0.0	3.2	17.5	0	0	NA	NA	1	Good condition.
GB41	21-Mar-17	9:43	1004	0.00	0.0	0.0	0.0	2.7	18.0	0	0	NA	NA	1	Good condition.
GB42 GB43 3.1	21-Mar-17 21-Mar-17	9:33 9:24	1004 1004	0.00	0.0	0.0	0.0	2.5 3.7	18.3 17.3	0	0	NA NA	NA NA	1	Good condition Good condition.
GB43 5.1	21-Mar-17	9:27	1004	0.00	0.0	0.0	0.0	0.0	20.6	0	0	NA NA	NA NA	1	Good condition.
GB44	21-Mar-17	-				Well De				-					
GB45	21-Mar-17	9:02	1004	0.00	0.0	0.3	0.0	4.7	16.2	0	0	NA	NA	1	Good condition
GB46A	20-Mar-17	11:25	1006	0.00	0	1.2	0.1	7.9	4.8	1	0	NA	NA	2	Good condition
GB47	20-Mar-17	11:40	1006	0.00	0.0	0.0	0.0	6.4	14.5	0	0	NA	NA	1	Good condition
GB48 GB49	20-Mar-17 20-Mar-17	13:10 11:55	1005 1007	0.00	0.0	0.0	0.0	6.9 2.1	12.6 18.2	0	0	NA NA	NA NA	1	Good condition Good condition
GB50	20-Mar-17	12:00	1007	0.00	0.0	0.0	0.0	4.1	16.9	0	0	NA NA	NA NA	1	Good condition
GB51 2.7	20-Mar-17	12:10	1006	0.00	0.0	0.0	0.0	5.7	15.5	0	0	NA	NA	1	Good condition
GB51 5.8	20-Mar-17	12:14	1006	0.00	0.0	0.0	0.0	8.8	9.2	0	0	NA	NA	1	Good condition
GB51 7.8	20-Mar-17	12:18	1006	0.00	0.0	0.0	0.0	8.1	10.5	0	0	NA	NA	1	Good condition
GB52	20-Mar-17	12:25	1006	0.00	0.0	0.0	0.0	1.7	19.3	0	0	NA NA	NA NA	1	Good condition
GB53 GB54	20-Mar-17 20-Mar-17	12:30 12:28	1005 1005	0.00	0.0	0.0	0.0	2.5 7.9	18.3 9.5	0	0	NA NA	NA NA	1	Good condition Good condition
GB54B	20-Mar-17	9:46	1003	0.00	0.0	0.0	0.0	0.3	19.4	0	0	NA NA	NA NA	1	Possible opening / crack near well cap fitting
GB55	20-Mar-17	9:30	1008	0.00	0.0	63.2	63.0	18.5	0.0	1	1	NA	NA	2	Casing damaged and bent, not cracked
GB56	20-Mar-17	11:00	1007	0.03	0.6	19.7	19.3	1.4	0.0	0	0	0.12	0.01	2	Good condition
GB57	21-Mar-17	11:30	1004	0.00	0.0	0.0	0.0	6.0	14.3	0	0	NA	NA	1	Good condition
GB58 GB59	21-Mar-17	11:35	1004 1004	0.00	0.0	0.0	0.0	7.4 2.5	13.8 17.7	0	0	NA NA	NA NA	1	Good condition
GB59 GB60	21-Mar-17 20-Mar-17	11:54 14:29	1004	0.00	5.1	6.4	6.4	2.5 1.1	0.0	0	1	0.33	0.06	2	Good condition Good condition
GB61	20-Mar-17	14:23	1007	0.42	7.6	66.2	66.1	19.8	0.0	0	1	5.03	1.50	4	Good condition
GB62	20-Mar-17	14:33	1008	0.20	4.0	3.1	3.1	3.3	1.4	0	1	0.12	0.13	2	Good condition
GB63	20-Mar-17	11:50	1006	0.06	1.3	2.7	2.7	0.7	4.0	0	1	0.04	0.01	2	Good condition
GB64	20-Mar-17	14:12	1008	0.43	7.6	40.0	40.0	2.8	0.0	0	1	3.04	0.21	3	Good condition
GB65	20-Mar-17	11:15	1006	0.00	0.0	1.5	1.5	0.3	18.5	0	1	NA 0.37	NA 0.05	2	Good condition
GB66 GB67	21-Mar-17 20-Mar-17	12:08 13:17	1003 1005	0.10	2.1 0.0	17.5 0.0	0.0	2.2 4.0	0.0 17.3	0	0	0.37 NA	0.05 NA	2	Good condition Good condition
GB68	20-Mar-17	14:39	1005	0.00	3.9	53.5	53.4	20.9	0.0	3	1	2.09	0.82	3	Good condition
GB69	20-Mar-17	14:06	1008	0.06	1.3	7.2	7.2	14.7	0.0	0	1	0.09	0.19	2	Broken gatic cover. PVC seems ok
GB70	20-Mar-17	14:00	1006	0.05	1.0	0.7	0.7	14.5	0.0	0	1	0.01	0.15	2	Good condition
GB71	20-Mar-17	15:31	1004	0.68	11.0	46.1	46.1	7.9	0.0	0	0	5.07	0.87	4	Good condition
GB72	20-Mar-17	15:20	1004	0.00	0.0	0.0	0.0	12.3	6.6	0	0	NA NA	NA NA	1	Good condition
	. :/2 N/or 17	8:59	1004	0.00	0.0	41.8	41.8 0.9	26.4	0.0	0	0	NA NA	NA NA	1	Good condition Good condition
GB73	21-Mar-17	11-17	1004	0.00				۷.ن∠	0.0		U	INM	INM	'	Good Condition
GB73 GB75 GB76	21-Mar-17	11:17 10:15	1004 1004	0.00	0.0	0.9				0	n	NA	NA	1	Good condition
GB75		11:17 10:15 10:20	1004 1004 1004	0.00 0.00 0.00	0.0	0.0	0.0	9.7 9.5	11.7 11.8	0	0	NA NA	NA NA	1	Good condition Good condition
GB75 GB76	21-Mar-17 21-Mar-17	10:15	1004	0.00	0.0	0.0	0.0	9.7	11.7	_					

Methane detected >1%

GSV CH4: Methane Gas Screening Value GSV CO₂: Carbon Dioxide Gas Screening Value

1: British Standard 8485:2015 Characteristic Gas Situation

Situation	Hazard Potential
1	Very Low
2	Low
3	Moderate
4	Moderate to High
5	High
6	Very High



Bore Number	Date	Time	Barometric Pressure	Relative Pressure	Stable Flow	Peak Methane	Sustained Methane	Carbon Dioxide	Oxygen	Carbon Monoxide	Hydrogen Sulfide	GSV CH₄	GSV CO₂	Character- istic	Comments
			(mb)	(mb)	(L/hour)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(ppm _v)	(ppm _v)			Situation ¹	
	25-Mar-09		1011	0.06	(L/ Hour)	0.2	(70 0/0)	1.1	18.8	(ppm _v)	(ppin _v)	NA	NA	1	
	02-Apr-09		1014	-0.72		0.0		0.2	20.5			NA	NA	1	
}	08-Apr-09 15-Apr-09		1018 1000	-0.03 0.09		0.0		0.3	20.5			NA NA	NA NA	1	
-	21-Apr-09		1018	0.19		0.0		0.3	19.3			NA NA	NA NA	1	
-	29-Apr-09		1018	0.19		0.0		0.0	20.7			NA	NA	1	
	09-Jun-09		1001	0		0.0		0.0	20.7			NA	NA	1	
	18-Jun-09 22-Jun-09		1023 1008	0		0.0		7.2	8.4 9.9			NA NA	NA NA	1	
-	01-Jul-09		990	0		0.0		1.3	18.9			NA NA	NA NA	1	
•	07-Jul-09		1022	0		0.0		1.5	20.2			NA	NA	1	
	05-Aug-09		1008	0.1		0.0		5.5	15.6			NA	NA	1	
-	11-Aug-09 18-Aug-09		1000 1017	0		0.0		0.6 2.9	20.4 17.9			NA NA	NA NA	1	
	01-Sep-09		1012	-0.02		0.0		2.0	18.6			NA	NA	1	
GB01	07-Sep-09		993	0		0.0		2.0	20.0			NA	NA	1	
	15-Sep-09		1010 990	0		0.0		3.4	16.5 17.0			NA NA	NA NA	1	
-	23-Sep-09 06-Oct-09		1004	0		0.0		1.0	19.7			NA NA	NA NA	1	
-	15-Oct-09		998	-0.01		0.0		0.6	20.1			NA	NA	1	
	20-Oct-09		1008	0		0.0		9.1	12.5			NA	NA	1	
	04-Nov-09 17-Nov-09		1010 1000	0		0.0		0.3	18.0 20.5			NA NA	NA NA	1	
}	01-Dec-09		1000	0.06		0.0		0.3	16.0			NA NA	NA NA	1	
}	14-Dec-09		1012	-0.02		0.0		2.0	18.5			NA	NA	1	
Ţ	04-Jan-10		1009	0		0.0		0.2	20.4			NA NA	NA	1	
	18-Jan-10 21-Oct-10		1001 1011	0		0.0		7.9	20.0			NA NA	NA NA	1	
-	03-Jul-13	11:00	1022	0.00	0.0	0.0	0.0	4.5	16.5	0	0	NA NA	NA NA	1	Readings did not stabilise after ~5 mins
}	16-Apr-14	9:12	1010	0.01	0.0	0.0	0.0	0.1	20.0	0	0	NA	NA	1	
	31-Aug-16	8:33	1005	0.00	0.0	0.0	0.0	0.1	21.1	1	1	NA	NA	1	Good condition
	21-Mar-17 25-Mar-09	11:48	1004 1010	0.00	0.0	0.0	0.0	0.2	12.6 20.7	0	0	NA NA	NA NA	1	
	02-Apr-09		1010	-0.6		0.0		0.4	20.7			NA NA	NA NA	1	
-	09-Apr-09		1017	1.27		0.0		0.2	20.3			NA	NA	1	
	14-Apr-09		999	-0.28		0.0		2.8	16.7			NA	NA	1	
	22-Apr-09 29-Apr-09		1018 1018	0		0.0		0.5	20.9			NA NA	NA NA	1	
	09-Jun-09		1018	0		0.0		1.7	19.0			NA NA	NA NA	1	
GB02	18-Jun-09		1023	0		0.0		2.1	19.5			NA	NA	1	
	22-Jun-09		1008	0		0.0		2.0	19.5			NA	NA	1	
	01-Jul-09 03-Jul-13	11:10	990 1022	0.00	0.0	0.0	0.0	1.0	19.3 19.3	0	0	NA NA	NA NA	1	
	16-Apr-14	9:51	1011	0.00	0.0	0.0	0.0	1.7	18.8	0	0	NA NA	NA NA	1	
•	31-Aug-16	8:56	1003	0.00	0.0	0.0	0.0	0.0	21.1	0	0	NA	NA	1	Good condition. Tape around top casing
	21-Mar-17	11:42	1004	0.00	0.0	0.0	0.0	0.9	19.8	0	0	NA	NA	1	
	25-Mar-09 03-Apr-09		1010 1008	0.1 -0.08		0.2		5.1	14.4 13.9			NA NA	NA NA	1	
-	08-Apr-09		1017	0.01		0.0		5.5	14.0			NA	NA	1	
	14-Apr-09		1006	1.74		0.0		6.7	12.4			NA	NA	1	
	21-Apr-09		1018	0.01		0.0		5.5	13.8			NA NA	NA	1	
-	29-Apr-09 09-Jun-09		1018 1001	0.01		0.0		4.4	16.0 14.9			NA NA	NA NA	1	
GB03	18-Jun-09		1023	0		0.0		2.7	18.0			NA	NA	1	
ļ	22-Jun-09		1008	0		0.0		2.0	19.5			NA	NA	1	
	01-Jul-09	44.15	989	0.04	0.0	0.0	4.0	1.9	18.0			NA NA	NA NA	1	
	03-Jul-13 16-Apr-14	11:15 10:13	1022 1012	0.00	0.0	1.0 0.1	1.0 0.1	2.9 4.2	17.7 18.5	0	0	NA 0.00	NA 0.01	1	Loose concrete in gatic base.
ŀ	31-Aug-16	9:01	1004	0.00	0.0	0.0	0.0	8.4	9.1	1	0	NA	NA	1	No cover. Bore has been repaired at ground level
	21-Mar-17	10:31	1004	0.00	0.0	0.0	0.0	5.3	15.5	0	0	NA	NA	1	Good condition
	25-Mar-09 03-Apr-09		1010 1007	-0.04 0.01		0.2		3.9 8.7	14.9 11.6			NA NA	NA NA	1	
	03-Apr-09 09-Apr-09		1007	-0.01		0.0		1.4	11.6			NA NA	NA NA	1	
}	14-Apr-09		1006	-0.01		0.0		0.5	19.9			NA	NA	1	
	22-Apr-09		1018	0		0.0		2.9	17.9			NA	NA	1	
GB04	28-Apr-09 09-Jun-09		1014 1000	0		0.0		0.8	19.1 20.6			NA NA	NA NA	1	
}	21-Oct-10		1000	0		0.0		0.7	18.9			NA NA	NA NA	1	
}	03-Jul-13	11:20	1021	0.00	0.0	0.0	0.0	0.0	20.8	0	0	NA	NA	1	
	16-Apr-14	10:17	1013	0.01	0.0	0.1	0.1	1.1	19.2	0	0	NA	NA	1	Gas bore full of ants.
	31-Aug-16 21-Mar-17	9:07 10:26	1004 1004	0.00	0.0	0.0	0.0	0.5	20.7 19.9	0	1 0	NA NA	NA NA	1	Difficult to ensure well cap is sealed
	21-Mar-17 25-Mar-09	10:26	1004	0.00	0.0	64.6	0.0	17.0	19.9 0.2	U	U	NA NA	NA NA	2	Grass growing in stickup
}	03-Apr-09		1008	0.1	<u></u>	70.5		16.8	0.0			NA	NA	2	
•	09-Apr-09		1013	-0.21		70.7		15.8	0.0			NA	NA	2	
	14-Apr-09		1006	-0.06		70.3		16.3	0.0			NA NA	NA NA	2	
	21-Apr-09 28-Apr-09		1018 1014	0.08		52.2 42.5		16.3 16.0	0.0			NA NA	NA NA	2	
GB05	09-Jun-09		1000	0		52.3		14.5	0.1			NA NA	NA NA	2	
ļ	21-Oct-10		1008	0		81.1		11.3	0.0			NA	NA	2	
	03-Jul-13	12:00 10:00	1021	0.19	0.2	87.9	87.9	11.3	0.0	0	0	0.18	0.02	2	Cap came off after taking flow reading
	04 1.145	. 10:00	1008	0.20	0.1	89.5	89.5	12.1	0.0	0	1 5	0.09	0.01 NA	2	Sampled again due to falling pressure conditions H ₂ S odour noted. Ant infestation.
-	04-Jul-13 16-Apr-14		1013	0.01	0.0	64.0	64.0	13.0	0.1	.5		INA	INA	/	1 123 Ododi Hoted, Alit illiesialion.
	04-Jul-13 16-Apr-14 30-Aug-16	10:27 15:32	1013 1004	0.01 0.11	0.0 1.8	64.0 78.0	64.0 77.8	13.0 11.2	0.1	3 5	1	NA 1.40	0.20	3	11 ₂ 3 duodi fioled. Antiffiestation.



Bore Number	Date	Time	Barometric Pressure	Relative Pressure	Stable Flow	Peak Methane	Sustained Methane	Carbon Dioxide	Oxygen	Carbon Monoxide	Hydrogen Sulfide	GSV CH₄	GSV CO ₂	Character- istic	Comments
	041400		(mb)	(mb)	(L/hour)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(ppm _v)	(ppm _v)	A1A	A1A	Situation	
	24-Mar-09 03-Apr-09		1006 1008	-0.03 0.49		0.2		2.2 3.1	18.6 18.1			NA NA	NA NA	1	
ŀ	09-Apr-09		1013	0.42		0.0		2.5	17.1			NA	NA	1	
	14-Apr-09		1003	-0.19		0.0		1.9	18.0			NA NA	NA NA	1	
	21-Apr-09 28-Apr-09		1018 1014	0.01		0.1		1.5 2.2	18.3 18.7			NA NA	NA NA	1	
ŀ	09-Jun-09		999	0		0.0		1.3	19.1			NA	NA	1	
ļ	18-Jun-09		1023	0		0.0		3.4	18.0			NA	NA	1	
	22-Jun-09		1009	0		0.0		2.0	18.5			NA NA	NA NA	1	
	01-Jul-09 07-Jul-09		989 1020	0		0.0		0.7 2.1	20.4 17.9			NA NA	NA NA	1	
Ì	05-Aug-09		1016	0		0.0		2.2	18.8			NA	NA	1	
ſ	11-Aug-09		1002	0		0.0		3.1	17.6			NA	NA	1	
	18-Aug-09 01-Sep-09		1017 1011	0		0.0		1.8	19.3 19.1			NA NA	NA NA	1	
GB06	07-Sep-09		994	0.01		0.0		2.2	19.1			NA NA	NA NA	1	
ļ	15-Sep-09		1017	0.03		0.0		2.3	18.8			NA	NA	1	
	23-Sep-09		989	0		0.0		2.1	17.7			NA NA	NA NA	1	
	06-Oct-09 15-Oct-09		1004 996	0		0.0		3.1 2.7	17.0 18.6			NA NA	NA NA	1	
ŀ	20-Oct-09		1009	0.04		0.0		3.2	16.8			NA	NA	1	
ļ	17-Nov-09		1003	0		0.0		2.5	18.5			NA	NA	1	
	01-Dec-00		1014	0		0.0		4.8 3.5	15.3 16.6			NA NA	NA NA	1	
	14-Dec-09 04-Jan-10		1012 1008	0		0.0		3.5	16.6 17.8			NA NA	NA NA	1	
ŀ	18-Jan-10		1002	0.1		0.0		2.2	18.3			NA	NA	1	
ļ	21-Oct-10		1008	0		0.0		2.6	15.5			NA	NA	1	
	03-Jul-13 16-Apr-14	11:35 10:35	1021 1013	-0.01 0.01	0.1	1.0 0.5	0.0	1.3 2.8	20.2 19.5	0	0	0.00 NA	0.00 NA	1	Unknown odour in ambient air around bore. Ants.
	16-Apr-14 30-Aug-16	10:35	1013	0.01	0.0	0.0	0.0	2.8	19.5	ı	U	INA	INA	1	Unknown odour in ambient air around bore. Ants. Insect nest. Not sampled
	21-Mar-17														Not sampled
	04-Nov-09			0		0.0		2.6	18.3			NA	NA	1	
	24-Mar-09		1006	-0.22 0.11		0.2		2.2	18.8			NA NA	NA NA	1	
	03-Apr-09 09-Apr-09		1008 1013	0.11		0.0		2.3	19.1 17.8			NA NA	NA NA	1	
ŀ	14-Apr-09		1003	0.01		0.0		2.4	17.8			NA	NA	1	
Ī	21-Apr-09		1018	-0.02		0.1		0.7	19.5			NA	NA	1	
	28-Apr-09		1014	-0.02		0.0		0.7	20.2			NA NA	NA NA	1	
	09-Jun-09 18-Jun-09		999 1023	0.02		0.0		0.8 2.3	20.3 19.3			NA NA	NA NA	1	
ŀ	22-Jun-09		1009	0		0.0		1.1	20.0			NA	NA	1	
Ī	01-Jul-09		989	0		0.0		1.3	194			NA	NA	1	
	07-Jul-09		1020	0		0.0		1.6	19.0			NA NA	NA NA	1	
	05-Aug-09 11-Aug-09		1016 1002	-0.17 0.24		0.0		2.2	19.1 18.7			NA NA	NA NA	1	
ŀ	18-Aug-09		1017	0		0.0		2.0	19.1			NA	NA	1	
GB07	01-Sep-09		1011	-0.02		0.0		1.9	18.7			NA	NA	1	
	07-Sep-09 15-Sep-09		994 1017	0		0.0		1.8 2.3	19.9 18.8			NA NA	NA NA	1	
ŀ	23-Sep-09		987	0		0.0		2.3	18.5			NA NA	NA NA	1	
Ì	06-Oct-09		1004	0		0.0		2.7	18.0			NA	NA	1	
	15-Oct-09		996	-0.01		0.0		2.9	17.8			NA	NA	1	
	20-Oct-09 04-Nov-09		1009 1012	0		0.0		3.0 2.9	18.4 18.2			NA NA	NA NA	1	
	17-Nov-09		1003	0		0.0		2.5	18.6			NA NA	NA NA	1	
ļ	01-Dec-09		1014	0.03		0.0		4.0	16.9			NA	NA	1	
	14-Dec-09		1012	0		0.0		3.9	16.2			NA NA	NA NA	1	
	04-Jan-10 18-Jan-10		1008 1002	-0.01 0		0.0		3.7 2.7	16.5 18.5			NA NA	NA NA	1	
ŀ	21-Oct-10		1008	0		0.0		2.8	16.4			NA NA	NA NA	1	
	16-Apr-14	11:01	1013	0.01	0.1	0.4	0.4	3.4	17.3	0	0	0.00	0.00	1	Good condition
	30-Aug-16 21-Mar-17	14:56 9:38	1005 1004	0.00	0.0	0.0	0.0	3.0	17.7 17.6	0	0	NA NA	NA NA	1	Good condition Good condition
	24-Mar-09	3.30	1004	0.00	0.0	0.0	0.0	2.1	18.6	J	J	NA NA	NA NA	1	Good Condition
ŀ	03-Apr-09		1008	0.08		0.0		2.3	19.0			NA	NA	1	
	09-Apr-09		1013	-0.09		0.0		2.0	17.2			NA NA	NA NA	1	
	14-Apr-09 21-Apr-09		1003 1012	-0.28 -0.03		0.0		2.0 0.9	17.4 19.3			NA NA	NA NA	1	
ŀ	28-Apr-09		1012	-0.03		0.0		0.1	20.8			NA NA	NA NA	1	
ļ	09-Jun-09		1000	0		0.0		0.1	20.8			NA	NA	1	
	18-Jun-09		1023	0		0.0		1.8	19.5			NA NA	NA NA	1	
	22-Jun-09 01-Jul-09		1009 990	0		0.0		1.1	20.1 18.4			NA NA	NA NA	1	
ŀ	07-Jul-09		1020	0		0.0		1.9	18.5			NA NA	NA NA	1	
ļ	05-Aug-09		1013	0		0.0		2.8	18.5			NA	NA	1	
	11-Aug-09 18-Aug-09		1002 1017	0.2		0.0		2.9	18.0 18.2			NA NA	NA NA	1	
	18-Aug-09 01-Sep-09		1017	-0.02		0.0		2.7	18.2			NA NA	NA NA	1	
GB08	07-Sep-09		994	0.01		0.0		2.5	18.8			NA NA	NA NA	1	
ļ	15-Sep-09		1013	0		0.0		2.4	18.8	_		NA	NA	1	
	23-Sep-09		987	0		0.0		2.6	17.1 18.0			NA NA	NA NA	1	
	06-Oct-09 15-Oct-09		1004 996	0		0.0		2.6	18.0 18.8			NA NA	NA NA	1	
ŀ	20-Oct-09		1009	0		0.0		2.5	19.0			NA	NA	1	
ļ	04-Nov-09		1012	0		0.0		3.0	17.9			NA	NA	1	
	17-Nov-09		1003	0		0.0		2.5	18.3			NA NA	NA NA	1	
	01-Dec-09 14-Dec-09		1014 1012	0.08		0.0		3.8 2.8	16.6 16.6			NA NA	NA NA	1	
j	04-Jan-10		1008	0		0.0		2.7	16.8			NA NA	NA NA	1	
			1002	0.07		0.0		2.0	19.3			NA	NA	1	
	18-Jan-10		4000	0		0.0		3.4	15.8			NA	NA	1	
	21-Oct-10		1008		-		1								=
		12:43 14:39	1014	0.01	0.0	0.0	0.0	3.5 4.8	16.4 15.1	0	0	NA NA	NA NA	1	Good condition. Good condition.



Bore Number	Date	Time	Barometric Pressure	Relative Pressure	Stable Flow	Peak Methane	Sustained Methane	Carbon Dioxide	Oxygen	Carbon Monoxide	Hydrogen Sulfide	GSV CH₄	GSV CO₂	Character- istic	Comments
			(mb)	(mb)	(L/hour)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(ppm _v)	(ppm _v)			Situation	
	24-Mar-09		1006	0.11		0.1		1.8	18.7			NA NA	NA	1	
	03-Apr-09 09-Apr-09		1006 1013	-0.03 0.01		0.0		1.9	20.3 17.7			NA NA	NA NA	1	
	14-Apr-09		1013	-0.14		0.0		1.9	18.1			NA NA	NA NA	1	
	21-Apr-09		1012	0		0.0		1.1	19.9			NA	NA	1	
	28-Apr-09		1012	0		0.0		0.8	19.9			NA	NA	1	
	09-Jun-09		1000	0		0.0		0.7	20.6			NA	NA	1	
	18-Jun-09		1023	0		0.0		1.9	19.6			NA	NA	1	
	22-Jun-09		1009	0		0.0		1.3	20.0			NA	NA	1	
	01-Jul-09		990	0		0.0		1.3	19.4			NA	NA	1	
	07-Jul-09		1020	0		0.0		1.7	18.8			NA	NA	1	
	05-Aug-09		1013	0		0.0		2.3	19.2			NA NA	NA NA	1	
	11-Aug-09 18-Aug-09		1001 1017	0.02		0.0		2.4	18.6 18.7			NA NA	NA NA	1	
	01-Sep-09		1011	0.02		0.0		1.8	19.0			NA NA	NA NA	1	
GB09	07-Sep-09		994	0		0.0		1.9	19.7			NA	NA	1	
	15-Sep-09		1013	0		0.0		2.2	18.8			NA	NA	1	
	23-Sep-09		987			0.0		2.3	17.9			NA	NA	1	
	06-Oct-09		1004	0		0.0		3.0	17.4			NA	NA	1	
	15-Oct-09		996	0.01		0.0		2.8	17.7			NA	NA	1	
	20-Oct-09		1008	0		0.0		3.8	17.0			NA	NA	1	
	04-Nov-09		1012	0		0.0		7.1	12.9			NA NA	NA NA	1	
	17-Nov-09		1003	0		0.0		7.1	13.9			NA NA	NA NA	1	
	01-Dec-09 14-Dec-09		1011 1012	0		0.0		7.6 6.8	12.7 13.0			NA NA	NA NA	1	
	04-Jan-10		1012	0		0.0		8.4	11.7			NA NA	NA NA	1	
	18-Jan-10		1008	-0.02		0.0		3.1	17.6			NA NA	NA NA	1	
	21-Oct-10		1008	0		0.0		4.5	14.2			NA NA	NA NA	1	
	16-Apr-14	12:54	1014	0.00	0.2	0.0	0.0	2.6	17.6	0	0	0.00	0.01	1	Good condition.
	30-Aug-16	14:22	1006	0.00	0.0	0.0	0.0	3.0	17.4	0	0	NA	NA	1	Good condition.
	20-Mar-17	15:15	1003	0.00	0.0	0.0	0.0	2.2	18.5	0	0	NA	NA	1	Good condition.
	24-Mar-09		1007	0.1		0.1		3.2	17.9			NA	NA	1	
	02-Apr-09		1007	-0.35		0.0		5.1	13.0			NA	NA	1	
	09-Apr-09		1013	-0.24		0.0		2.5	17.1			NA	NA	1	
	14-Apr-09		999	0.02		0.0		3.3	17.1			NA	NA	1	
	21-Apr-09		1012 1012	0		0.0		2.4	18.6 18.9			NA NA	NA NA	1	
	28-Apr-09 09-Jun-09		999	0		0.0		1.8	18.7			NA NA	NA NA	1	
	18-Jun-09		1023	0		0.0		3.5	18.1			NA NA	NA NA	1	
	22-Jun-09		1009	0		0.0		1.7	18.7			NA	NA	1	
	01-Jul-09		990	0		0.0		2.6	18.0			NA	NA	1	
	07-Jul-09		1020	0		0.0		2.8	17.5			NA	NA	1	
	05-Aug-09		1013	-0.07		0.0		4.8	15.5			NA	NA	1	
	11-Aug-09		1001	0		0.0		4.9	15.1			NA	NA	1	
	18-Aug-09		1017	0		0.0		5.1	149			NA	NA	1	
	01-Sep-09		1012	0		0.0		5.6	14.3			NA	NA	1	
GB10	07-Sep-09		994	0.02		0.0		5.9	14.6			NA NA	NA NA	1	
	15-Sep-09 23-Sep-09		1013 987	0		0.0		5.8	13.8 12.7			NA NA	NA NA	1	
	06-Oct-09		1004	0		0.0		7.6	12.0			NA NA	NA NA	1	
	15-Oct-09		996	0		0.0		6.9	12.2			NA	NA	1	
	20-Oct-09		1008	-0.02		0.0		7.0	13.5			NA	NA	1	
	04-Nov-09		1012	0		0.0		7.3	14.0			NA	NA	1	
	17-Nov-09		1003	0		0.0		5.2	16.7			NA	NA	1	
	01-Dec-09		1011	0		0.0		7.5	13.1			NA	NA	1	
	14-Dec-09		1012	0		0.0		7.8	12.1			NA	NA	1	
	04-Jan-10		1008	0		0.0		6.4	14.2			NA NA	NA	1	
	18-Jan-10		1001	0		0.0		3.0	18.3			NA NA	NA NA	1	
	21-Oct-10 03-Jul-13	13:25	1017	0	0.0	0.0	0.0	7.8 4.5	9.9 14.9	0	0	NA NA	NA NA	1	
	03-Jul-13 16-Apr-14	13:25	1019 1014	0.00	0.0	0.0	0.0	2.8	14.9	0	0	0.00	0.00	1	Good condition.
	30-Aug-16	14:17	1014	0.00	0.0	0.0	0.0	6.8	12.1	0	0	NA	NA	1	Good condition.
	20-Mar-17	15:10	1003	0.00	0.0	0.0	0.0	3.7	17.4	0	0	NA NA	NA NA	1	Good condition.
	22-Jun-09		1009	0		0.0		0.9	20.9			NA	NA	1	
	01-Jul-09		992	0		0.0		1.2	19.6			NA	NA	1	
	07-Jul-09		1020					4.3	15.5			NA	NA	1	
	05-Aug-09		1013	0		0.0		2.9	17.6			NA	NA	1	
	11-Aug-09		1001	0		0.0		3.9	16.2			NA	NA	1	
	18-Aug-09		1017	0		0.0		2.5	18.3			NA	NA	1	
	01-Sep-09		1012	0.02		0.0		2.5	17.2			NA	NA	1	
	07-Sep-09		994	0		0.0		0.0	21.8			NA NA	NA NA	1	
	15-Sep-09		1013	0		0.0		3.6	16.5			NA NA	NA NA	1	
	23-Sep-09 06-Oct-09		988 1004	0		0.0		3.7 5.6	16.1 14.2			NA NA	NA NA	1	
GB11	15-Oct-09		996	0		0.0		3.1	17.9			NA NA	NA NA	1	
	20-Oct-09		1008	0		0.0		5.2	15.4			NA NA	NA NA	1	
	04-Nov-09		1011	0		0.0		4.5	16.6			NA	NA	1	
	17-Nov-09		1001	0		0.0		5.0	16.2			NA	NA	1	
	01-Dec-09		1011	0		0.0		6.9	12.8			NA	NA	1	
	14-Dec-09		1012	-0.01		0.0		5.5	13.7			NA	NA	1	
	04-Jan-10		1008	0		0.0		7.1	11.9			NA	NA	1	
	18-Jan-10		1001	0		0.0		4.4	16.7	_		NA	NA	1	
	21-Oct-10		1008	0		0.0		6.7	11.4			NA	NA	1	
	16-Apr-14	13:19	1014	0.01	0.0	0.0	0.0	6.3	13.5	0	0	NA	NA	1	Good condition.
	30-Aug-16	14:06	1006	0.00	0.0	0.0	0.0	4.5	15.3	0	0	NA	NA	1	Good condition.
	20-Mar-17	15:01	1003	0.00	0.0	0.0	0.0	6.9	14.5	1	0	NA	NA	1	Good condition.



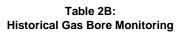
Bore Number	Date	Time	Barometric Pressure	Relative Pressure	Stable Flow	Peak Methane	Sustained Methane	Carbon Dioxide	Oxygen	Carbon Monoxide	Hydrogen Sulfide	GSV CH₄	GSV CO₂	Character- istic	Comments
			(mb)	(mb)	(L/hour)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(ppm _v)	(ppm _v)			Situation ¹	
	25-Mar-09 02-Apr-09		1009 1007	-0.04 -0.45		0.1		3.9	15.7 15.0			NA NA	NA NA	1	
	08-Apr-09		1017	0.05		0.0		4.0	16.3			NA	NA	1	
	14-Apr-09		999	-0.3		0.0		4.1	14.6			NA NA	NA NA	1	
	21-Apr-09 29-Apr-09		1010 1018	0		0.0		4.2 5.1	15.7 15.5			NA NA	NA NA	1	
	09-Jun-09		999	0		0.0		4.0	15.8			NA	NA	1	
	09-Jun-09 18-Jun-09		999 1023	0		0.0		4.0 5.0	15.8 15.2			NA NA	NA NA	1	
	22-Jun-09		1009	0		0.0		3.5	14.9			NA NA	NA NA	1	
	01-Jul-09		992	0		0.0		3.4	16.4			NA	NA	1	
	07-Jul-09 05-Aug-09		1020 1013	0		0.0		4.1	16.4 15.8			NA NA	NA NA	1	
	11-Aug-09		1001	0		0.0		4.5	15.8			NA	NA	1	
	18-Aug-09 01-Sep-09		1017 1012	0		0.0		4.5 3.8	16.6 16.7			NA NA	NA NA	1	
GB12	07-Sep-09		994	0.01		0.0		3.5	17.6			NA NA	NA NA	1	
	15-Sep-09		1012	0		0.0		3.9	17.0			NA	NA	1	
	23-Sep-09 06-Oct-09		987 1004	0.01		0.0		3.4	15.1 15.7			NA NA	NA NA	1	
	15-Oct-09		996	-0.01		0.0		4.1	17.0			NA	NA	1	
	20-Oct-09 04-Nov-09		1008 1011	0		0.0		5.0 5.3	15.4 15.0			NA NA	NA NA	1	
	17-Nov-09		1001	0		0.0		4.8	16.2			NA NA	NA NA	1	
	01-Dec-09		1011	0.02		0.0		5.6	12.3			NA	NA	1	
	14-Dec-09 04-Jan-10		1012 1008	0		0.0		5.7	12.8 12.7			NA NA	NA NA	1	
	18-Jan-10		1001	0.01		0.0		3.8	17.3			NA	NA	1	
	21-Oct-10	13:37	1017	0	0.0	0.0	0.1	5.1 4.6	13.9	0	0	NA NA	NA NA	1	Good condition.
	16-Apr-14 30-Aug-16	13:37	1014 1007	0.01	0.0	0.1	0.1	5.0	13.8 13.9	0	0	NA NA	NA NA	1	Good condition. Good condition.
	20-Mar-17	14:55	1004	0.01	0.1	0.0	0.0	5.2	15.0	1	0	0.00	0.01	1	Good condition.
	25-Mar-09 02-Apr-09		1009 1007	0.09 -0.5		0.1		3.0 2.8	10.5 5.2			NA NA	NA NA	1	
	08-Apr-09		1017	0.38		0.0		2.8	10.2			NA NA	NA NA	1	
	14-Apr-09		999	0.18		0.0		3.0	8.9			NA NA	NA NA	1	
	22-Apr-09 29-Apr-09		1018 1018	0		0.0		2.6	10.9 11.0			NA NA	NA NA	1	
	09-Jun-09		999	0		0.0		2.0	10.9			NA	NA	1	
	09-Jun-09		999	0		0.0		2.0 3.2	10.9			NA NA	NA NA	1	
	18-Jun-09 22-Jun-09		1023 1011	0		0.0		1.8	10.9 11.3			NA NA	NA NA	1	
	01-Jul-09		992	0		0.0		1.7	10.4			NA	NA	1	
	07-Jul-09 05-Aug-09		1020 1013	0		0.0		1.9 2.8	10.8 9.5			NA NA	NA NA	1	
	11-Aug-09		1001	0		0.0		2.8	9.5			NA	NA	1	
	18-Aug-09		1017	0.02		0.0		2.4	10.8			NA NA	NA NA	1	
GB13	01-Sep-09 07-Sep-09		1012 993	-0.02		0.0		2.4	10.5 12.1			NA NA	NA NA	1	
	15-Sep-09		1012	0		0.0		2.5	10.9			NA	NA	1	
	23-Sep-09 06-Oct-09		987 1004	-0.03		0.0		2.4	8.5 6.8			NA NA	NA NA	1	
	15-Oct-09		996	0		0.0		2.6	9.2			NA	NA	1	
	20-Oct-09 04-Nov-09		1008 1011	0		0.0		3.0	8.6 9.4			NA NA	NA NA	1	
	17-Nov-09		1001	0		0.0		2.9	109			NA	NA	1	
	01-Dec-09		1011	0		0.0		3.6	4.3			NA NA	NA NA	1	
	14-Dec-09 04-Jan-10		1012 1008	0		0.1		3.4	5.6 4.9			NA NA	NA NA	1	
	18-Jan-10		1001	0.03		0.0		3.3	11.0			NA	NA	1	
	21-Oct-10 16-Apr-14	13:41	1017 1013	0.02	0.2	0.0	0.0	2.8	6.7 6.5	0	0	NA 0.00	NA 0.02	1	Good condition
	30-Aug-16	13:39	1007	0.00	0.0	0.0	0.0	4.6	5.1	0	0	NA	NA	1	Good condition
	20-Mar-17	14:50	1006	0.00	0.0	0.0	0.0	4.7	13.1	0	0	NA NA	NA NA	1	Good condition
	24-Mar-09 02-Apr-09		1006 1014	-0.15 -0.44		0.2 33.7		8.3 14.8	9.7 4.0			NA NA	NA NA	2	
	08-Apr-09	-	1022	0.13		0.0		7.9	10.9			NA	NA	1	
	15-Apr-09 22-Apr-09		1001 1015	0.1		0.0		5.8 7.7	13.9 11.5			NA NA	NA NA	1	
	29-Apr-09		1018	0.1		0.0		7.1	12.7			NA NA	NA NA	1	
	09-Jun-09		998	0		0.0		7.1	11.8			NA NA	NA NA	1	
	09-Jun-09 18-Jun-09		998 1023	0		0.0		7.1 6.3	11.8 13.2			NA NA	NA NA	1	
	22-Jun-09		1011	0.01		0.0		6.4	13.0			NA	NA	1	
	01-Jul-09 07-Jul-09		992 1017	-0.01 0		0.0		5.8 5.8	14.4 12.5			NA NA	NA NA	1	
	05-Aug-09		1012	0		0.0		7.5	11.2			NA	NA NA	1	
	11-Aug-09		1001	0		0.0		7.3	11.9			NA NA	NA NA	1	
CD11	18-Aug-09 01-Sep-09		1017 1012	0		0.0		6.6 7.1	13.9 11.5			NA NA	NA NA	1	
GB14	07-Sep-09		993	0		0.0		6.8	13.7			NA	NA	1	
	15-Sep-09 23-Sep-09		1012 987	0		0.0		7.2 7.2	12.2 9.5			NA NA	NA NA	1	
	06-Oct-09		1004	-0.07		0.4		1.8	17.1			NA NA	NA NA	1	
	15-Oct-09		996	-0.01		0.1	_	4.9	12.2			NA NA	NA NA	1	
	20-Oct-09 04-Nov-09		1008 1011	0.02		4.1 2.1		14.1	0.7			NA NA	NA NA	2	
	17-Nov-09		1001	0		1.6		17.1	0.5			NA	NA NA	2	
	01-Dec-09		1011	0		2.4		17.6	0.7			NA NA	NA NA	2	
	14-Dec-09 04-Jan-10		1012 1008	0.01		4.1 3.8		18.2	0.0 1.9			NA NA	NA NA	2	
	18-Jan-10		1001	-0.02		0.0		15.5	5.3			NA	NA	1	
	21-Oct-10 16-Apr-14	13:50	1011 1014	0.01	0.1	7.5 0.1	0.1	14.5 5.0	2.0 8.4	0	0	NA 0.00	NA 0.01	2	Good condition.
	30-Aug-16	13:29	1007	0.01	0.7	13.9	13.9	13.9	1.3	1	1	0.10	0.10	2	COOL CONTRIBUTION
	20-Mar-17	13:05	1006	0.00	0.0	1.4	0.8	17.9	0.1	0	1	NA	NA	2	Good condition



Bore Number	Date	Time	Barometric Pressure	Relative Pressure	Stable Flow	Peak Methane	Sustained Methane	Carbon Dioxide	Oxygen	Carbon Monoxide	Hydrogen Sulfide	GSV CH₄	GSV CO ₂	Character-	Comments
Number			(mb)	(mb)	(L/hour)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(ppm _v)	(ppm _v)			Situation ¹	
	24-Mar-09		1006	-0.2		0.2		12.8	7.9			NA	NA	1	
	02-Apr-09		1014	1.65		0.0		13.4	6.8			NA NA	NA NA	1	
	08-Apr-09 15-Apr-09		1022 1003	-0.03	+	0.0		11.5 11.9	8.9 7.6			NA NA	NA NA	1	
	22-Apr-09		1015	0		0.0		10.6	9.9			NA NA	NA NA	1	
	29-Apr-09		1018	-0.02		0.0		9.3	11.1			NA	NA	1	
	09-Jun-09		998	0		0.4		14.9	3.1			NA	NA	1	
	18-Jun-09		1023	0		0.0		9.2	10.0			NA	NA	1	
	22-Jun-09 01-Jul-09		1011 992	0		0.1 5.2		12.5 15.4	4.5 2.3			NA NA	NA NA	1 2	
	07-Jul-09		1017	0		0.1		9.9	8.8			NA NA	NA NA	1	
	05-Aug-09		1012	0		8.7		15.5	1.2			NA	NA	2	
	11-Aug-09		1001	0		16.5		16.3	0.5			NA	NA	2	
	18-Aug-09		1017	-0.01		4.8		13.7	4.4			NA	NA	2	
GB15	01-Sep-09		1012	0		6.7		16.3	0.1			NA NA	NA NA	2	
GBIS	07-Sep-09 15-Sep-09		993 1012	0		22.8 12.1		16.6 16.4	0.0			NA NA	NA NA	2	
	23-Sep-09		988	-		30.3		16.6	0.0			NA	NA	2	
	06-Oct-09		1004	-0.01		23.3		16.5	0.5			NA	NA	2	
	15-Oct-09		996	-0.02		29.7		12.9	0.2			NA	NA	2	
	20-Oct-09		1008	0.02		25.8		16.9	0.3			NA	NA	2	
	04-Nov-09		1011	0.01		22.5		16.9	0.0			NA NA	NA NA	2	
	17-Nov-09 01-Dec-09		1001 1011	0.01		22.3 13.8		17.0 15.7	0.0			NA NA	NA NA	2	
	14-Dec-09		1012	0		26.0		16.1	0.0			NA NA	NA NA	2	
	04-Jan-10		1008	0		19.7		17.7	0.3			NA	NA	2	
	18-Jan-10		1001	0.02		19.7		16.7	0.3			NA	NA	2	
	21-Oct-10	45.00	1011	0	0.7	34.3	00.0	15.8	0.1			NA 0.07	NA 0.00	2	0
	16-Apr-14 30-Aug-16	15:01 10:17	1013 1009	0.01	0.2 1.2	36.0 53.7	36.0 53.7	12.8 16.9	0.1	0	3 0	0.07	0.03	2	Good condition. Slight H2S odour. PVC bore is loose in the standpipe cover
	20-Mar-17	10:17	1009	0.06	2.2	42.2	39.8	15.9	0.0	3	1	0.64	0.20	3	Good condition
	24-Mar-09		1005	-0.17		0.2	55.6	1.1	20.4	<u> </u>		NA	NA	1	Cook Sommer
	02-Apr-09		1014			0.0		2.5	17.8			NA	NA	1	
	08-Apr-09	_	1022	0.05		0.0		0.9	20.0			NA	NA	1	
	15-Apr-09		1003	-0.04		0.0		0.4	20.5			NA	NA	1	
	22-Apr-09		1015	0		0.0		0.6	20.6			NA NA	NA NA	1	
	29-Apr-09 09-Jun-09		1018 999	0		0.0		0.9	20.0			NA NA	NA NA	1	
	18-Jun-09		1023	0		0.0		1.2	20.2			NA NA	NA	1	
	22-Jun-09		1011	-0.02		0.0		0.7	20.7			NA	NA	1	
	01-Jul-09		992	0		0.0		0.6	20.2			NA	NA	1	
	07-Jul-09		1017	0		0.0		0.7	20.2			NA	NA	1	
	05-Aug-09		1012	0		0.0		1.0	20.3			NA NA	NA NA	1	
	11-Aug-09 18-Aug-09		1001 1017	0		0.0		1.1	20.2			NA NA	NA NA	1	
	01-Sep-09		1012	-0.04		0.0		0.9	20.2			NA NA	NA	1	
GB16	07-Sep-09		993	-0.01		0.0		0.9	21.3			NA	NA	1	
	15-Sep-09		1012	0.03		0.0		0.9	20.1			NA	NA	1	
	23-Sep-09		988			0.0		1.0	19.9			NA	NA	1	
	06-Oct-09 15-Oct-09		1004 996	0.03		0.0		0.8	20.0 18.6			NA NA	NA NA	1	
	20-Oct-09		1008	0.03		0.0		1.2	20.3			NA NA	NA NA	1	
	04-Nov-09		1011	0		0.0		1.2	19.5			NA	NA	1	
	17-Nov-09		1001	0		0.0		1.0	19.9			NA	NA	1	
	01-Dec-09		1009	0		0.0		1.9	18.9			NA	NA	1	
	14-Dec-09		1012	0		0.0		1.5	19.0			NA	NA	1	
	04-Jan-10 18-Jan-10		1008 1001	0.02		0.0		1.1	19.6 19.7			NA NA	NA NA	1	
	21-Oct-10		1011	0		0.0		2.0	18.2			NA	NA	1	
	16-Apr-14	15:11	1012	0.01	0.2	0.5	0.5	2.1	17.9	0	0	0.00	0.00	1	Good condition. Water filtered by moisture trap
	30-Aug-16	10:11	1009	0.00	0.0	0.0	0.0	2.7	18.6	0	0	NA	NA	1	PVC bore is loose in the standpipe cover
	20-Mar-17	12:35	1005	0.00	0.0	0.0	0.0	1.1	19.8	0	0	NA NA	NA	1	Good condition
	24-Mar-09 02-Apr-09		1006 1014	-0.16 -0.43		0.2		2.6	18.8 17.8			NA NA	NA NA	1	
	02-Apr-09 08-Apr-09		1014	0.05		0.0		2.6	18.4			NA NA	NA NA	1	
	15-Apr-09		1003	0.01		0.0		2.8	18.1			NA	NA	1	
	22-Apr-09		1015	0		0.0		2.5	18.7			NA	NA	1	
	29-Apr-09		1016	0		0.0		2.6	18.5			NA	NA	1	
	09-Jun-09 18-Jun-09		999 1023	0		0.0		3.0	19.1 18.8			NA NA	NA NA	1	
	18-Jun-09 22-Jun-09		1023	0		0.0		1.9	18.8			NA NA	NA NA	1	
	01-Jul-09		992	0		0.0		1.4	19.2			NA NA	NA NA	1	
	07-Jul-09		1017	0		0.0		1.4	18.7			NA	NA	1	
	05-Aug-09		1012	0.04		0.0		3.1	17.3			NA	NA	1	
	11-Aug-09		1000	0		0.0		3.9	16.1			NA NA	NA NA	1	
	18-Aug-09 01-Sep-09		1017 1012	0	+	0.0		2.0 3.5	17.9 15.9			NA NA	NA NA	1	
	07-Sep-09		993	0		0.0		4.1	16.7			NA NA	NA NA	1	
GB17	15-Sep-09		1011	0.04		0.0		6.2	12.4			NA NA	NA NA	1	
	23-Sep-09		989			0.0		3.8	15.8			NA	NA	1	
	06-Oct-09		1004	-0.01		0.0		7.3	10.9			NA	NA	1	
	15-Oct-09		996	0		0.0		5.7	15.9			NA NA	NA NA	1	
	20-Oct-09		1008	0.02		0.0		10.3	8.0 12.2			NA NA	NA NA	1	
	04-Nov-09 17-Nov-09		1010 1000	0	+	0.0		7.7 7.2	12.2			NA NA	NA NA	1	
	01-Dec-09		1000	0		0.0		6.9	13.3			NA NA	NA NA	1	
	14-Dec-09		1012	0.01	<u></u>	0.0		9.7	11.0			NA	NA	1	
	04-Jan-10		1009	0		0.0		6.9	14.0			NA	NA	1	
	18-Jan-10		1001	0		0.0		4.2	17.9			NA	NA	1	
	21-Oct-10	45.00	1011	0	0.0	0.0	0.0	9.9	6.5			NA NA	NA NA	1	
	03-Jul-13 16-Apr-14	15:20 15:50	1018 1012	0.00	0.0	0.0	0.0	14.6	1.8 7.4	0	0	0.00	NA 0.02	1	Good condition.
	.5 / pr-14	9:52	1012	0.04	0.2	5.5	5.3	13.4	5.2	0	0	NA	NA	2	Good condition.
	30-Aug-16	3.32										-			



Bore	Date	Time	Barometric	Relative	Stable Flow	Peak	Sustained	Carbon	Oxygen	Carbon	Hydrogen	GSV CH₄	GSV CO₂	Character-	Comments
Number	Dute	Time	Pressure (mb)	Pressure (mb)	(L/hour)	Methane (% v/v)	Methane (% v/v)	Dioxide (% v/v)	(% v/v)	Monoxide (ppm _v)	Sulfide (ppm _v)	G5V C114	G5V CO ₂	istic Situation ¹	Comments
	25-Mar-09		1010	-0.12	(L/Hour)	(% V/V) 0.2	(% V/V)	2.7	18.0	(ppm _v)	(ppiii _v)	NA	NA	1	
	02-Apr-09		1014	-0.12		0.0		2.4	17.9			NA NA	NA NA	1	
	08-Apr-09		1022	1.16		0.0		2.1	18.3			NA	NA	1	
	15-Apr-09		1003	0.05		0.0		1.8	18.8			NA	NA	1	
	22-Apr-09		1013	0		0.0		1.4	19.3			NA	NA	1	
	29-Apr-09		1016	0		0.0		2.7	17.9			NA	NA	1	
	09-Jun-09		999	0		0.0		1.8	18.7			NA	NA	1	
	18-Jun-09		1023	0		0.0		1.1	19.7			NA	NA	1	
	22-Jun-09		1011	0		0.0		1.4	18.1			NA	NA	1	
	01-Jul-09		992	0		0.0		2.6 5.3	17.0			NA NA	NA NA	1	
	01-Sep-09 07-Sep-09		1012 993	-0.01		0.0		4.3	11.7 14.7			NA NA	NA NA	1	
	15-Sep-09		1010	0		0.0		5.9	11.7			NA NA	NA NA	1	
GB18	23-Sep-09		989			0.0		6.2	10.5			NA	NA	1	
	06-Oct-09		1004	0.0		0.0		7.0	9.4			NA	NA	1	
	15-Oct-09		998	0.01		0.0		5.7	12.9			NA	NA	1	
	20-Oct-09		1008	0		0.0		7.7	6.5			NA	NA	1	
	04-Nov-09		1010	0.02		0.0		9.1	6.1			NA	NA	1	
	17-Nov-09		1000	-0.03		0.0		9.2	9.6			NA	NA	1	
	01-Dec-09		1009	0		0.0		9.6	16.4			NA	NA	1	
	14-Dec-09		1012	0	-	0.0		10.0	6.3			NA NA	NA NA	1	
	04-Jan-10 18-Jan-10		1009 1001	-0.01 0		0.0		6.2	5.7 15.7			NA NA	NA NA	1	
	18-Jan-10 21-Oct-10		1001	0		0.0		11.8	0.7			NA NA	NA NA	1	
	17-Apr-14	9:58	1011	0.01	0.1	0.0	0.0	17.5	0.7	0	0	0.00	0.02	1	Good condition.
	30-Aug-16					Well Lost /		**	· ·· ·			T			
CD404	30-Aug-16	9:32	1010	0.00	0.0	26.7	26.1	13.3	0.0	0	0	NA	NA	2	Good condition.
GB18A	20-Mar-17	11:46	1006	0.00	0.0	0.0	0.0	8.6	9.6	0	0	NA	NA	1	Good condition.
	25-Mar-09		1010	-0.16		0.2		0.8	20.4			NA	NA	1	
	02-Apr-09		1014	-0.36		0.2		4.9	15.5			NA	NA	1	
	08-Apr-09		1022	0.11		0.0		1.0	19.6			NA	NA	1	
	15-Apr-09		1003	0.06		0.0		0.9	20.2			NA NA	NA	1	
	22-Apr-09		1013	0.02		0.0		0.5	19.9			NA NA	NA NA	1	
	29-Apr-09		1016	0.02	-	0.0		0.7	20.0			NA NA	NA NA	1	
	09-Jun-09 18-Jun-09		999 1023	0		0.0		0.7 1.6	20.3			NA NA	NA NA	1	
	22-Jun-09		1011	0		0.0		0.8	20.1			NA NA	NA NA	1	
	01-Jul-09		992	0		0.0		0.6	20.5			NA NA	NA NA	1	
	07-Jul-09		1017	0		0.0		0.9	20.0			NA	NA	1	
	05-Aug-09		1008	0.08		0.0		0.7	20.2			NA	NA	1	
	11-Aug-09		1000	0		0.0		1.1	19.8			NA	NA	1	
	18-Aug-09		1017	0		0.0		0.5	20.3			NA	NA	1	
	01-Sep-09		1012	0.03		0.0		0.5	20.4			NA	NA	1	
GB19	07-Sep-09		993	0		0.0		0.8	21.2			NA	NA	1	
	15-Sep-09		1010	0		0.0		0.7	20.0			NA	NA	1	
	23-Sep-09		989	0.04		0.0		0.8	20.0			NA NA	NA NA	1	
	06-Oct-09 15-Oct-09		1004 998	-0.01 0		0.0		1.5	19.1 20.3			NA NA	NA NA	1	
	20-Oct-09		1008	0		0.0		1.3	20.0			NA NA	NA NA	1	
	04-Nov-09		1010	0.02		0.1		0.7	20.0			NA	NA	1	
	17-Nov-09		1000	0		0.0		1.0	19.4			NA	NA	1	
	01-Dec-09		1009	0.01		0.0		1.5	5.9			NA	NA	1	
	14-Dec-09		1012	0		0.0		1.4	18.8			NA	NA	1	
	04-Jan-10		1009	0.02		0.0		0.8	19.6			NA	NA	1	
	18-Jan-10		1001	0		0.0		1.0	19.6			NA	NA	1	
	21-Oct-10	0.55	1011	0	0.1	0.0	2.2	2.4	16.9	-		NA 0.00	NA 0.00	1	0.1
	17-Apr-14 30-Aug-16	9:58 9:13	1012 1010	0.01	0.1	0.0	0.0	3.0	19.4 18.0	0	0	0.00 NA	0.00 NA	1	Good condition. Good condition.
	20-Mar-17	11:30	1010	0.00	0.0	0.0	0.0	0.8	20.0	0	0	NA NA	NA NA	1	Good condition.
	25-Mar-09		1010	-0.12	5.0	0.2	5.0	5.0	14.3	Ÿ		NA NA	NA NA	1	COOK SOLITION.
	03-Apr-09		1007	-0.02		0.0		4.3	17.3			NA	NA	1	
	08-Apr-09		1022	0.28		0.0		4.4	14.1			NA	NA	1	
	15-Apr-09		1003	0.08		0.0		4.7	16.0			NA	NA	1	
	22-Apr-09		1013	0		0.0		3.8	172			NA	NA	1	
	28-Apr-09		1016	0		0.0		3.7	17.2			NA	NA	1	
	09-Jun-09		999	0		0.0		3.0	18.0			NA NA	NA NA	1	
	18-Jun-09		1023	0	-	0.0		3.3	18.6			NA NA	NA NA	1	
	22-Jun-09 01-Jul-09		1011 992	0		0.0		1.6 2.5	19.0 18.0			NA NA	NA NA	1	
	01-Jul-09 07-Jul-09		1017	0		0.0		2.5	18.0			NA NA	NA NA	1	
	07-Jul-09 05-Aug-09		1017	0.17		0.0		3.3	18.0			NA NA	NA NA	1	
	11-Aug-09		1000	0		0.0		3.4	18.1			NA NA	NA NA	1	
	18-Aug-09		1017	0.02		0.0		2.4	19.0			NA	NA	1	
	01-Sep-09		1012	0		0.0		2.8	18.5			NA	NA	1	
GB20	07-Sep-09		993	0		0.0		3.5	19.0			NA	NA	1	
	15-Sep-09		1010	0		0.0		3.0	18.5			NA	NA	1	
	23-Sep-09		989			0.0		3.3	17.4			NA NA	NA NA	1	
	06-Oct-09		1004	0	-	0.0		3.6	14.9			NA NA	NA NA	1	
	15-Oct-09		998	0.01		0.0		3.8 4.2	16.7			NA NA	NA NA	1	
	20-Oct-09 04-Nov-09		1008 1010	0.01	+	0.0		4.2	16.5 15.0			NA NA	NA NA	1	
	17-Nov-09		1000	0		0.0		4.6	17.4			NA NA	NA NA	1	
	01-Dec-09		1000	0.01		0.0		5.7	0.5			NA NA	NA NA	1	
	14-Dec-09		1012	0		0.0		2.8	17.6			NA NA	NA NA	1	
	04-Jan-10		1009	0		0.0		6.1	17.2			NA	NA	1	
	18-Jan-10		1001	0		0.0		4.8	16.2			NA	NA	1	
	21-Oct-10		1011	0		0.0		4.3	11.4			NA	NA	1	
	17-Apr-14	11:13	1015	0.01	0.0	0.0	0.0	4.0	14.3	0	0	NA	NA	1	Good condition.
		9:02	1011	0.00	0.0	0.0	0.0	6.3	14.0	1	0	NA	NA	1	Good condition.
	30-Aug-16 20-Mar-17	11:08	1007	0.00	0.0	0.9	0.9	0.2	18.6	0	0	NA	NA	1	Good condition.





Marie Mari	Bore Number	Date	Time	Barometric Pressure	Relative Pressure	Stable Flow	Peak Methane	Sustained Methane	Carbon Dioxide	Oxygen	Carbon Monoxide	Hydrogen Sulfide	GSV CH₄	GSV CO₂	Character- istic	Comments
Marie Mari				(mb)	(mb)	(L/hour)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(ppm _v)	(ppm _v)			Situation	
May 19		25-Mar-09		1010	-0.5		57.7		1.0	0.2			NA	NA	2	
Marie Mar																
Provided 1																
Minima	CP21															
Page 1	OBZI															
Mathematical No. Mathematica																
1962 10 10 10 10 10 10 10 1			16:00								0	0				No cap, covered only with tape.
Seminary 100		30-Aug-16					Well Lost /	Destroyed								
March 1906 1,	GB21A	30-Aug-16		1010	0.30	5.8	49.9			0.0		1.0	2.89	0.03		Good condition
March			10:50			0.0		40.0			0.0	1.0				Good condition
Margine 1979 197																
Marie Mari																
24400 1																
1-1-1-1-1 1-1-1-1 1-1-1-1 1-1-																
Column C	GB23	28-Apr-09		1016	0.12		64.1		20.8	0.0			NA	NA	2	
1		21-Oct-10		1017	0		28.4		9.0	11.2			NA	NA	2	
1-hoy-16 101 1 1 1 1 1 1 1 1																
2008-14 1417																
Columb C																
Campaigness			14:17			5.5		75.9			1	1				Good condition
10 10 10 10 10 10 10 10																
1																
Sepher	GB24	15-Apr-09		1003	0.05		0.0			9.0			NA	NA	1	
Solution	22-Apr-09		1013	0.09		6.0		7.9	0.0			NA	NA	2		
## 24-May 02		29-Apr-09		1016	0.09		0.1		7.1	8.7			NA	NA	1	
694-09				1	1			Destroyed		1	1	1				
March Marc																
Adamon A																
Section Sect																
28-9c-00 1918 1918 0 0 0 0 0 0 0 0 0	GB25															
Stange S																
Standard	21-Oct-10		1008	0		3.0		7.3	2.1			NA	NA	2		
August		30-Aug-16					Well Lost /	Destroyed								
29Mart 1 1 28 1 1 1 1 28 1 1 1 1 1 1 1 1 1	GB25A	31-Aug-16														
108-pc-96 108			15:26			5		19.1			0	0				Good condition
Harmon H																
See 21-Apr-09 1010 0.01 0.01 0.0 0																
Alignost Barbon	GB26															
SA-Aig-16				1016	0.01		0.0		6.9	12.2			NA	NA	1	
## Apr-09		21-Oct-10		1017	0		0.0		5.3	11.5			NA	NA	11	
September Sept								Destroyed								
Page 1013 -0.34 -0.4 -0.4 -1.1 19.2 -0.5																
Harden																
See Name																
28-Apr-09	GB27															
21-Oct-10																
Search 31-Aug-16 9:33 1002 0 0 0.4 0.4 13.9 0.0 1 0 NA NA 1 Good condition				1017									NA	NA	2	
SEZA							Well Lost /	Destroyed								
21-Mar-17 11:23 1004 0 0 0 0.0 0.0 11:1 10:1 0 0 NA NA 1 Good condition	GB27A															
O3-Apr-09 1008 0.1 7.4 22.2 0.4 NA NA 2			11:23			0		0.0			0	0				Good condition
GB28 08-Apr-09 1020 0.04 7.7 21.4 0.0 NA NA NA 2 14-Apr-09 1003 -0.21 10.8 22.4 0.0 NA NA NA 2 21-Apr-09 1014 0.01 8.8 21.7 0.0 NA NA NA 2 28-Apr-09 1012 0.01 5.7 20.2 0.3 NA NA NA 2 99-Jun-09 1000 0.02 11.4 20.8 0.3 NA NA NA 2 21-Oct-10 1017 0 20.2 16.8 1.4 NA NA NA 2 04-Jul-13 11:00 1007 0.04 0.0 55.6 50.0 22.7 0.9 0 6 NA NA 2 Readings did not stablilise after -5 mins 16-Apr-14 12:30 1014 0.01 0.0 20.5 20.3 24.1 0.3 8 2 <td></td>																
Harpiton 1003 -0.21 10.8 22.4 0.0 NA NA 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1																
Caracter															<u> </u>	
BB28 28-Apr-09 1012 0.01 5.7 20.2 0.3 NA NA NA 2 09-Jun-09 1000 0.02 11.4 20.8 0.3 NA NA NA 2 21-Oct-10 1017 0 20.2 16.8 1.4 NA NA NA 2 04-Jul-13 11:00 1007 0.04 0.0 55.6 50.0 22.7 0.9 0 6 NA NA 2 Readings did not stablise after ~5 mins 16-Apr-14 12:30 1014 0.01 0.0 20.5 20.3 24.1 0.3 8 2 NA NA 2 Good condition, no standpipe cover 31-Aug-16 10:54 1003 0.02 0.5 41.4 41.2 23.3 0.0 5 6 0.21 0.12 2 Cracks in bore sealed with tape 21-Mar-17 11:06 1004 0.00 0.0 12.9 12.9 24.2 0.0 <td></td>																
09-Jun-09 1000 0.02 11.4 20.8 0.3 NA NA 2	CB20			1012	0.01		5.7		20.2	0.3			NA	NA	2	
04-Jul-13 11:00 1007 0.04 0.0 55.6 50.0 22.7 0.9 0 6 NA NA 2 Readings did not stablise after ~5 mins 16-Apr-14 12:30 1014 0.01 0.0 20.5 20.3 24.1 0.3 8 2 NA NA 2 Good condition, no standpipe cover 31-Aug-16 10:54 1003 0.02 0.5 41.4 41.2 23.3 0.0 5 6 0.21 0.12 2 Cracks in bore sealed with tape 21-Mar-17 11:06 1004 0.00 0.0 12.9 12.9 24.2 0.0 1 1 NA NA 2 GB29A	JD20	09-Jun-09		1000										NA		
16-Apr-14 12:30 1014 0.01 0.0 20.5 20.3 24.1 0.3 8 2 NA NA 2 Good condition, no standpipe cover 31-Aug-16 10:54 1003 0.02 0.5 41.4 41.2 23.3 0.0 5 6 0.21 0.12 2 Cracks in bore sealed with tape 21-Mar-17 11:06 1004 0.00 0.0 12.9 12.9 24.2 0.0 1 1 NA NA 2 GB29A GB29A																
31-Aug-16 10:54 1003 0.02 0.5 41.4 41.2 23.3 0.0 5 6 0.21 0.12 2 Cracks in bore sealed with tape 21-Mar-17 11:06 1004 0.00 0.0 12.9 12.9 24.2 0.0 1 1 NA NA 2 GB29A 31-Aug-16 9:14 1004 0.00 0.0 0.0 1.5 0.0 0.0 0.0 NA NA 1 Good condition						1										
21-Mar-17 11:06 1004 0.00 0.0 12.9 12.9 24.2 0.0 1 1 NA NA 2 GB29A 31-Aug-16 9:14 1004 0.00 0.0 0.0 0.0 18.5 0.0 0 NA NA 1 Good condition																
GB29A 31-Aug-16 9:14 1004 0.00 0.0 0.0 0.0 18.5 0.0 0 0 NA NA 1 Good condition																Cracks in bore sealed with tape
GB29A																Good condition
	GB29A	21-Mar-17	11:11	1004	0.00	0.0	0.1	0.0	14.7	8.6	0	0	NA NA	NA NA	1	Good condition



Bore Number	Date	Time	Barometric Pressure	Relative Pressure	Stable Flow	Peak Methane	Sustained Methane	Carbon Dioxide	Oxygen	Carbon Monoxide	Hydrogen Sulfide	GSV CH₄	GSV CO₂	Character- istic Situation ¹	Comments
			(mb)	(mb)	(L/hour)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(ppm _v)	(ppm _v)				
	24-Mar-09		1007	-0.12		0.1		7.6	9.5			NA NA	NA NA	1	
-	02-Apr-09 09-Apr-09		1007 1013	-0.25 -0.11		0.0		5.8 7.0	11.4 7.5			NA NA	NA NA	1	
-	14-Apr-09		999	-0.32		0.0		5.9	11.6			NA NA	NA NA	1	
-	21-Apr-09		1012	0		0.0		6.4	10.9			NA	NA	1	
-	28-Apr-09		1012	0		0.0		5.2	11.6			NA	NA	1	
•	09-Jun-09		999	0		0.0		3.8	133			NA	NA	1	
	18-Jun-09		1023	0		0.0		7.0	7.0			NA	NA	1	
-	22-Jun-09		1009	0		0.0		5.0	9.0			NA	NA	1	
-	01-Jul-09		990	0		0.0		7.2	8.2			NA	NA	1	
-	07-Jul-09 05-Aug-09		1020 1013	0 -0.15		0.0		8.2 10.4	4.2 2.5			NA NA	NA NA	1	
-	11-Aug-09		1001	0		0.0		10.4	2.2			NA NA	NA NA	1	
-	18-Aug-09		1017	0		0.0		10.7	2.9			NA	NA	1	
-	01-Sep-09		1012	0		0.0		10.7	3.2			NA	NA	1	
GB30	07-Sep-09		994	0.01		0.0		9.7	4.7			NA	NA	1	
	15-Sep-09		1013	0		0.0		10.6	2.8			NA	NA	1	
-	23-Sep-09		987			0.0		10.0	1.9			NA	NA	1	
	06-Oct-09		1004	-0.01		0.0		11.4	1.3			NA NA	NA NA	1	
	15-Oct-09 20-Oct-09		996 1008	0		0.0		9.8 11.5	2.9			NA NA	NA NA	1	
}	04-Nov-09		1008	0		0.0		11.5	4.2			NA NA	NA NA	1	
-	17-Nov-09		1003	0		0.0		10.1	9.0			NA NA	NA NA	1	
	01-Dec-09		1011	0		0.0		12.2	0.5			NA	NA	1	
	14-Dec-09		1012	0		0.0		12.8	1.7			NA	NA	1	
ļ	04-Jan-10		1008	0.01		0.0		11.4	1.9			NA	NA	1	
[18-Jan-10		1001	-0.02		0.0		7.3	12.2			NA	NA	1	
	21-Oct-10		1017	0		0.0		12.2	2.3			NA	NA	1	
	16-Apr-14	13:06	1014	0.01	0.0	0.0	0.0	8.2	5.8	0	0	NA NA	NA NA	1	Good condition.
-	30-Aug-16 20-Mar-17	14:11 15:06	1006 1003	0.00	0.0	0.0	0.0	10.9 7.1	1.9 12.6	0	0	NA NA	NA NA	1	Good condition. Good condition.
	24-Mar-09	15.06	1003	0.00	0.0	4.1	0.0	14.5	0.4	U	U	NA NA	NA NA	2	Good condition.
-	03-Apr-09		1008			5.1		13.6	0.5			NA NA	NA NA	2	
-	08-Apr-09		1017	0.02		3.0		12.6	3.1			NA	NA	2	
GB31	15-Apr-09		1000	0.12		2.5		12.6	5.4			NA	NA	2	
GBST	22-Apr-09		1011	0		0.2		12.6	2.8			NA	NA	1	
-	28-Apr-09		1014	0		0.1		12.3	2.9			NA	NA	1	
-	21-Oct-10		1008	0		1.1		9.5	0.0			NA	NA	2	
	30-Aug-16 24-Mar-09		1006	ſ		Well Lost /	Destroyed	18.7	0.3	ſ	ı	NA	NA	2	
-	02-Apr-09		1014	1.38		44.5		18.6	0.0			NA NA	NA NA	2	
-	08-Apr-09		1017	0.06		45.9		18.6	0.0			NA NA	NA NA	2	
-	15-Apr-09		1001	0.11		28.2		17.4	0.2			NA	NA	2	
•	22-Apr-09		1015	0.04		43.9		18.4	0.0			NA	NA	2	
	28-Apr-09		1018	0.04		41.5		18.5	0.0			NA	NA	2	
-	09-Jun-09		998	0		44.1		18.2	1.2			NA	NA	2	
-	18-Jun-09		1023	0		46.5		18.5	0.0			NA	NA	2	
}	22-Jun-09 01-Jul-09		1011 992	0		47.9 42.7		17.9 16.8	0.0			NA NA	NA NA	2	
}	01-Jul-09 07-Jul-09		992 1017	0		42.7		16.8	0.0			NA NA	NA NA	2	
-	05-Aug-09		1017	0		52.4		12.1	0.0			NA NA	NA NA	2	
	11-Aug-09		1001	0.2		51.3		10.7	0.0			NA	NA	2	
•	18-Aug-09		1017	0.08		45.7		11.7	1.9			NA	NA	2	
ļ	01-Sep-09		1012	0.08		52.9		13.9	0.0			NA	NA	2	
[07-Sep-09		993	0.02		52.0		13.2	0.2			NA	NA	2	
GB32	15-Sep-09		1012	0.14		52.6		13.7	0.0			NA	NA	2	
-	23-Sep-09		987	0.05		63.2		14.6	0.0			NA NA	NA NA	2	
ŀ	06-Oct-09 15-Oct-09		1004 996	-0.05 0.04		57.6 55.2		16.8 12.1	0.3			NA NA	NA NA	2	
	20-Oct-09		1008	0.04		55.4		15.5	0.6			NA NA	NA NA	2	
-	04-Nov-09		1011	0.25		53.8		18.3	0.2			NA NA	NA NA	2	
	17-Nov-09		1001	0.13		55.1		17.0	0.0			NA	NA	2	
-	01-Dec-09		1011	0.25		52.4		16.7	0.3			NA	NA	2	
ļ	14-Dec-09		1012	0		53.6		15.4	0.0			NA	NA	2	
	04-Jan-10		1008	0.06		54.9		17.9	0.0			NA	NA	2	
-	18-Jan-10		1001	0.09		52.3		17.5	0.0			NA	NA	2	
	21-Oct-10	440=	1011	0	2.2	54.8	04.6	16.8	0.2	_		NA 0.04	NA 0.05	2	
ŀ	03-Jul-13 04-Jul-13	14:05 11:30	1019 1007	4.30 0.13	0.3	81.0 82.3	81.0 82.2	16.2 16.6	0.0	0	0	0.24 0.58	0.05 0.12	2	Sampled again due to falling pressure conditions
-	16-Apr-14	13:56	1007	0.13	0.7	67.4	67.4	17.6	0.0	4	3	0.58	0.12	2	Water in standpipe cover, H2S odour.
-	30-Aug-16	11:56	1007	0.01	13.2	71.2	71.1	19.1	0.0	5	1	9.40	2.52	4	Good condition
-	20-Mar-17	13:00	1005	0.29	5.2	70.7	70.7	20.9	0.0	3	1	3.68	1.09	4	Good condition
GB33A	31-Aug-16	13:12	1004	0.00	0.0	0.0	0.0	2.2	18.4	0	0	NA	NA	1	Good condition
GDSSA	21-Mar-17	14:14	1002	0.00	0.0	0.0	0.0	1.2	19.5	0	0	NA	NA	1	Good condition
GB36A	31-Aug-16	11:40	1001	0.04	1.0	0.5	0.0	5.1	0.0	1	1	0.01	0.05	1	Good condition
	20-Mar-17	14:45	1007	0.05	1.4	0.0	0.0	6.0	5.2	0	0	0.00	0.08	2	Broken stickup cover. PVC seems ok



Bore Number	Date	Time	Barometric Pressure	Relative Pressure	Stable Flow	Peak Methane	Sustained Methane	Carbon Dioxide	Oxygen	Carbon Monoxide	Hydrogen Sulfide	GSV CH₄	GSV CO₂	Character- istic	Comments
			(mb)	(mb)	(L/hour)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(ppm _v)	(ppm _v)			Situation ¹	
	24-Mar-09		1006	(1110)	(L) Hour	0.2	(/0 0/0)	0.2	21.1	(PP:::()	(PP()	NA	NA	1	
	02-Apr-09		1014	-0.37		30.9		19.5	0.0			NA	NA	2	
ļ	08-Apr-09		1022	0.13		36.0		20.4	0			NA	NA	2	
	15-Apr-09		1003	-0.3		7.8		7.9	6.7			NA	NA	2	
	22-Apr-09		1015	-1.32		33.6		19.9	0.0			NA	NA	2	
	29-Apr-09		1018	-1.32		20.9		15.3	3.1			NA	NA	2	
•	09-Jun-09		998	0		39.5		20.6	0.0			NA NA	NA NA	2	
ŀ	18-Jun-09 22-Jun-09		1023 1011	0		23.6 40.8		17.3	0.6			NA NA	NA NA	2	
ŀ	01-Jul-09		992	0		41.6		19.9	0.1			NA NA	NA NA	2	
ŀ	07-Jul-09		1017	0		43.1		19.2	0.0			NA	NA	2	
•	05-Aug-09		1012	0.08		47.7		20.4	0.0			NA	NA	2	
	11-Aug-09		1001	0.2		46.6		20.2	0.0			NA	NA	2	
	18-Aug-09		1017	0.18		45.0		20.0	0.6			NA	NA	2	
	01-Sep-09		1012	0.11		48.8		20.6	0.0			NA	NA	2	
GB37	07-Sep-09		993	0		37.0		16.0	4.8			NA	NA	2	
•	15-Sep-09		1012	0.26		48.8		19.9	0.0			NA NA	NA NA	2	
ŀ	23-Sep-09 06-Oct-09		988 1004	-0.06		54.4 53.2		19.9	0.2			NA NA	NA NA	2	
ŀ	15-Oct-09		996	0.03		49.7		20.1	0.1			NA NA	NA NA	2	
ŀ	20-Oct-09		1008	0.2		48.8		19.4	0.6			NA NA	NA NA	2	
ļ	04-Nov-09		1011	0.24		51.4		20.8	0.0			NA	NA	2	
ļ	17-Nov-09		1001	0.14		49.6		20.7	0.0			NA	NA	2	
Ī	01-Dec-09		1011	026		50.1		20.1	0.0			NA	NA	2	
	14-Dec-09		1012	0		48.4		19.7	0.0			NA	NA	2	
,	04-Jan-10		1008	0		47.8		21.2	0.8			NA	NA	2	
	18-Jan-10		1001	0.12		47.9		20.4	0.1			NA	NA	2	
	21-Oct-10 16-Apr-14	14:53	1011 1013	0.01	0.4	52.7 53.7	53.7	19.2	0.1	7	2	NA 0.21	NA 0.08	2	Strong USS adoug good distri-
ŀ	30-Aug-16	14:53	1013	1.01	13.5	0.0	0.0	6.8	13.1	1	1	0.21	0.08	3	Strong H2S odour, good condition. Good condition
ŀ	20-Mar-17	12:55	1007	0.01	0.3	64.2	64.2	23.1	0.0	5	1	0.00	0.92	2	Good condition
	18-Jun-09	12.00	1023	0.01	0.0	0.0	04.2	2.5	19.0	Ü		NA NA	NA	1	Cood containon
ŀ	22-Jun-09		1009	0		0.0		1.5	19.2			NA	NA	1	
-	01-Jul-09		989	0		0.0		1.6	19.0			NA	NA	1	
	07-Jul-09		1020	0		0.0		1.6	18.7			NA	NA	1	
	05-Aug-09		1016	0		0.0		2.8	18.7			NA	NA	1	
	11-Aug-09		1002	0.28		0.0		2.8	18.5			NA	NA	1	
	18-Aug-09		1017	-0.03		0.0		2.4	18.6			NA	NA	1	
	01-Sep-09		1011	0		0.0		2.5	18.6			NA	NA NA	1	
ŀ	07-Sep-09 15-Sep-09		994 1017	0.03		0.0		2.5	19.4 18.9			NA NA	NA NA	1	
ŀ	23-Sep-09		989	0.03		0.0		2.1	18.6			NA NA	NA NA	1	
	06-Oct-09		1004	0		0.0		2.6	18.1			NA	NA	1	
GB40	15-Oct-09		996	0		0.0		2.5	19.0			NA	NA	1	
	20-Oct-09		1009	0.03		0.0		2.7	18.8			NA	NA	1	
	04-Nov-09		1012	0		0.0		2.5	18.4			NA	NA	1	
	17-Nov-09			0		0.0		2.1	18.8			NA	NA	1	
	01-Dec-09		1014	0		0.0		3.2	17.6			NA	NA	1	
}	14-Dec-09		1012	0		0.0		1.9	17.0			NA NA	NA NA	1	
ļ	04-Jan-10 18-Jan-10		1008 1002	0.05		0.0		2.3	18.5 18.7			NA NA	NA NA	1	
ŀ	21-Oct-10		1002	0.05		0.0		1.9	16.9			NA NA	NA NA	1	
ŀ	03-Jul-13	11:55	1008	1.14	0.0	0.0	0.0	3.7	17.1	0	0	NA NA	NA NA	1	
ļ	16-Apr-14	10:47	1013	0.01	0.1	0.3	0.3	2.5	18.1	0	0	0.00	0.00	1	Good condition.
ļ	30-Aug-16	15:17	1004	0.00	0.0	0.0	0.0	3.0	17.9	0	0	NA	NA	1	Good condition.
	21-Mar-17	9:48	1004	0.00	0.0	0.0	0.0	3.2	17.5	0	0	NA	NA	1	Good condition.
	18-Jun-09		1023	0		0.0		2.6	19.0			NA	NA	1	
ļ	22-Jun-09		1009	0		0.0		1.2	19.4			NA	NA	1	
	01-Jul-09		989	0		0.0		1.3	19.3			NA NA	NA NA	1	
ŀ	07-Jul-09		1020	0.14		0.0		2.1	19.1 19.2			NA NA	NA NA	1	
}	05-Aug-09 11-Aug-09		1016 1002	0.14		0.0		4.0	19.2 18.9			NA NA	NA NA	1	
ŀ	11-Aug-09 18-Aug-09		1002	0		0.0		2.0	19.0			NA NA	NA NA	1	
ŀ	01-Sep-09		1011	0.02		0.0		1.8	19.3			NA NA	NA NA	1	
ļ	07-Sep-09		994	0.02		0.0		2.0	19.7			NA	NA	1	
ļ	15-Sep-09		1017	0		0.0		2.2	19.0			NA	NA	1	
Ī	23-Sep-09		989			0.0		2.1	18.4			NA	NA	1	
GB41	06-Oct-09		1004	0		0.0		2.5	18.1			NA	NA	1	
	15-Oct-09		996	-0.01		0.0		2.3	18.7			NA	NA	1	
	20-Oct-09		1009	0.04		0.0		2.8	18.7			NA NA	NA	1	
}	04-Nov-09		1012	0		0.0		2.8	18.2			NA NA	NA NA	1	
ŀ	17-Nov-09 01-Dec-09		1003	0		0.0		2.3	18.7 17.6			NA NA	NA NA	1	
}	01-Dec-09 14-Dec-09		1014 1012	0		0.0		2.4	17.6			NA NA	NA NA	1	
ļ			1012	0.01		0.0		3.2	18.0			NA NA	NA NA	1	
l	04-Jan-10	 	1002	0		0.0		2.2	18.8			NA NA	NA NA	1	
	18-Jan-10						1			i e	1	NIA	NA	1	
-			1008	0		0.0		2.6	17.0			NA	INA	' '	
	18-Jan-10	10:54		0	0.1	0.0	0.4	2.6 3.0	17.0 17.8	0	0	0.00	0.00	1	Good condition.
	18-Jan-10 21-Oct-10	10:54 15:04	1008		0.1		0.4			0	0				Good condition. Good condition.



Bore Number	Date	Time	Barometric Pressure	Relative Pressure	Stable Flow	Peak Methane	Sustained Methane	Carbon Dioxide	Oxygen	Carbon Monoxide	Hydrogen Sulfide	GSV CH₄	GSV CO₂	Character- istic	Comments
	19 Jun 00		(mb)	(mb)	(L/hour)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(ppm _v)	(ppm _v)	NA	NA	Situation	
-	18-Jun-09 22-Jun-09		1023 1009	0		0.0		1.4	18.9 19.5			NA NA	NA NA	1	
-	01-Jul-09 07-Jul-09		990 1020	0		0.0		1.8 1.9	19.0 18.3			NA NA	NA NA	1	
-	05-Aug-09		1016	0		0.0		2.8	18.4			NA	NA NA	1	
	11-Aug-09 18-Aug-09		1002 1017	0		0.0		3.0 2.7	18.0 18.3			NA NA	NA NA	1	
	01-Sep-09		1011	0		0.0		2.7	18.2			NA NA	NA NA	1	
•	07-Sep-09 15-Sep-09		994 1017	0		0.0		3.0	19.0 18.1			NA NA	NA NA	1	
	23-Sep-09 06-Oct-09		987 1004	-0.03		0.0		2.8	17.7 18.3			NA NA	NA NA	1	
GB42	15-Oct-09		996	0		0.0		2.9	18.1			NA	NA	1	
	20-Oct-09 04-Nov-09		1009 1012	0		0.0		2.7	18.9 18.8			NA NA	NA NA	1	
	17-Nov-09		1003	0		0.0		2.2 3.3	18.7			NA NA	NA NA	1	
	01-Dec-09 14-Dec-09		1014 1012	0		0.0		2.9	17.3 17.3			NA NA	NA NA	1	
•	04-Jan-10 18-Jan-10		1008 1002	0.03		0.0		3.6 2.2	17.0 19.0			NA NA	NA NA	1	
	21-Oct-10		1008	0		0.0		2.8	16.6			NA	NA	1	
-	03-Jul-13 16-Apr-14	12:05 11:10	1021 1013	0.00	0.0	0.0	0.0	2.7	18.3 17.9	1	0	0.00	0.00	1	Good condition
•	30-Aug-16	14:51	1005	0.00	0.0	0.0	0.0	3.2 2.5	17.5	0	0	NA NA	NA NA	1	Good condition
	21-Mar-17 01-Jul-09	9:33	1004	0.00	0.0	0.0	0.0	4.0	18.3 8.2	J	J	NA NA	NA NA	1	Good condition
	07-Jul-09 14-Jul-09		1020 997	-0.6 0.55		0.0		5.2 6.0	10.9 13.2			NA NA	NA NA	1	
	21-Jul-09		1004	-0.72		0.1		9.0	10.7			NA	NA	1	
	28-Jul-09 05-Aug-09	<u> </u>	1016 1016	-0.07 0		0.0		6.5	13.7 14.2			NA NA	NA NA	1	
	11-Aug-09 18-Aug-09	_	1002 1017	0.2		0.0		6.1 5.3	14.1 15.4	_	_	NA NA	NA NA	1	
	01-Sep-09		1011	0		0.0		6.3	14.2			NA	NA	1	
	07-Sep-09 15-Sep-09		994 1017	0		0.0		4.8 6.2	16.6 14.3			NA NA	NA NA	1	
GB43 3.1	23-Sep-09 06-Oct-09		988 1004	-0.02		0.0		5.5 6.2	13.8 14.3			NA NA	NA NA	1	
	15-Oct-09		996	-0.02		0.0		7.0	12.1			NA NA	NA NA	1	
-	20-Oct-09 04-Nov-09		1009 1012	0 -0.02		0.0		6.7 7.1	14.1 13.2			NA NA	NA NA	1	
	17-Nov-09		1003	0		0.0		7.2	13.2			NA	NA	1	
•	01-Dec-09 14-Dec-09		1014 1012	0.05		0.0		7.1 7.4	13.4 12.0			NA NA	NA NA	1	
	04-Jan-10 18-Jan-10		1008 1002	0.04		0.0		7.7 7.6	130 14.0			NA NA	NA NA	1	
	21-Oct-10		1008	0		0.0		6.3	11.4			NA	NA	1	
•	16-Apr-14 21-Mar-17	11:18 9:24	1013 1004	0.01	0.1	0.5	0.5	6.8 3.7	13.9 17.3	0	0	0.00 NA	0.01 NA	1	Good condition. Good condition.
•	01-Jul-09 07-Jul-09		1020	-1.1		0.1		6.4 6.9	6.2 6.6			NA NA	NA NA	1	
	14-Jul-09		997	0.1		0.0		8.4	9.2			NA	NA	1	
	21-Jul-09 28-Jul-09		1004 1016	0		0.0		6.3 4.9	13.7 15.0			NA NA	NA NA	1	
	05-Aug-09		1016	-0.39		0.0		8.4 8.4	12.2 12.4			NA NA	NA NA	1	
	11-Aug-09 18-Aug-09		1002 1017	0.08		0.0		6.6	14.8			NA NA	NA NA	1	
	01-Sep-09 07-Sep-09		1011 994	-0.04 0		0.0		8.6 5.6	12.6 16.3			NA NA	NA NA	1	
	15-Sep-09		1017	0		0.0		8.3	12.7			NA	NA	1	
GB43 5.0	23-Sep-09 06-Oct-09		987 1004	-0.02		0.0		7.7 8.3	12.2			NA NA	NA NA	1	
	15-Oct-09 20-Oct-09		996 1009	0		0.0		8.1 8.4	13.4 13.4			NA NA	NA NA	1	
	04-Nov-09		1012	-0.03		0.0		8.5	12.6			NA	NA	1	
	17-Dec-09 01-Dec-09		1003 1014	0		0.0		8.5 8.5	12.3 12.6			NA NA	NA NA	1	
	14-Dec-09 04-Jan-10		1012 1008	0		0.0		8.5 9.1	11.2 12.1			NA NA	NA NA	1	
	18-Jan-10		1002	0.02		0.0		9.5	12.2			NA	NA	1	
	21-Oct-10 16-Apr-14	11:25	1008 1013	0.10	0.0	0.0	0.5	7.5 14.0	10.7 9.6	2	0	NA NA	NA NA	1	Good condition.
	21-Mar-17 18-Jun-09	9:27	1004 1023	0.00	0.0	0.0	0.0	0.0 3.9	20.6 17.3	0	0	NA NA	NA NA	1	Good condition.
	22-Jun-09		1009	0		0.0		2.2	18.5			NA	NA	1	
	01-Jul-09 07-Jul-09		990 1020	0		0.0		2.6 3.1	17.8 16.9			NA NA	NA NA	1	
}	05-Aug-09		1016	0		0.0		3.4	17.6			NA	NA	1	
	11-Aug-09 18-Aug-09		1002 1017	-0.1 0.03		0.0		3.6	16.8 17.3		<u> </u>	NA NA	NA NA	1	
ļ	01-Sep-09 07-Sep-09		1011 994	-0.01 0		0.0		2.7 3.1	17.8 18.1			NA NA	NA NA	1	
	15-Sep-09		1017	-0.05		0.0		3.6	17.3			NA	NA	1	
0= :	23-Sep-09 06-Oct-09		988 1004	-0.06		0.0		3.7 4.4	15.9 16.2			NA NA	NA NA	1	
GB44	15-Oct-09		996	0		0.0		3.9	16.0			NA	NA	1	
	20-Oct-09 04-Nov-09		1009 1012	0.04		0.0		4.4 5.1	16.8 15.6			NA NA	NA NA	1	
	17-Nov-09 01-Dec-09		1003 1014	0		0.0		5.2 6.1	15.6 14.3			NA NA	NA NA	1	
	14-Dec-09		1012	0		0.1		5.1	14.7			NA	NA	1	
ŀ	04-Jan-10 18-Jan-10	<u> </u>	1008 1002	-0.01 0		0.0		5.6 5.0	15.2 16.6			NA NA	NA NA	1	
ļ	21-Oct-10 16-Apr-14	11:15	1008 1013	0	0.1	0.0	0.4	4.6 6.1	13.8 13.5	1	0	NA 0.00	NA 0.01	1	Good condition
	30-Aug-16	11:15	1013	0.01	0.1	0.0	0.0	8.7	13.5	9	9	NA	NA	1	Good condition Good condition
	21-Mar-17					Well Des	stroyed								



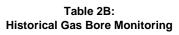
Bore Number	Date	Time	Barometric Pressure	Relative Pressure	Stable Flow	Peak Methane	Sustained Methane	Carbon Dioxide	Oxygen	Carbon Monoxide	Hydrogen Sulfide	GSV CH₄	GSV CO₂	Character- istic Situation ¹	Comments
	10 1 00		(mb)	(mb)	(L/hour)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(ppm _v)	(ppm _v)	NIA	NI A		
	18-Jun-09 22-Jun-09		1023 1009	0		0.0		2.1	18.2 18.7			NA NA	NA NA	1	
	01-Jul-09		990	0		0.0		2.0	18.3			NA	NA	1	
	07-Jul-09		1020	0		0.0		2.3	18.1			NA	NA	1	
	05-Aug-09 11-Aug-09		1013 1002	0.2		0.0		3.5	18.1 17.5			NA NA	NA NA	1	
	18-Aug-09		1017	0.02		0.0		3.3	17.6			NA	NA	1	
	01-Sep-09		1011	0		0.0		2.9	18.1			NA	NA	1	
	07-Sep-09 15-Sep-09		994 1013	0		0.0		3.0	19.0 18.0			NA NA	NA NA	1	
	23-Sep-09		988	-		0.0		3.4	17.1			NA	NA NA	1	
	06-Oct-09		1004	0		0.0		2.9	18.0			NA	NA	1	
GB45	15-Oct-09 20-Oct-09		996 1009	0.01		0.0		3.1	17.2 18.6			NA NA	NA NA	1	
	04-Nov-09		1012	0		0.0		3.3	17.9			NA	NA NA	1	
	17-Nov-09		1003	0		0.0		3.2	17.9			NA	NA	1	
	01-Dec-09 14-Dec-09		1011 1012	0		0.0		3.9	16.6 16.2			NA NA	NA NA	1	
	04-Jan-10		1008	0		0.0		3.9	16.7			NA NA	NA NA	1	
	18-Jan-10		1002	-0.03		0.0		3.0	18.5			NA	NA	1	
	21-Oct-10	40.05	1008	0	0.0	0.0	0.0	4.1	14.7	0	0	NA NA	NA NA	1	
	03-Jul-13 16-Apr-14	12:25 12:48	1020 1014	-0.01 0.00	0.0	0.0	0.0	4.5 3.4	15.9 16.8	0	0	NA NA	NA NA	1	Good condition
	30-Aug-16	14:27	1005	0.00	0.0	0.0	0.0	4.4	16.1	0	0	NA	NA	1	Good condition
	21-Mar-17	9:02	1004	0.00	0.0	0.3	0.0	4.7	16.2	0	0	NA NA	NA NA	1	Good condition
	01-Jul-09 07-Jul-09		992 1020	0		91.6 90.8		2.9	0.0			NA NA	NA NA	2	
	05-Aug-09		1008	0.44		85.5		3.3	0.0			NA NA	NA NA	2	
	11-Aug-09		1000	0.18		86.3		3.4	0.0	_		NA	NA	2	
	18-Aug-09		1017	0.31		83.3		3.0	0.2			NA NA	NA NA	2	
	01-Sep-09 07-Sep-09		1012 993	0.21		86.8 71.8		3.0 2.8	0.0 2.5			NA NA	NA NA	2	
	15-Sep-09		1010	0.27		84.2		3.0	0.0			NA	NA NA	2	
	23-Sep-09		989			95.0		3.2	0.0	_ _		NA	NA NA	2	
GB46	06-Oct-09 15-Oct-09		1004 998	-0.07 0.08		90.4		2.8	0.3			NA NA	NA NA	2	
	20-Oct-09		1008	0.08		85.5		2.6	0.0			NA NA	NA NA	2	
	04-Nov-09		1010	0.29		84.3		2.8	0.0			NA	NA	2	
	17-Nov-09		1000	0.14		85.2		2.7	0.0			NA	NA	2	
	01-Dec-09 14-Dec-09		1009 1012	0.23		86.4 84.3		2.6	17.6 0.0			NA NA	NA NA	2	
	04-Jan-10		1009	0.29		87.4		2.2	0.0			NA	NA	2	
	18-Jan-10		1001	0.37		85.4		2.7	0.2			NA	NA	2	
	21-Oct-10 30-Aug-16		1011	0		85.9 Well Lost /	Destroyed	2.7	0.0			NA	NA	2	
00.404	30-Aug-16	11:13	1009	0.50	8	95.9	95.8	4.1	0.0	11	1	7.67	0.33	4	Good condition
GB46A	20-Mar-17	11:25	1006	0.00	0	1.2	0.1	7.9	4.8	1	0	NA	NA	2	Good condition
	18-Jun-09		1023	0		0.0		1.2	196			NA NA	NA NA	1	
	22-Jun-09 01-Jul-09		1011 992	0.01		0.0		1.6 3.0	17.3 16.2			NA NA	NA NA	1	
	07-Jul-09		1017	0		0.0		3.1	15.9			NA	NA	1	
	05-Aug-09		1008	0		0.0		5.2	14.0			NA	NA	1	
	11-Aug-09 18-Aug-09		1000 1017	0.02		0.0		5.2	13.8 13.4			NA NA	NA NA	1	
	01-Sep-09		1012	0		0.0		5.5	13.6			NA	NA	1	
	07-Sep-09		993	-0.01		0.0		4.6	15.5			NA	NA	1	
	15-Sep-09 23-Sep-09		1010 989	0		0.0		5.6 5.8	13.0 10.8			NA NA	NA NA	1	
	06-Oct-09		1004	0		0.0		6.3	11.0			NA	NA	1	
GB47	15-Oct-09		998	0		0.0		6.0	12.3	_		NA	NA	1	
	20-Oct-09 04-Nov-09		1008 1010	0		0.0		6.9 8.7	9.3 6.1			NA NA	NA NA	1	
	17-Nov-09		1000	0		0.0		9.8	5.5			NA NA	NA NA	1	
	01-Dec-09		1009	0.02		0.0		10.7	6.6	_		NA	NA	1	
	14-Dec-09 04-Jan-10		1012 1009	0		0.0		10.7	3.4 6.2			NA NA	NA NA	1	
	18-Jan-10		1009	0.01		0.0		11.5	9.6			NA NA	NA NA	1	
	21-Oct-10		1011	0		0.0		12.8	0.3			NA	NA	1	
	03-Jul-13 17-Apr-14	15:50 10:06	1018 1012	0.06 0.01	0.0	0.7 4.3	0.7 4.3	11.6 15.7	0.0	0	0	NA 0.00	NA 0.02	2	Good condition
	30-Aug-16	9:19	1012	0.00	0.1	0.0	0.0	7.7	5.4	1	1	NA	0.02 NA	1	Good condition
	20-Mar-17	11:40	1006	0.00	0.0	0.0	0.0	6.4	14.5	0	0	NA	NA	1	Good condition
	18-Jun-09		1023	0		0.0		2.8	18.2			NA NA	NA NA	1	
	20 1 7		1011 992	0		0.0		2.3	18.8 18.5			NA NA	NA NA	1	
	22-Jun-09 01-Jul-09		992					2.1	18.3			NA	NA	1	
			1017	0		0.0					ı —	NA	NIA		
	01-Jul-09 07-Jul-09 05-Aug-09		1017 1012	0		0.0		3.5	16.2				NA NA	1	
	01-Jul-09 07-Jul-09 05-Aug-09 11-Aug-09		1017 1012 1001	0 0.07		0.0		3.5 3.6	16.8			NA	NA	1	
	01-Jul-09 07-Jul-09 05-Aug-09		1017 1012	0		0.0		3.5							
	01-Jul-09 07-Jul-09 05-Aug-09 11-Aug-09 18-Aug-09 01-Sep-09		1017 1012 1001 1017 1012 993	0 0.07 0 0		0.0 0.0 0.0 0.1 0.0		3.5 3.6 2.9 3.6 2.9	16.8 17.4 16.5 18.7			NA NA NA	NA NA NA	1 1 1	
	01-Jul-09 07-Jul-09 05-Aug-09 11-Aug-09 18-Aug-09 01-Sep-09 07-Sep-09		1017 1012 1001 1017 1012 993 1012	0 0.07 0		0.0 0.0 0.0 0.1 0.0 0.0		3.5 3.6 2.9 3.6 2.9 3.7	16.8 17.4 16.5 18.7 16.9			NA NA NA NA	NA NA NA NA	1 1 1 1	
	01-Jul-09 07-Jul-09 05-Aug-09 11-Aug-09 18-Aug-09 01-Sep-09		1017 1012 1001 1017 1012 993	0 0.07 0 0		0.0 0.0 0.0 0.1 0.0		3.5 3.6 2.9 3.6 2.9	16.8 17.4 16.5 18.7			NA NA NA	NA NA NA	1 1 1	
GB48	01-Jul-09 07-Jul-09 05-Aug-09 11-Aug-09 18-Aug-09 01-Sep-09 07-Sep-09 15-Sep-09 23-Sep-09		1017 1012 1001 1017 1012 993 1012 988	0 0.07 0 0 0		0.0 0.0 0.0 0.1 0.0 0.0 0.0		3.5 3.6 2.9 3.6 2.9 3.7 3.6	16.8 17.4 16.5 18.7 16.9 15.7			NA NA NA NA NA	NA NA NA NA NA	1 1 1 1 1	
GB48	01-Jul-09 07-Jul-09 05-Aug-09 11-Aug-09 18-Aug-09 01-Sep-09 07-Sep-09 15-Sep-09 23-Sep-09 06-Oct-09 15-Oct-09		1017 1012 1001 1017 1012 993 1012 988 1004 996 1008	0 0.07 0 0 0 0 0		0.0 0.0 0.1 0.0 0.0 0.0 0.0 0.0		3.5 3.6 2.9 3.6 2.9 3.7 3.6 7.4 7.6	16.8 17.4 16.5 18.7 16.9 15.7 10.5 10.9			NA	NA	1 1 1 1 1 1 1 1 1	
GB48	01-Jul-09 07-Jul-09 05-Aug-09 11-Aug-09 18-Aug-09 01-Sep-09 07-Sep-09 15-Sep-09 23-Sep-09 06-Oct-09 15-Oct-09 20-Oct-09		1017 1012 1001 1017 1012 993 1012 988 1004 996 1008	0 0.07 0 0 0 0 0		0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0		3.5 3.6 2.9 3.6 2.9 3.7 3.6 7.4 7.6 9.4	16.8 17.4 16.5 18.7 16.9 15.7 10.5 10.9 10.0			NA	NA	1 1 1 1 1 1 1 1 1 1	
GB48	01-Jul-09 07-Jul-09 05-Aug-09 11-Aug-09 18-Aug-09 01-Sep-09 07-Sep-09 15-Sep-09 23-Sep-09 06-Oct-09 15-Oct-09		1017 1012 1001 1017 1012 993 1012 988 1004 996 1008	0 0.07 0 0 0 0 0		0.0 0.0 0.1 0.0 0.0 0.0 0.0 0.0		3.5 3.6 2.9 3.6 2.9 3.7 3.6 7.4 7.6	16.8 17.4 16.5 18.7 16.9 15.7 10.5 10.9			NA	NA	1 1 1 1 1 1 1 1 1	
GB48	01-Jul-09 07-Jul-09 05-Aug-09 11-Aug-09 18-Aug-09 01-Sep-09 07-Sep-09 15-Sep-09 23-Sep-09 06-Oct-09 15-Oct-09 20-Oct-09 04-Nov-09		1017 1012 1001 1017 1012 993 1012 988 1004 996 1008 1011 1001 1011	0 0.07 0 0 0 0 0 0 0 0 0 0 0		0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0		3.5 3.6 2.9 3.6 2.9 3.7 3.6 7.4 7.6 9.4 8.0 5.7 9.7	16.8 17.4 16.5 18.7 16.9 15.7 10.5 10.9 10.0 12.0 14.9 8.0 6.0			NA N	NA N	1 1 1 1 1 1 1 1 1 1 1	
GB48	01-Jul-09 07-Jul-09 05-Aug-09 11-Aug-09 18-Aug-09 01-Sep-09 07-Sep-09 15-Sep-09 23-Sep-09 06-Oct-09 15-Oct-09 04-Nov-09 17-Nov-09 01-Dec-09 14-Dec-09 04-Jan-10		1017 1012 1001 1017 1012 993 1012 988 1004 996 1008 1011 1001 1011 1012	0 0.07 0 0 0 0 0 0 0 0 0 0 0 0		0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0		3.5 3.6 2.9 3.6 2.9 3.7 3.6 7.4 7.6 9.4 8.0 5.7 9.7 12.0	16.8 17.4 16.5 18.7 16.9 15.7 10.5 10.9 10.0 12.0 14.9 8.0 6.0 8.2			NA N	NA N	1 1 1 1 1 1 1 1 1 1 1 1 1 1	
GB48	01-Jul-09 07-Jul-09 05-Aug-09 11-Aug-09 18-Aug-09 01-Sep-09 07-Sep-09 15-Sep-09 23-Sep-09 06-Oct-09 15-Oct-09 04-Nov-09 17-Nov-09 01-Dec-09 14-Dec-09 04-Jan-10		1017 1012 1001 1017 1012 993 1012 988 1004 996 1008 1011 1001 1011 1012 1008 1001	0 0.07 0 0 0 0 0 0 0 0 0 0 0 0 0		0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0		3.5 3.6 2.9 3.6 2.9 3.7 3.6 7.4 7.6 9.4 8.0 5.7 9.7 12.0 11.2 5.5	16.8 17.4 16.5 18.7 16.9 15.7 10.5 10.9 10.0 12.0 14.9 8.0 6.0 8.2			NA N	NA N	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
GB48	01-Jul-09 07-Jul-09 05-Aug-09 11-Aug-09 18-Aug-09 01-Sep-09 07-Sep-09 15-Sep-09 23-Sep-09 06-Oct-09 15-Oct-09 04-Nov-09 17-Nov-09 01-Dec-09 14-Dec-09 04-Jan-10	14:15	1017 1012 1001 1017 1012 993 1012 988 1004 996 1008 1011 1001 1011 1012	0 0.07 0 0 0 0 0 0 0 0 0 0 0 0	0.0	0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0	7.4	3.5 3.6 2.9 3.6 2.9 3.7 3.6 7.4 7.6 9.4 8.0 5.7 9.7 12.0	16.8 17.4 16.5 18.7 16.9 15.7 10.5 10.9 10.0 12.0 14.9 8.0 6.0 8.2	0	0	NA N	NA N	1 1 1 1 1 1 1 1 1 1 1 1 1 1	
GB48	01-Jul-09 07-Jul-09 05-Aug-09 11-Aug-09 18-Aug-09 01-Sep-09 07-Sep-09 15-Sep-09 23-Sep-09 06-Oct-09 15-Oct-09 04-Nov-09 17-Nov-09 01-Dec-09 14-Dec-09 04-Jan-10 18-Jan-10 21-Oct-10	14:15 14:02 13:23	1017 1012 1001 1017 1012 993 1012 988 1004 996 1008 1011 1001 1011 1012 1008 1001	0 0.07 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.1 0.0	0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0 0.0 0.0	7.4 0.1 0.0	3.5 3.6 2.9 3.6 2.9 3.7 3.6 7.4 7.6 9.4 8.0 5.7 9.7 12.0 11.2 5.5 10.5	16.8 17.4 16.5 18.7 16.9 15.7 10.5 10.9 10.0 12.0 14.9 8.0 6.0 8.2 15.1 5.7	0 0 1	0 0 1	NA N	NA N	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Water in standpipe cover Water in standpipe cover



Bore Number	Date	Time	Barometric Pressure	Relative Pressure	Stable Flow	Peak Methane	Sustained Methane	Carbon Dioxide	Oxygen	Carbon Monoxide	Hydrogen Sulfide	GSV CH₄	GSV CO₂	Character- istic Situation ¹	Comments
	18-Jun-09		(mb)	(mb) 0	(L/hour)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(ppm _v)	(ppm _v)	NA	NA		
	18-Jun-09 22-Jun-09		1023	0		0.0		0.9	20.0			NA NA	NA NA	1	
	01-Jul-09		992	0		0.0		0.8	20.3			NA	NA	1	
	07-Jul-09 05-Aug-09		1017 1012	0 -0.15		0.0		1.1	19.4 19.9			NA NA	NA NA	1	
	11-Aug-09		1000	0		0.0		1.0	20.4			NA NA	NA NA	1	
	18-Aug-09		1017	0		0.0		0.9	19.9			NA	NA	1	
	01-Sep-09 07-Sep-09		1012 993	0		0.0		0.9	19.8 21.2			NA NA	NA NA	1	
	15-Sep-09		1011	0		0.0		0.9	20.0			NA	NA	1	
	23-Sep-09 06-Oct-09		989 1004	-0.29		0.0		1.2	19.4 18.5			NA NA	NA NA	1	
GB49	15-Oct-09		998	0		0.0		1.3	19.9			NA NA	NA NA	1	
	20-Oct-09		1008	0		0.0		1.6	19.5			NA	NA	1	
	04-Nov-09 17-Nov-09		1010 1000	0.01		0.4		2.1 1.7	17.8 18.6			NA NA	NA NA	1	
	01-Dec-09		1009	0		0.5		3.7	16.0			NA	NA	1	
	14-Dec-09 04-Jan-10		1012 1009	0.01		0.0		2.4	17.8 17.7			NA NA	NA NA	1	
	18-Jan-10		1001	0.01		0.3		2.0	18.8			NA NA	NA NA	1	
	21-Oct-10		1011	0		0.2		5.0	14.7			NA	NA	1	
	17-Apr-14 30-Aug-16	9:50 9:41	1012 1009	0.01	0.0	0.0	0.0	2.8 1.9	17.2 19.2	0	0	NA NA	NA NA	1	Good condition Good condition
	20-Mar-17	11:55	1007	0.00	0.0	0.0	0.0	2.1	18.2	0	0	NA	NA	1	Good condition
	18-Jun-09 22-Jun-09		1023 1011	0		0.0		4.8 3.2	16.9 17.5			NA NA	NA NA	1	
	01-Jul-09		992	0		0.0		3.6	17.1			NA NA	NA NA	1	
	07-Jul-09	_	1017	0		0.0		3.6	16.7			NA NA	NA NA	1	
	05-Aug-09 11-Aug-09		1012 1000	-0.19 0.22		0.0		5.5 5.6	15.3 15.2			NA NA	NA NA	1	
	18-Aug-09		1017	0.02		0.0		5.7	14.8			NA	NA	1	
	01-Sep-09 07-Sep-09		1012 993	0 -0.01		0.0		6.2 5.4	13.9 15.7			NA NA	NA NA	1	
	15-Sep-09		1011	0.04		0.0		6.2	13.7			NA NA	NA NA	1	
	23-Sep-09		989			0.0		6.1	12.5			NA	NA	1	
GB50	06-Oct-09 15-Oct-09		1004 998	0.01		0.0		7.1 7.0	12.1 11.9			NA NA	NA NA	1	
	20-Oct-09		1008	0		0.0		8.0	11.3			NA	NA	1	
	04-Nov-09		1010	0		0.0		8.9	10.9			NA	NA	1	
	17-Nov-09 01-Dec-09		1000 1009	-0.03		0.0		9.7	12.5 10.4			NA NA	NA NA	1	
	14-Dec-09		1012	0		0.0		10.3	9.2			NA	NA	1	
	04-Jan-10 18-Jan-10		1009 1001	0.03		0.0		10.6	10.7 15.5			NA NA	NA NA	1	
	21-Oct-10		1011	0		0.0		7.9	9.6			NA NA	NA NA	1	
	03-Jul-13	15:30	1018	0.00	0.0	0.1	0.0	7.5	11.8	0	0	NA	NA	1	
	17-Apr-14 30-Aug-16	9:43 9:47	1012 1010	0.00	0.1	0.0	0.0	4.7 6.2	15.4 14.2	0	0	0.00 NA	0.00 NA	1	Good condition Good condition
	20-Mar-17	12:00	1007	0.00	0.0	0.0	0.0	4.1	16.9	0	0	NA	NA	1	Good condition
	01-Jul-09 07-Jul-09		1017	0		0.0		0.4	17.4 16.6			NA NA	NA NA	1	
	14-Jul-09		995	0		0.0		0.9	6.6			NA	NA	1	
	21-Jul-09 28-Jul-09		1004 1013	0		0.0		1.2	160 6.4			NA NA	NA NA	1	
	05-Aug-09		1013	0.17		0.0		0.2	15.7			NA NA	NA NA	1	
	11-Aug-09		1000	0.04		0.0		2.3	15.4			NA	NA	1	
	18-Aug-09 01-Sep-09		1017 1012	0.02		0.0		2.1	15.8 14.8			NA NA	NA NA	1	
	07-Sep-09		993	0		0.0		2.6	16.6			NA	NA	1	
	15-Sep-09 23-Sep-09		1011 988	0.04		0.0		3.2	15.2 13.4			NA NA	NA NA	1	
GB51 2.7	06-Oct-09		1004	-0.02		0.0		4.2	13.4			NA	NA	1	
	15-Oct-09		996	0		0.0		3.1	14.2			NA NA	NA NA	1	
	20-Oct-09 04-Nov-09		1008 1011	0		0.0		4.5 4.5	13.1 14.4			NA NA	NA NA	1	
	17-Nov-09		1000	0		0.0		5.3	13.4			NA	NA	1	
	01-Dec-09 14-Dec-09		1009 1012	0 -0.01		0.0		5.3 5.3	14.2 13.4			NA NA	NA NA	1	
	04-Jan-10		1008	-0.02		0.0		2.3	16.0			NA	NA	1	
	18-Jan-10 21-Oct-10		1001 1011	0		0.0		4.7 5.3	16.3 13.2			NA NA	NA NA	1	
	16-Apr-14	15:34	1013	0.01	0.1	0.0	0.0	5.6	15.5	0	0	0.00	0.01	1	Good condition
	20-Mar-17	12:10	1006	0.00	0.0	0.0	0.0	5.7	15.5	0	0	NA NA	NA NA	1	Good condition
	01-Jul-09 07-Jul-09		1017	0		0.0		6.8	5.8 6.5			NA NA	NA NA	1	
	14-Jul-09		995	0.02		0.0		11.1	7.8			NA	NA	1	
	21-Jul-09 28-Jul-09		1004 1013	0.4		0.0		8.9 6.2	7.9 11.0			NA NA	NA NA	1	
	05-Aug-09		1013	0.00		0.0		8.9	7.0			NA NA	NA NA	1	
	11-Aug-09		1000	0		0.0		9.1	6.1			NA NA	NA NA	1	
	18-Aug-09 01-Sep-09		1017 1012	0.03		0.0		9.5	6.8 5.9			NA NA	NA NA	1	
	07-Sep-09		993	0		0.0		7.3	11.0			NA	NA	1	
	15-Sep-09 23-Sep-09		1011 988	0.06		0.0		9.8	6.0 3.4			NA NA	NA NA	1	
GB51 5.8	06-Oct-09		1004	-0.01		0.0		10.1	6.5			NA NA	NA NA	1	
	15-Oct-09		996	0		0.0		9.6	7.2			NA NA	NA NA	1	
	20-Oct-09 04-Nov-09		1008 1011	0		0.0		10.0	5.9 5.2			NA NA	NA NA	1	
	17-Nov-09		1000	0.04		0.0		10.4	5.4			NA	NA	1	
	01-Dec-09 14-Dec-09		1009 1012	0.01		0.0		10.0 9.9	6.4 5.2			NA NA	NA NA	1	
	14-Dec-09 04-Jan-10		1012	0		0.0		7.9	5.2			NA NA	NA NA	1	
	18-Jan-10		1001	0.02		0.0		10.6	5.5			NA	NA	1	
		l	1011	0		0.0	2.0	2.3	6.0 0.7	0	0	NA 0.00	NA 0.01	1	Possible blockage
	21-Oct-10 16-Apr-14	15:26	1013	0.01	0.1	0.0	0.0	70.4	0.7						



Bore Number	Date	Time	Barometric Pressure	Relative Pressure	Stable Flow	Peak Methane	Sustained Methane	Carbon Dioxide	Oxygen	Carbon Monoxide	Hydrogen Sulfide	GSV CH₄	GSV CO₂	Character- istic	Comments
			(mb)	(mb)	(L/hour)	(% v/v)	(% v/v)	(% v/v)	(% v/v)	(ppm _v)	(ppm _v)			Situation ¹	
	14-Jul-09		995	-5.61		0.0		5.6	0.4			NA NA	NA NA	1	
	21-Jul-09 28-Jul-09		1004 1013	-1.52 -0.27		0.0		7.5 6.1	2.2 5.4			NA NA	NA NA	1	
	05-Aug-09		1012	-0.26		0.0		8.2	2.1			NA	NA	1	
	11-Aug-09 18-Aug-09		1000 1017	0		0.0		8.6 9.4	2.0			NA NA	NA NA	1	
	01-Sep-09		1017	0		0.0		10.2	1.9			NA	NA NA	1	
	07-Sep-09		993	0		0.0		7.5	7.9			NA	NA	1	
	15-Sep-09 23-Sep-09		1011 988	0.06		0.0		10.1 9.7	2.3 1.6			NA NA	NA NA	1	
OD54.7.0	06-Oct-09		1004	-0.03		0.0		10.7	3.3			NA	NA NA	1	
GB51 7.8	15-Oct-09		996	0		0.0		9.9	2.1			NA	NA	1	
	20-Oct-09 04-Nov-09		1008 1011	0.05		0.0		10.6 11.1	3.6			NA NA	NA NA	1	
	17-Nov-09		1000	0.03		0.0		11.0	3.8			NA NA	NA NA	1	
	01-Dec-09		1009	0		0.0		10.7	4.6			NA	NA	1	
	14-Dec-09 04-Jan-10		1012 1009	0		0.0		10.1 7.1	3.9 4.9			NA NA	NA NA	1	
	18-Jan-10		1001	0		0.0		11.1	4.7			NA	NA	1	
	21-Oct-10		1011	0		0.0		8.5	7.1			NA	NA	1	
	16-Apr-14 20-Mar-17	15:38 12:18	1013 1006	0.01	0.1	0.0	0.0	1.9 8.1	17.1 10.5	0	0	0.00 NA	0.00 NA	1	Good condition. Possible blockage Good condition
	18-Jun-09	12.10	1023	0	0.0	0.0	0.0	1.8	19.7	Ü		NA	NA	1	ecou conamo.
	22-Jun-09		1011	0		0.0		1.0	20.2			NA NA	NA NA	1	
	01-Jul-09 07-Jul-09		992 1017	0		0.0		1.5 1.1	19.2 19.6			NA NA	NA NA	1	
	05-Aug-09		1012	-0.21		0.0		2.5	18.5			NA	NA	1	
	11-Aug-09		1000	0.04		0.0		2.8	18.4			NA NA	NA NA	1	
	18-Aug-09 01-Sep-09		1017 1012	0.01		0.0		2.6 3.0	18.1 17.3			NA NA	NA NA	1	
	07-Sep-09		993	0		0.0		3.5	18.1			NA NA	NA NA	1	
	15-Sep-09	_	1011	0.04		0.0	_	3.5	17.2	_		NA NA	NA NA	1	
	23-Sep-09 06-Oct-09		988 1004	-0.03		0.0		4.2	16.1 16.3			NA NA	NA NA	1	
GB52	15-Oct-09		996	0.02		0.0		3.4	18.3			NA NA	NA NA	1	
	20-Oct-09		1008	0.02		0.0		3.9	17.6	_		NA NA	NA NA	1	
	04-Nov-09 17-Nov-09		1011 1000	0		0.0		2.8	18.0 19.0			NA NA	NA NA	1	
	01-Dec-09		1009	0		0.0		2.7	18.1			NA	NA	1	
	14-Dec-09		1012	0		0.0		2.5	11.0			NA	NA	1	
	04-Jan-10 18-Jan-10		1009 1001	0.01		0.0		1.7 1.6	19.3 19.4			NA NA	NA NA	1	
	21-Oct-10		1011	0		0.0		3.7	15.8			NA	NA	1	
	03-Jul-13	15:10	1018	0.00	0.0	0.1	0.0	2.6	18.3	0	0	NA	NA	1	
	16-Apr-14 30-Aug-16	15:22 10:00	1013 1010	0.00	0.1	0.0	0.0	2.7 3.9	17.8 16.8	0	0	0.00 NA	0.00 NA	1	Good condition, spiders. Good condition, spiders.
	20-Mar-17	12:25	1006	0.00	0.0	0.0	0.0	1.7	19.3	0	0	NA	NA	1	Good condition
	18-Jun-09		1023	0		0.0		1.4	20.0			NA	NA NA	1	
	22-Jun-09 01-Jul-09		1011 992	0		0.0		0.8 1.0	20.5			NA NA	NA NA	1	
	07-Jul-09		1017	0		0.0		0.9	19.9			NA	NA	1	
	05-Aug-09		1012 1000	0		0.0		1.5 1.8	19.7 19.6			NA NA	NA NA	1	
	11-Aug-09 18-Aug-09		1000	0		0.0		1.8	19.5			NA NA	NA NA	1	
	01-Sep-09		1012	0		0.0		1.4	19.5			NA	NA	1	
	07-Sep-09 15-Sep-09		993 1011	0		0.0		1.5 1.4	20.7 19.8			NA NA	NA NA	1	
	23-Sep-09		988	0		0.0		1.8	19.1			NA NA	NA NA	1	
	06-Oct-09		1004	-0.02		0.0		1.6	19.3			NA	NA	1	
GB53	15-Oct-09 20-Oct-09		996 1008	0		0.0		1.2	20.0 19.8			NA NA	NA NA	1	
	04-Nov-09		1011	0		0.0		1.9	18.9			NA	NA NA	1	
	17-Nov-09	_	1000	0		0.0		1.4	19.5			NA	NA	1	
	01-Dec-09 14-Dec-09		1009 1012	0.02		0.0		2.4 1.6	18.3 18.9			NA NA	NA NA	1	
	04-Jan-10		1012	0		0.0		2.9	18.9			NA NA	NA NA	1	
	18-Jan-10	_	1001	0		0.0		1.3	19.6			NA	NA	1	
	21-Oct-10 03-Jul-13	15:00	1011 1018	0.00	0.0	0.0	0.0	2.3	17.8 19.2	0	0	NA NA	NA NA	1	
	16-Apr-14	15:16	1012	0.00	0.0	0.0	0.0	1.8	18.8	0	0	0.00	0.00	1	Good condition
	30-Aug-16	10:06	1010	0.00	0.0	0.0	0.0	2.1	19.2	0	1	NA	NA	1	Good condition
	20-Mar-17 18-Aug-09	12:30	1005 1015	0.00	0.0	0.0	0.0	2.5 1.3	18.3 19.1	0	0	NA NA	NA NA	1	Good condition
	01-Sep-09		1012	0.02		0.0		1.9	18.4			NA NA	NA NA	1	
	07-Sep-09		993	0		0.3		2.1	19.2			NA	NA	1	
	15-Sep-09 23-Sep-09		1012 988	0		0.0		2.2 3.7	18.5 14.9			NA NA	NA NA	1	
	23-Sep-09 06-Oct-09		1004	0		0.0		4.8	14.9			NA NA	NA NA	1	
	15-Oct-09	_	996	0		0.0		5.2	15.1			NA	NA	1	
	20-Oct-09 04-Nov-09		1008 1011	0		0.1		5.7 4.9	13.8 14.5			NA NA	NA NA	1	
GB54	17-Nov-09		1001	0		0.0		3.7	16.4			NA NA	NA NA	1	
	01-Dec-09	_	1011	0.02		0.0		7.4	10.8			NA	NA	1	
	14-Dec-09 04-Jan-10		1012 1008	0		0.0		6.2 9.6	12.3 11.7			NA NA	NA NA	1	
	18-Jan-10		1001	0		0.0		3.8	16.2			NA	NA NA	1	
	21-Oct-10	16.	1011	0		0.0		5.3	11.6			NA 0.00	NA 0.04	1	
	16-Apr-14 30-Aug-16	15:43 11:45	1012 1007	0.01 0.11	0.1 2.2	0.0	0.0	5.8 7.0	13.4 11.4	0	0	0.00	0.01 0.15	1 2	Good condition Good condition
	20-Mar-17	12:28	1007	0.00	0.0	0.0	0.0	7.9	9.5	1	1	NA	NA NA	1	Good condition
OD= (=	17-Apr-14	12:00	1015	0.16	0.1	13.7	13.7	3.0	0.1	3	0	0.01	0.00	2	Good condition
GB54B	31-Aug-16 20-Mar-17	12:33 9:46	1002 1008	0.01	0.3	0.0	18.1 0.0	5.9 0.3	0.3 19.4	0	0	0.06 NA	0.02 NA	2	Possible opening / crack near well cap fitting Possible opening / crack near well cap fitting
	17-Apr-14	12:08	1015	0.01	0.3	59.8	59.8	16.2	0.1	2	0	0.18	0.05	2	Good condition
GB55	31-Aug-16	13:29	1001	0.38	6.4	45.1	45.1	12.4	1.7	5	1	2.89	0.79	3	Good condition
	20-Mar-17 16-Apr-14	9:30 11:21	1008 1015	0.00	0.0	63.2 17.8	63.0 17.8	18.5 1.1	0.0	1	1 0	NA 0.02	NA 0.00	2	Casing damaged and bent, not cracked Good condition
GB56	30-Aug-16	10:30	1010	0.17	3.1	11.5	11.5	2.4	3.3	0	0	0.36	0.07	2	Good condition
GB30		11:00	1007	0.03	0.6	19.7	19.3	1.4	0.0	0	0	0.12	0.01	2	Good condition





Bore Number	Date	Time	Barometric Pressure (mb)	Relative Pressure (mb)	Stable Flow (L/hour)	Peak Methane (% v/v)	Sustained Methane (% v/v)	Carbon Dioxide (% v/v)	Oxygen (% v/v)	Carbon Monoxide (ppm _v)	Hydrogen Sulfide (ppm _v)	GSV CH₄	GSV CO₂	Character- istic Situation ¹	Comments
	17-Apr-14	13:15	1015	0.10	0.3	0.2	0.2	8.6	10.9	2	0	0.00	0.03	1	Good condition
GB57	30-Aug-16	8:37	1012	0.00	0.0	0.0	0.0	7.0	11.6	1	1	NA	NA	1	Good condition
	21-Mar-17	11:30	1004	0.00	0.0	0.0	0.0	6.0	14.3	0	0	NA	NA	1	Good condition
	17-Apr-14	13:25	1015	0.01	0.1	0.0	0.0	6.2	14.3	0	0	0.00	0.01	1	Good condition
GB58	31-Aug-16	9:25	1003	0.00	0.0	0.0	0.0	6.3	12.8	0	0	NA	NA	1	Good condition
	21-Mar-17	11:35	1004	0.00	0.0	0.0	0.0	7.4	13.8	0	0	NA	NA	1	Good condition
	16-Apr-14	9:32	1018	0.00	0.0	0.0	0.0	2.2	19.2	0	0	NA	NA	1	
GB59	31-Aug-16	8:41	1004	-0.08	-1.5	0.0	0.0	5.4	10.0	0	0	NA	NA	1	Good condition
	21-Mar-17	11:54	1004	0.00	0.0	0.0	0.0	2.5	17.7	0	0	NA	NA	1	Good condition
	30-Aug-16	11:37	1008	0.46	7.4	8.6	8.5	0.8	0.0	5	1	0.64	0.06	2	Good condition
GB60	20-Mar-17	14:29	1009	0.27	5.1	6.4	6.4	1.1	0.0	0	1	0.33	0.06	2	Good condition
	31-Aug-16	11:46	1002	0.49	7.9	65.3	65.3	20.6	0.0	5	1	5.16	1.63	4	Good condition
GB61	20-Mar-17	14:23	1007	0.42	7.6	66.2	66.1	19.8	0.0	0	1	5.03	1.50	4	Good condition
	30-Aug-16	11:32	1008	0.50	8.0	17.2	17.1	1.5	0.0	1	0	1.38	0.12	3	Good condition
GB62	20-Mar-17	14:33	1008	0.20	4.0	3.1	3.1	3.3	1.4	0	1	0.12	0.13	2	Good condition
	30-Aug-16	11:25	1008	0.30	5.2	2.4	1.9	0.8	0.6	6	1	0.12	0.04	2	Good condition
GB63	20-Mar-17	11:50	1006	0.06	1.3	2.7	2.7	0.7	4.0	0	1	0.04	0.01	2	Good condition
	31-Aug-16	12:25	1001	0.64	9.7	37.6	37.5	2.9	0.0	5	1	3.65	0.28	4	Good condition
GB64	20-Mar-17	14:12	1008	0.43	7.6	40.0	40.0	2.8	0.0	0	1	3.04	0.21	3	Good condition
	30-Aug-16	9:07	1010	0.00	0.0	0.0	0.0	8.2	9.3	1	0	NA	NA	1	Good condition
GB65	20-Mar-17	11:15	1006	0.00	0.0	1.5	1.5	0.3	18.5	0	1	NA	NA	2	Good condition
	30-Aug-16	11:04	1009	0.31	5.2	20.1	20.1	0.8	0.0	1	0	1.05	0.04	3	Good condition
GB66	21-Mar-17	12:08	1003	0.10	2.1	17.5	14.8	2.2	0.0	0	0	0.37	0.05	2	Good condition
	30-Aug-16	13:34	1007	0.00	0.0	0.0	0.0	4.6	15.0	0	0	NA	NA	1	Good condition
GB67	20-Mar-17	13:17	1005	0.00	0.0	0.0	0.0	4.0	17.3	0	0	NA NA	NA NA	1	Good condition
	31-Aug-16	11:29	1002	0.24	4.3	57.8	57.7	18.2	1.4	6	1	2.49	0.78	3	Good condition
GB68	20-Mar-17	14:39	1007	0.15	3.9	53.5	53.4	20.9	0.0	3	1	2.09	0.82	3	Good condition
	31-Aug-16	11:21	1002	0.10	2.0	29.7	29.6	13.8	0.7	1	0	0.59	0.28	2	Good condition
GB69	20-Mar-17	14:06	1008	0.06	1.3	7.2	7.2	14.7	0.0	0	1	0.09	0.19	2	Broken gatic cover. PVC seems ok
	31-Aug-16	11:16	1002	0.00	0.0	1.2	1.2	1.3	16.8	0	0	NA	NA	2	Good condition
GB70	20-Mar-17	14:00	1002	0.05	1.0	0.7	0.7	14.5	0.0	0	1	0.01	0.15	2	Good condition
	31-Aug-16	11:11	1000	0.03	2.5	17.4	17.4	5.2	10.3	0	0	0.44	0.13	2	Good condition
GB71	20-Mar-17	15:31	1002	0.68	11.0	46.1	46.1	7.9	0.0	0	0	5.07	0.13	4	Good condition
	31-Aug-16	11:00	1004	0.00	0.0	0.0	0.0	0.1	21.4	0	0	NA	NA	1	Good condition
GB72	20-Mar-17	15:20	1002	0.00	0.0	0.0	0.0	12.3	6.6	0	0	NA NA	NA NA	1	Good condition
	31-Aug-16	10:36	1004	0.00	0.0	12.1	12.1	9.4	1.7	1	1	NA NA	NA NA	2	Good condition
GB73	21-Mar-17	8:59	1005	0.00	0.0	41.8	41.8	26.4	0.0	0	0	NA NA	NA NA	2	Good condition
	31-Aug-16	9:20	1004	0.00	0.0	2.7	2.7	13.6	0.0	1	0	NA NA	NA NA	2	Good condition
GB75	21-Mar-17	11:17	1004	0.00	0.0	0.9	0.9	20.5	0.0	1	0	NA NA	NA NA	1	Good condition
		15:51	1004	0.00	0.0	0.9	0.9	14.0	0.0	0	0	NA NA	NA NA	1	
GB76	30-Aug-16 21-Mar-17	10:15	1004	0.00	0.0	0.1	0.1	9.7	11.7	0	0	NA NA	NA NA	1	Good condition Good condition
	30-Aug-16	15:55	1004	0.00	0.0	0.0	0.0	2.1	18.2	0	0	NA NA	NA NA	1	Good condition
GB77	21-Mar-17	10:20	1004	0.00	0.0	0.0	0.0	9.5	11.8	0	0	NA NA	NA NA	1	
		15:45	1004	0.00	0.0	0.1	0.1	9.5	5.3	0	0	NA NA	NA NA	1	Good condition Good condition
GB78	30-Aug-16		1		-					0	0				
	21-Mar-17	10:10	1004	0.00	0.0	0.3	0.0	5.9	16.0	-		NA NA	NA NA	1	Good condition
GB79	30-Aug-16	15:26	1004	0.00	0.0	0.0	0.0	13.4	4.8	1	0	NA	NA	1	Good condition
	21-Mar-17	9:53	1004	0.00	0.0	0.0	0.0	15.0	6.7	0	0	NA	NA	1	Good condition

Methane detected >1%

GSV CH4: Methane Gas Screening Value GSV CO₂: Carbon Dioxide Gas Screening Value

1: British Standard 8485:2015 Characteristic Gas Situation

1: British Star	ndard 8485:2015 Characterisi
Situation	Hazard Potential
1	Very Low
2	Low
3	Moderate
4	Moderate to High
5	High
6	Very High



Table 3: Groundwater Well Survey Data

Well ID	Survey Date	Easting	Northing	Top of casing	Surveyed Stickup
				(mAHD)	(m)
BH4D	9-Sep-16	333412.834	5801161.844	63.951	-
BH06A	20-May-14	333195.770	5800703.287	57.431	0.83
DUIGZA	20-May-14	333112.948	5800889.416	59.111	0.81
BH07A	9-Sep-16	333112.882	5800889.386	59.107	-
BH09	HLA Report-04	333294.565	5800705.033	60.860	0.86
D	20-May-14	333295.142	5800787.764	61.260	0.81
BH09A	9-Sep-16	333295.115	5800787.852	61.261	-
	HLA Report-04	333208.669	5801239.912	64.120	-
BH10	20-May-14	333208.559	5801239.893	64.131	-0.100
	23-Mar-17		/ell Destroyed - N	leed to repair and re	survey
5	HLA Report-04	333285.155	5801174.577	61.010	-0.05
BH11	9-Sep-16			II Destroyed	1
BH11A	20-May-14	333283.995	5801174.869	61.676	0.789
	HLA Report-04	333246.998	5801101.750	60.820	-
BH12	9-Sep-16	333246.964	5801101.640	60.931	-
	HLA Report-04	333494.380	5800788.197	61.940	0.90
BH15	9-Sep-16	333494.393	5800788.023	62.910	-
	20-May-14	333315.460	5800957.002	61.873	0.82
BH16A	9-Sep-16	333315.431	5800957.103	61.871	-
BH17	HLA Report-04	333119.003	5800714.434	57.370	0.90
Biiii	HLA Report-04	333545.552	5801141.538	62.850	0.83
BH18	9-Sep-16	333545.509	5801141.622	62.859	-
Billo	23-Mar-17			leed to repair and re	SURVEY
	HLA Report-04	333506.507	5800893.779	62.730	0.70
BH19	9-Sep-16	333506.467	5800893.800	62.692	0.70
Billo	23-Mar-17			leed to repair and re	SURVEY
	HLA Report-04	333507.521	5800865.685	62.800	0.80
BH20	9-Sep-16	333507.504	5800865.579	62.812	-
220	23-Mar-17			leed to repair and re	survev
BH21A	20-May-14	333283.302	5800708.292	60.433	0.90
DITZIA	HLA Report-04	333410.807	5800775.390	60.900	0.80
BH22	9-Sep-16	333410.863	5800775.242	60.901	-
	HLA Report-04	333334.810	5801070.563	62.160	0.29
BH24	9-Sep-16	333334.010		II Destroyed	0.23
BH24A	9-Sep-16	333332.387	5801084.998	64.686	_
BH25	HLA Report-04	333258.396	5801089.582	61.520	0.38
	HLA Report-04				0.44
BH26	•	333148.735	5801094.258 5801150.866	62.050	0.44
BH28	HLA Report-04	333469.486		62.270 Il Destroyed	0.94
	9-Sep-16 9-Sep-16	222466 070	5801145.967		-
BH28A	23-Mar-17	333466.979		62.842 leed to repair and re	
				•	
BH29	HLA Report-04	333478.417	5800908.654	61.820	0.50
DLIOC	9-Sep-16	333478.390	5800908.669	61.671	- 0.00
BH30	20-May-14	333235.595	5801019.058	61.045	0.86
BH31	20-May-14	333153.385	5801017.056	59.413	0.89
BH32	20-May-14	333102.198	5800812.459	59.177	0.80
BH32D	20-May-14	333102.097	5800811.121	59.286	0.79
BH33	9-Sep-16	333402.570	5801051.131	65.523	-
BH34	9-Sep-16	333317.489	5801027.384	61.948	-
BH35	9-Sep-16	333401.657	5800867.668	61.901	-
BH36	9-Sep-16	333334.467	5801286.205	62.257	-
BH37	9-Sep-16	333081.433	5800926.900	61.389	-
BH38	9-Sep-16	333172.168	5800597.036	55.895	-

Table 4: Historical Gauging Data

Well ID	Date Measured	Top of Well Casing Elevation	Measured height of well stickup	Total Well Depth	Depth to Groundwater	Depth to Groundwater	Groundwater Elevation	
		(mAHD)	(m)	(mBTOC)	(mBTOC)	(mBGS)	(mAHD)	
51145	2-Sep-16	63.951	0.8	8.41	4.400	3.600	59.551	
BH4D	23-Mar-17	63.951	0.8	8.37	4.213	3.413	59.738	
	16-Apr-14	57.431	0.86	11.96	10.618	9.758	46.813	
BH06A	2-Sep-16	57.431	0.83	11.98	10.695	9.865	46.736	
	23-Mar-17	57.431	0.80	11.96	10.796	9.996	46.635	
BH07A	16-Apr-14	59.111	0.80	12.86	10.758	9.958	48.353	
	2-Sep-16	59.107	0.81	12.81	11.072	10.262	48.035	
	23-Mar-17	59.107	0.80	12.79	11.245	10.445	47.862	
DUIDO	3-Jul-13	60.860	0.86	11.96	10.618	9.758	50.242	
	16-Apr-14	60.860	0.40	12.77	Dry	Dry	-	
BH09	2-Sep-16	60.860	0.40	12.77	Dry	Dry	-	
	23-Mar-17	60.860	0.40	12.77	Dry	Dry		
	2-May-14	61.260	1.00	15.66	-	-	-	
BH09A	2-Sep-16	61.261	0.82	15.57	14.438	13.618	46.823	
	23-Mar-17	61.261	0.80	15.23	14.665	13.865	46.596	
	3-Jul-13	64.120	Flush	-	Dry	Dry	-	
BH10	16-Apr-14	64.120	Flush	11.33	9.569	9.569	54.551	
ВПТО	2-Sep-16	64.131	Flush	9.55	Dry	Dry	-	
	23-Mar-17		•	Well Des	troyed	•		
BH11	16-Apr-14	61.010	Flush	6.50	6.350	6.350	54.660	
ВПП	2-Sep-16		•	Well Des	troyed	•		
	2-May-14	61.676	1.00	11.31	-	-	-	
BH11A	2-Sep-16	61.676	0.61	-	8.695	8.085	52.981	
	23-Mar-17	61.676	0.50	11.34	8.406	7.906	53.270	
BH12	16-Apr-14	60.820	Flush	10.94	6.780	6.780	54.040	
	2-Sep-16	60.931	0.25	9.24	6.194	5.944	54.737	
	23-Mar-17	60.931	0.25	9.91	7.344	7.094	53.587	
	3-Jul-13	61.940	0.90	-	7.534	6.634	54.406	
BH15	16-Apr-14	61.940	0.90	9.40	7.936	7.036	54.004	
БПІЗ	2-Sep-16	62.910	0.92	12.30	7.202	6.282	55.708	
	23-Mar-17	62.910	0.90	11.90	7.913	7.013	54.997	
	16-Apr-14	61.873	0.81	12.90	10.011	9.201	51.862	
BH16A	2-Sep-16	61.871	0.81	12.92	10.614	9.804	51.257	
	23-Mar-17	61.871	0.80	10.61	10.595	9.795	51.276	
BH17	3-Jul-13	57.370	0.90	-	10.995	10.095	46.375	
	16-Apr-14	57.370	0.90	12.17	11.855	10.955	45.515	
Dilli	2-Sep-16	57.434	0.91	12.17	11.558	10.648	45.876	
	23-Mar-17	57.434	0.90	12.22	12.088	11.188	45.346	
	3-Jul-13	62.850	0.83	-	4.350	3.520	58.500	
BH18	16-Apr-14	62.850	0.83	4.79	4.700	3.870	58.150	
	2-Sep-16	62.859	0.75	9.77	4.845	4.095	58.014	
	23-Mar-17			Well Des	troyed			
	16-Apr-14	62.730	0.70	8.10	6.783	6.083	55.947	
BH19	2-Sep-16	62.692	0.78	8.08	6.596	5.816	56.096	
	23-Mar-17			Well Des	troyed			
	3-Jul-13	62.800	0.80	-	6.769	5.969	56.031	
BH20	16-Apr-14	62.800	0.80	11.70	7.065	6.265	55.735	
	2-Sep-16	62.812	0.80	11.72	6.786	5.986	56.026	
	23-Mar-17	Well Destroyed						
BH21A	16-Apr-14	60.433	0.90	13.10	11.970	11.070	48.463	
	2-Sep-16	60.433	0.89	13.10	12.134	11.244	48.299	
	23-Mar-17	60.433	0.90	12.08	12.063	11.163	48.370	

Table 4: Historical Gauging Data

Well ID	Date Measured	Top of Well Casing Elevation	Measured height of well stickup	Total Well Depth	Depth to Groundwater	Depth to Groundwater	Groundwater Elevation		
		(mAHD)	(m)	(mBTOC)	(mBTOC)	(mBGS)	(mAHD)		
BH22	3-Jul-13	60.900	0.80	-	5.026	4.226	55.874		
	16-Apr-14	60.900	0.80	10.63	5.131	4.331	55.769		
	2-Sep-16	60.901	0.73	10.73	4.835	4.105	56.066		
	23-Mar-17	60.901	0.80	10.69	5.102	4.302	55.799		
BH24	3-Jul-13	62.160	0.29	-	7.546	7.256	54.614		
	16-Apr-14	62.160	0.29	11.34	7.768	7.478	54.392		
	2-Sep-16		•	Well Des	troyed	•			
BH24A	2-Sep-16	64.686	0.75	12.84	11.468	10.718	53.218		
	23-Mar-17	64.686	0.75	12.82	11.180	10.430	53.506		
	3-Jul-13	61.520	0.38	-	5.074	4.694	56.446		
BH25	16-Apr-14	61.520	0.38	6.06	5.170	4.790	56.350		
BH25	2-Sep-16	61.520	0.20	6.02	5.551	5.351	55.969		
	23-Mar-17	61.520	0.20	6.03	5.414	5.214	56.106		
BH26	3-Jul-13	62.050	0.44	-	8.748	8.308	53.302		
	16-Apr-14	62.050	0.44	10.93	8.912	8.472	53.138		
	2-Sep-16	62.050	0.65	10.93	9.605	8.955	52.445		
	23-Mar-17	62.050	0.50	10.89	9.632	9.132	52.418		
BH28	3-Jul-13	62.270	0.94	-	1.404	0.464	60.866		
	16-Apr-14	62.270	0.94	10.50	1.363	0.423	60.907		
	2-Sep-16			Well Des	troyed				
BH28A	2-Sep-16	62.842	-	8.01	4.063	-	58.779		
DITIZON	23-Mar-17	Well Destroyed							
	3-Jul-13	61.820	0.50	-	3.490	2.990	58.330		
BH29	16-Apr-14	61.820	0.50	6.54	3.762	3.262	58.058		
	2-Sep-16	61.671	0.58	6.56	3.567	2.987	58.104		
	23-Mar-17	61.671	0.60	6.51	3.705	3.105	57.966		
	17-Apr-14	61.045	0.84	12.37	9.894	9.054	51.151		
BH30	2-Sep-16	61.045	0.84	12.36	10.044	9.204	51.001		
	23-Mar-17	61.045	0.80	12.36	9.978	9.178	51.067		
	17-Apr-14	59.413	0.74	11.22	8.984	8.244	50.429		
BH31	2-Sep-16	59.413	0.87	11.19	9.376	8.506	50.037		
	23-Mar-17	59.413	0.80	11.02	9.424	8.624	49.989		
BH32	17-Apr-14	59.177	0.77	12.86	12.340	11.570	46.837		
	2-Sep-16	59.177	0.77	12.85	Dry	Dry	-		
	23-Mar-17	59.177	0.80	12.84	Dry	Dry	-		
B	2-May-14	59.286	1.00	15.93	-	-	-		
BH32D	2-Sep-16	59.286	0.80	15.85	13.588	12.788	45.698		
	23-Mar-17	59.286	0.80	15.80	14.290	13.490	44.996		
BH33	2-Sep-16	65.523	0.8	10.88	9.221	8.421	56.302		
	23-Mar-17	65.523	0.8	10.88	9.407	8.607	56.116		
BH34	2-Sep-16	61.948	-	13.30	9.314	-	52.634		
	23-Mar-17	61.948	0.7	9.17	9.138	8.438	52.810		
BH35	2-Sep-16	61.901	0.73	6.85	3.684	2.954	58.217		
טטוום	23-Mar-17	61.901	0.7	6.84	3.88	3.180	58.021		
DUICO	2-Sep-16	62.257	Flush	9.72	6.411	6.411	55.846		
BH36	23-Mar-17	62.257	Flush	9.73	6.187	6.187	56.070		
BH37	2-Sep-16	61.389	Flush	10.14	8.186	8.186	53.203		
	23-Mar-17	61.389	Flush	10.12	7.984	7.984	53.405		
	2-Sep-16	55.895	Flush	7.78	3.367	3.367	52.528		
BH38	23-Mar-17	55.895	Flush	7.79	4.116	4.116	51.779		
	2-Sep-16	58.903	Flush	10.64	8.386	8.386	50.517		
BH39	-								
	23-Mar-17	58.903	Flush	10.65	8.016	8.016	50.887		

mAHD - metres Australian Height Datum mBTOC - metres below top of casing

mBGS - metres below ground surface





Well ID	Date Measured	Sample Method	Purge Rate	Pump Depth	Purge Volume	Depth to Water	Dissolved Oxygen	Electrical Conductivity	рН	Redox Potential	Temperature	Field Measured Total Dissolved Solids ¹	Laboratory Analysed Total Dissolved Solids	Laboratory Analysed pH	Comments
			(ml/min)	(mBTOC)	(L)	(mBTOC)	(mg/L)	(µS/cm)		(mV)	(°C)	(mg/L)	(mg/L)		
51145	29-Aug-16	Micro-purge	100	6.4	3.0	4.443	0.13	2,507	6.79	-93	16.8	1,630	1,970	6.84	Very cloudy, brown, no odour
BH4D	24-Mar-17	Micro-purge	100	5.0	3.0	4.227	0.10	3,136	6.51	-109	23.1	2,038	2,030	6.69	Clear, no odour
	6-Sep-16	Micro-purge	50	10.5	3.5	10.720	0.60	864	5.19	116	16.6	562	467	5.66	Cloudy, brown, no odour
BH6A	23-Mar-17	Bailer	-	-	9.0	10.796	1.00	646	5.81	44	17.2	420	10,400	6.08	Turbid, brown, no odour. Well dry at 9L
BH7A	7-Sep-16	Micro-purge	50	12.0	4.0	11.090	2.90	483	3.96	371	17.3	314	292	4.30	Very cloudy, brown, no odour
БП/А	22-Mar-17	Micro-purge	50	12.0	3.0	11.093	2.09	473	3.53	230	19.4	307	513	4.23	Slightly cloudy, light brown, no odour
BH9A	2-Sep-16	Micro-purge	100	15.0	4.0	14.438	1.90	2,795	6.13	-22	16.1	1,817	1,600	6.30	Slightly cloudy, light brown, no odour
БПЭА	22-Mar-17	Bailer	-	-	0.5	14.685	3.50	1,649	5.98	19	21.8	1,072	1,230	6.62	Cloudy, no odour
BH11A	29-Aug-16	Micro-purge	200	10.0	4.0	8.738	0.22	2,280	6.78	-114	18.8	1,482	1,300	7.02	Cloudy, grey, no odour
БПТА	28-Mar-17	Bailer	-	-	27.0	8.398	0.45	1,714	6.87	-123	18.4	1,114	1,060	7.14	Very cloudy, black, organic odour
BH12	6-Sep-16	Micro-purge	50	8.5	3.5	7.787	0.93	780	5.68	-20	19.8	507	834	7.45	Cloudy, brown, no odour
БПІ	23-Mar-17	Bailer	-	-	22.0	7.306	2.51	1,507	6.89	-99	18.4	980	947	6.99	Cloudy, with organic matter
BH15	6-Sep-16	Waterra	-	-	45	7.364	0.14	1,508	6.49	-40	17.6	980	2,560	6.99	Turbid, grey, no odour
БПІЭ	28-Mar-17	Waterra	-	-	30	7.940	0.90	1,007	6.4	-42	18.7	655	8,080	6.68	Very cloudy, grey, no odour
DUIACA	29-Aug-16	Micro-purge	50	11.8	3.0	10.696	0.70	784	6.40	-10	17.8	510	504	6.48	Slightly cloudy, grey, no odour
BH16A	23-Mar-17	Micro-purge	50	11.8	3.0	10.605	0.35	779	4.93	65	24.1	506	513	5.29	Slightly cloudy, light brown, no odour
BH17	7-Sep-16	Waterra	-	-	1.0	11.618	3.26	300	5.66	104	18.3	195	14,900	4.04	Insufficent water to purge. Very turbid
BH18	7-Sep-16	Micro-purge	100	7.5	3.0	4.921	0.56	146	4.12	32	18.6	95	463	4.70	Cloudy, orange, no odour
BH19	1-Sep-16	Micro-purge	100	7.0	3.5	6.590	0.08	4,017	6.15	-52	16.9	2,611	2,500	6.27	Very cloudy, dark brown
BH20	1-Sep-16	Micro-purge	100	11.0	4.0	6.820	3.28	1,031	3.77	431	15.9	670	589	4.13	Cloudy, grey, no odour
DUIGAA	2-Sep-16	Micro-purge	50	12.5	2.5	12.125	2.11	618	4.30	298	15.8	402	406	4.86	Cloudy, brown, no odour. Cannot avoid drawdown
BH21A	22-Mar-17	Micro-purge	50	12.5	2.0	12.080	0.97	524	3.99	201	19.3	341	347	4.63	Slightly cloudy, no odour
PLICO	2-Sep-16	Micro-purge	100	9.0	3.5	4.780	0.63	3,307	6.39	-30	15.2	2,150	2,140	6.45	Cloudy, black, no odour
BH22	24-Mar-17	Micro-purge	100	7.8	3.5	5.073	0.12	2,461	6.34	-165	19.7	1,600	1,770	6.48	Very cloudy, black, slight odour
DUGAA	29-Aug-16	Micro-purge	200	-	4.5	11.504	0.37	920	5.12	117	16.8	598	662	5.56	Slightly cloudy, grey, no odour
BH24A	28-Mar-17	Micro-purge	100	12.0	3.0	11.186	0.67	828	5.88	30	19.3	538	551	6.35	Cloudy, light brown, no odour
BH25	6-Sep-16	Bailer	-	-	4.0	5.615	1.20	788	8.31	-95	17.9	512	610	8.17	Cloudy, brown, no odour. Well dry at 3L
BH25	23-Mar-17	Bailer	-	-	0.7	5.423	1.85	1,092	7.87	-27	21.6	710	872	8.13	Cloudy. Dry at 0.7L
BH26	6-Sep-16	Micro-purge	50	10.5	4.0	9.676	0.87	3,249	5.07	170	18.8	2,112	2,020	5.60	Slightly cloudy, grey, no odour
БП20	24-Mar-17	Micro-purge	100	10.0	4.0	9.657	0.68	2,992	5.51	69	20.2	1,945	1,970	6.00	Clear, no odour
BH28A	29-Aug-16	Micro-purge	150	6.1	3.0	4.102	0.26	1,576	7.08	-105	17	1,024	1,600	7.10	Turbid, brown, no odour
BH29	30-Aug-16	Micro-purge	100	-	4.0	3.570	0.28	4,540	6.37	-30	14.8	2,951	2,860	6.50	Cloudy, grey, no odour
БП29	24-Mar-17	Micro-purge	100	5.0	3.0	3.689	0.23	4,161	6.34	-66	21.7	2,705	2,740	6.50	Very cloudy, black, slight odour
BH30	29-Aug-16	Micro-purge	50	11.1	3.5	9.911	0.13	10,880	6.99	-49	17.1	7,072	4,570	6.93	Very cloudy oil-like appearance, sweet odour.
БПЗО	23-Mar-17	Micro-purge	50	11.1	3.5	9.978	0.04	11,678	6.71	-73	22.1	7,591	4,870	7.24	Clear, slight organic odour
BH31	29-Aug-16	Micro-purge	100	-	5.0	9.412	0.18	2,579	6.05	-51	17.6	1,676	1,470	6.38	Cloudy, brown, no odour
ыы	24-Mar-17	Micro-purge	100	10.0	4.5	9.449	0.27	1,916	6.79	-89	18.6	1,245	1,100	6.65	Clear, no odour
BH32D	7-Sep-16	Micro-purge	50	14.5	4.0	13.585	1.63	435	3.56	421	17.4	283	430	3.90	Slightly cloudy, light brown, no odour
טווטבט	22-Mar-17	Micro-purge	50	15.2	3.0	14.284	4.07	382	3.39	150	18.7	248	311	3.87	Cloudy, light brown, no odour
BH33	29-Aug-16	Micro-purge	150	10.0	3.0	9.178	0.70	1,468	6.66	-68	17.3	954	1,040	6.61	Slightly cloudy, brown, no odour
DI 100	28-Mar-17	Bailer	-	-	15.0	9.373	0.62	1,314	6.52	-40	17.1	854	2,200	6.74	Turbid, orange/brown, no odour
BH34	29-Aug-16	Micro-purge	100	11.3	3.0	9.428	0.43	791	6.22	-4	17.1	514	548	6.71	Cloudy, grey, no odour
ВПОТ	22-Mar-17	Micro-purge	100	11.3	3.0	9.171	0.46	848	6.34	-67	20.6	551	540	6.30	Slightly cloudy, no odour
BH35	2-Sep-16	Micro-purge	100	6.0	3.5	3.674	0.11	4,384	6.79	-330	16.3	2,850	2,930	6.97	Clear, no odour
טטוום	24-Mar-17	Micro-purge	200	5.5	4.0	3.872	0.09	3,638	6.70	-184	19.3	2,365	2,690	6.84	Clear, no odour
BH36	6-Sep-16	Micro-purge	100	9.0	3.5	6.422	0.30	520	5.20	63	16.9	338	610	5.79	Very cloudy, brown, no odour
טטוום	27-Mar-17	Micro-purge	100	9.0	3.5	6.132	0.51	332	5.76	-38	18.6	216	500	6.10	Slightly cloudy, no odour
BH37	2-Sep-16	Micro-purge	100	9.0	3.0	8.186	5.10	523	4.31	369	15.5	340	374	4.81	Slightly cloudy, light brown, no odour
וטוום	23-Mar-17	Micro-purge	100	9.0	3.0	7.984	4.89	640	4.09	128	19.1	416	360	4.75	Slightly cloudy, light brown, no odour
BH38	6-Sep-16	Micro-purge	50	7.0	3.5	3.590	1.44	260	4.04	335	16.1	169	202	4.72	Slightly cloudy, brown, no odour
טטו וע	27-Mar-17	Micro-purge	100	5.0	3.5	4.114	0.63	228	3.99	221	24.6	148	206	4.84	Clear, no odour
BH39	6-Sep-16	Micro-purge	50	10.0	3.5	8.384	0.59	279	4.61	93	17.8	181	158	4.69	Slightly cloudy, grey/brown, no odour
51109	27-Mar-17	Micro-purge	100	9	3.5	7.933	0.08	251	4.38	66	25.4	163	626	4.86	Slightly cloudy, brown, no odour

Table 5: Historic Water Quality

Huntingdale Estate 1221 Centre Rd 22 Talbot Ave Oakleigh South

Well ID	Date Measured	Sample Method	Purge Rate	Pump Depth	Purge Volume	Depth to Water	Dissolved Oxygen	Electrical Conductivity	рН	Redox Potential		Field Measured Total Dissolved Solids ¹	Laboratory Analysed Total Dissolved Solids	Laboratory Analysed pH	Comments
			(ml/min)	(mBTOC)	(L)	(mBTOC)	(mg/L)	(µS/cm)		(mV)	(°C)	(mg/L)	(mg/L)		

Notes:

 $\label{eq:mbtoc} \begin{array}{l} \text{mBTOC} = \text{metres below top of casing} \\ \mu \text{S/cm} = \text{microsiemen per centimetre} \\ \text{mV} = \text{millivolts} \end{array}$

1: Approximate value determined using the following equation: TDS (mg/L) = EC \times 0.65

Table 6A: Groundwater Results (August / September 2016) Huntingdale Estate 1221-1249 Centre Rd 22 Talbot Ave Oakleigh South

									Field_ID	BH4D	BH06A	ВН07А	ВНО9А	BH11A	BH12	BH15	BH16A	BH17	BH18	BH19	BH20	BH21A	BH22	BH24A
									Sampled_Date	29/08/2016	6/09/2016	7/09/2016	2/09/2016	29/08/2016	6/09/2016	6/09/2016	29/08/2016	7/09/2016	7/09/2016	1/09/2016	1/09/2016	2/09/2016	2/09/2016	29/08/2016
				I	1	1			SampleCode	EM1610139003	EM1610462004	EM1610462016	EM1610304005	EM1610139013	EM1610462006	EM1610462008	3 EM1610139006	EM1610462014	EM161046201	3 EM161030400	9 EM1610304008	EM1610304004	EM1610304003	EM1610139012
			Maintenance of	Potable Water	Agriculture Parks	Stock Watering 4	Primary Contact	Buildings and	Human Health ⁷															
ChemName	Units	EQL	Ecosystems 1	Supply ²	and Gardens 3	Stock Watering	and Recreation ³	Structures °	- raman realen															
BTEXN																								
Benzene	μg/L	1	950	1		12	10		800	<1	<1	<1	<1	2	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene Toluene	μg/L μg/L	2		3^ 25^		300 ² 800 ²	3^ 25^		NL NL	<2 <2	<2	<2 <2	<2 <2	<2	<2 <2	<2 <2	<2	<2	<2 <2	<2 <2	<2 <2	<2 <2	<2	<2 <2
Xylene (m & p)	μg/L	2				800	25		112	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Xylene (o)	μg/L	2	350							<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Xylene Total	μg/L	2	10	20^		600 ²	20^		NL NL	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Naphthalene Total BTEX	μg/L mg/L	0.001	16						INL	<5 <0.001	<5 <0.001	<5 <0.001	<0.001	<5 0.002	<5 0.001	<5 <0.001	<0.001	<5 <0.001	<0.001	<0.001	<5 <0.001	<5 <0.001	<5 <0.001	<5 <0.001
HYDROCARBONS	<u> </u>																							
C6 - C9	11 0-	20								<20	<20	<20	<20	50	30	<20	<20	<20	<20	<20	<20	<20	<20	<20
C10 - C14 C15 - C28	μg/L μg/L	50 100								<50 430	<50 130	<50 <100	70 510	60 420	<50 310	<50 230	<50 110	<50 <100	<50 <100	70 1060	<50 <100	<50 <100	<50 500	<50 110
C29 - C36	μg/L μg/L	50								<50	<50	<50	<50	50	60	<50	<50	<50	<50	210	<50	<50	<50	<50
C10 - C36 (Sum of total)	μg/L	50								430	130	<50	580	530	370	230	110	<50	<50	1340	<50	<50	500	110
C6 - C10	mg/L	0.02								<0.02	<0.02	<0.02	<0.02	0.04	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
C10-C16 C16-C34	mg/L	0.1								<0.1 0.4	<0.1 0.13	<0.1 <0.1	0.16 0.44	0.14	0.11	<0.1 0.24	<0.1 0.12	<0.1 <0.1	<0.1 <0.1	0.24 1.05	<0.1 <0.1	<0.1 <0.1	<0.1 0.47	<0.1 0.11
C34-C40	mg/L mg/L	0.1								<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.11
C10 - C40 (Sum of total)	μg/L	100								400	130	<100	600	530	410	240	120	<100	<100	1290	<100	<100	470	110
C6-C10 less BTEX (F1)		0.02							1	<0.02	<0.02	<0.02	<0.02	0.04	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
F2-NAPHTHALENE INORGANICS	mg/L	0.1							1	<0.1	<0.1	<0.1	0.16	0.14	0.11	<0.1	<0.1	<0.1	<0.1	0.24	<0.1	<0.1	<0.1	<0.1
Alkalinity (Hydroxide) as CaCO3	μg/L	1000								<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Alkalinity (total) as CaCO3	mg/L	1								1580	146	<1	1040	1140	713	560	203	<1	13	2130	<1	11	1630	215
Anions Total	meq/L	0.01								36.2	8.52	3.76	32.4	26.7	17.2	20.6	9.54	2.62	1.14	52.1	7.67	5.85	44.8	11.1
Alkalinity (Bicarbonate as CaCO3) BOD	mg/L mg/L	2								1580 26	146	<1 <2	1040	1140 31	713 25	560 <2	203	<1	13	2130 17	<1 <2	11 <2	1630 33	215
Alkalinity (Carbonate as CaCO3)	mg/L	1								<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cations Total	meq/L	0.01								35.5	7.83	2.91	30.1	25	16	20.4	8.47	1.59	0.95	47.9	8.69	5.37	40.2	9.96
Chloride	mg/L	1		250^			250^	6000		166	164	132	372	127	105	120	193	65	21	339	263	168	168	197
COD Ferrous Iron	mg/L mg/L	0.05								873 52.4	9.66	95 <0.05	115 15.6	111	220 4.41	320 13.5	6.26	920 3.71	<10 0.44	2040 36	<10 <0.05	16 3.64	4.92	<10 22.9
Ionic Balance	%	0.01								1.1	4.2	-	3.7	3.26	3.63	0.53	5.94	-	-	4.25	6.21	4.29	5.5	5.33
Kjeldahl Nitrogen Total	mg/L	0.1								65.2	0.9	2.3	71.4	59.9	62.5	7.4	4.3	4.4	0.5	50.7	2.5	1.2	9.9	0.4
Ammonia as N Ammonia as ammonia (8)	μg/L	10	900	500^			500^			59,400 71,874	560 678	30 36	66,900 80,949	47,600 57,596	53,600 64,856	5,009	4100 4,961	180 218	140 169	19,300 23,353	30	330 399	9350 11,314	190 230
Nitrate (as N)	μg/L mg/L	0.01		500^	25		500^			0.01	0.07	1.43	4.97	0.03	<0.01	0.1	0.15	0.03	0.03	0.15	0.28	2.85	0.01	0.01
Nitrate as nitrate (9)	mg/L	-	31.900 ¹²	50^		400	50^			0.04	0.31	6.33	22.02	0.13	-	0.44	0.66	0.13	0.13	0.66	1.24	12.63	0.04	0.04
Nitrite (as N)	mg/L	0.01								<0.01	0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Nitrite as nitrite (10)	mg/L mg/L	- 0.01				30				0.01	0.03	1.43	4.97	0.03	0.03	0.1	0.15	0.03	0.03	0.15	0.28	2.85	0.01	0.03
Nitrogen (Total Oxidised) pH (Lab)	pH_Units							<5.5		6.84	5.66	4.3	6.3	7.02	7.45	6.99	6.48	4.04	4.7	6.27	4.13	4.86	6.45	5.56
Sulfate as SO4 - Turbidimetric (Filtered)		1								<10	47	2	56	17	<1	288	2	38	14	<10	12	43	362	59
Sulfate as S (11)	mg/L							1000		-	16	1	19	6	-	96	1	13	5	-	4	14	121	20
TDS TOC		10		600^			600^			1970 202	467 11	292 5	1600 43	1300	834 27	2560 34	504 9	14900	463 5	2500 110	589	406	2140 60	662 19
TSS	mg/L mg/L	5								626	128	8470	192	199	220	8210	68	11,000	1250	996	960	2480	469	861
IONS																								
Calcium (Filtered)	mg/L	1				1000				152	6	7	63	131	40	114	15	<1	<1	238	<1	2	172	9
Magnesium (Filtered) Potassium (Filtered)	mg/L mg/L	1								94 45	36	1	94 39	44	14 25	69 17	30 7	3	<1	192 69	36	16 <1	210 31	36 <1
Sodium (Filtered)	mg/L	1		180^			180^			275	90	47	310	190	173	168	109	31	20	424	131	91	311	122
METALS																								
Arsenic (Filtered) Barium (Filtered)	mg/L	0.001		0.01	0.1	0.5	0.1			0.265	0.04	<0.001	0.003	0.002	0.003	0.007	0.002	0.027	<0.001 <0.001	0.021	<0.001	0.006	0.013	0.053
Beryllium (Filtered)	mg/L mg/L	0.001		0.06	0.1		20 0.6			-	-	-	<0.001	-	-	-	-	-	<0.001	-	+ -	-	-	-
Boron (Filtered)	mg/L	0.001	0.37	4	0.5		40			-		-	0.54		<u> </u>	-	<u> </u>	<u> </u>	<0.05	-	<u> </u>			
Cadmium (Filtered)	mg/L	0.0001	0.0002	0.002	0.01	0.01	0.02			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0004	<0.0001	<0.0001
Chromium (hexavalent) (Filtered) Chromium (Filtered)	mg/L	0.01	0.001	0.05	0.1	1	0.5			0.005	<0.001	<0.001	<0.01 0.002	0.002	0.002	<0.001	<0.001	0.002	<0.01 <0.001	0.002	<0.001	0.001	0.002	<0.001
Cobalt (Filtered)	mg/L mg/L	0.001			0.05	1				0.005	- 0.001	<0.001	0.002	- 0.002	0.002	- <0.001	- <0.001	0.002	<0.001	0.002		0.001	- 0.002	- 10.001
Copper (Filtered)	mg/L	0.001	0.0014	1^	0.2	0.4	1^			0.013	<0.001	0.008	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.067	0.003	<0.001	<0.001
Lead (Filtered)	mg/L	0.001	0.0034	0.01	2	0.1	0.1			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.007	0.002	<0.001	<0.001
Manganese (Filtered) Mercury (Filtered)	mg/L	0.001		0.1^ 0.001	0.2	0.002	0.1^ 0.01			<0.0001	<0.0001	<0.0001	0.126 <0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.002 <0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (Filtered)	mg/L mg/L	0.0001		0.001	0.002	0.002	0.01			0.0001	0.0001	0.0001	0.101	0.0001	0.0001	0.0001	0.012	0.0001	0.0001	0.0001	0.022	0.128	0.0001	0.051
Selenium (Filtered)	mg/L	0.001	0.011	0.02	0.02	0.02	0.1			-	-	-	<0.01	-		-	- 0.012	-	<0.011	-	-	-	-	-
Vanadium (Filtered)	mg/L	0.01			0.1					-	-	-	0.02	-	-	-	-	-	<0.01	-	-	-	-	-
Zinc (Filtered) METHANE	mg/L	0.005	0.008	3^	2	20	3^			0.031	0.129	0.066	0.034	0.007	0.01	<0.005	0.055	0.127	0.058	0.025	0.112	0.29	0.052	0.191
Methane Methane	mg/L	0.01								14.1	0.161	<0.01	0.976	>13.9	14.9	0.11	1.26	<0.01	<0.01	0.045	<0.01	0.011	3.82	0.25
memane	IIIIg/L	10.01								14.1	0.101	1 -0.01	1 0.370	, -13.3	14.5	0.11	1.20	1 -0.01	1 10.01	0.043	1 40.01	0.011	J.02	0.23

- 1: ANZECC (2000) Maintenance of Ecosystems Freshwater 95% Protection
 2: NHMRC/NRMMC (2015) Australian Drinking Water Guidelines (health based)
 3: ANZECC (2000) Water Quality Guidelines for Agricultural Water Use (Irrigation)
 4: ANZECC (2000) Water Quality Guidelines for Agricultural Water Use (Irrigation)
 4: ANZECC (2000) Water Quality Guidelines for Agricultural Water Use (Irrigation)
 5: NHMRC/NRMMC (2015) Australian Drinking Water Guidelines (health based) multiplied by a factor of 10
 6: AS 2159-2009 Piling Design and Installation Limits for mild exposure classification of soil condition A
 7: NEPC (2013) Health Screening Levels for Vapour Intrusion, Low-high density Residential, Sand, 2m to <4m
 8: Linear conversion Ammonia = Ammona as N * 1.21
 9: Linear conversion Nitrate = Nitrate as N * 4.43
 10: Linear conversion Nitrate = Nitrate as N * 3.29
 11: Linear conversion Nitrate = Sulphate as S = Sulphate as S04 * 0.33
 12: NIWA (2002) Memorandum Nitrate guideline valies in ANZECC 2000
 13: ANZECC (1992) Australian Water Quality Guidelines
 NL: Not Limiting

Table 6A: Groundwater Results (August / September 2016) Huntingdale Estate 1221-1249 Centre Rd 22 Talbot Ave Oakleigh South

													T		1 .		T	1 .			1 .		
									Field_ID Sampled_Date		BH26 6/09/2016	BH28A 29/08/2016	BH29 30/08/2016	BH30 29/08/2016	BH31 29/08/2016	7/09/2016	BH33 29/08/2016	BH34 29/08/2016		BH36 6/09/2016	2/09/2016	BH38 6/09/2016	BH39 6/09/2016
																			EM1610304002				
			Maintenance of	Potable Water	Agriculture Parks		Primary Contact	Buildings and													,		
··			1		1	Stock Watering 4		- ,	Human Health ⁷														
ChemName	Units	EQL	Ecosystems *	Supply ²	and Gardens ³		and Recreation	Structures															
BTEXN		\perp																					
Benzene	μg/L	1	950	1		12	10		800	<1	1	<1	<1	10	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene Toluene	μg/L	2		3^ 25^		300 ²	3^ 25^		NL NL	<2 <2	<2	<2 <2	<2	8	<2 <2	<2	<2	<2	<2	<2 <2	<2	<2	<2 <2
Xylene (m & p)	μg/L	2		25"		800 ²	25"		NL	<2	<2 <2	<2	<2	8	<2	<2	<2	<2	<2	<2	<2	<2	<2
Xylene (o)	μg/L μg/L	2	350							<2	<2	<2	<2	7	<2	<2	<2	<2	<2	<2	<2	<2	<2
Xylene Total	μg/L	2	330	20^		600 ²	20^		NL	<2	<2	<2	<2	15	<2	<2	<2	<2	<2	<2	<2	<2	<2
Naphthalene	μg/L	1	16			000			NL	<1	<1	<5	<5	6	<5	<5	<5	<5	<5	<1	<5	<1	<5
Total BTEX		0.001								<0.001	0.001	<0.001	<0.001	0.044	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
HYDROCARBONS																							
C6 - C9	μg/L	20								<20	<20	<20	<20	220	<20	<20	<20	<20	<20	<20	<20	<20	<20
C10 - C14	μg/L	50								<50	<50	<50	<50	3560	80	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28 C29 - C36	μg/L	100 50								110 70	<100 <50	180 <50	490 <50	5080 430	490 <50	<100 <50	110 <50	120 <50	340 <50	<100 <50	<100 <50	<100 <50	<100 <50
C10 - C36 (Sum of total)	μg/L μg/L	50								180	<50	180	490	9070	570	<50	110	120	340	<50	<50	<50	<50
C6 - C10	mg/L	0.02								<0.02	<0.02	<0.02	<0.02	0.19	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
C10-C16	mg/L	0.1								<0.1	<0.1	<0.1	<0.1	4.1	0.18	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C16-C34	mg/L	0.1								0.15	<0.1	0.16	0.46	4.6	0.42	<0.1	0.11	0.11	0.32	<0.1	<0.1	<0.1	<0.1
C34-C40	mg/L	0.1								<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C10 - C40 (Sum of total)	μg/L	100								150	<100	160	460	8700	600	<100	110	110	320	<100	<100	<100	<100
C6-C10 less BTEX (F1)	mg/L	0.02							1	<0.02	<0.02	<0.02	<0.02	0.15	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
F2-NAPHTHALENE	mg/L	0.1							1	<0.1	<0.1	<0.1	<0.1	4.09	0.18	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
INORGANICS	/1	1000								-1000	*1000	-1000	+1000	+1000	-1000	*1000	-1000	-1000	*1000	-1000	-1000	11000	+1000
Alkalinity (Hydroxide) as CaCO3 Alkalinity (total) as CaCO3	μg/L	1000								<1000 414	<1000 114	<1000 816	<1000 2450	<1000 4440	<1000 892	<1000 <1	<1000 567	<1000 340	<1000 2380	<1000 115	<1000	<1000 10	<1000 9
Anions Total	mg/L meq/L	0.01								9.84	35.3	22.3	61.2	134	29.5	3.08	19.9	10	62.1	4.72	5.88	2.02	1.47
Alkalinity (Bicarbonate as CaCO3)	mg/L	1								414	114	816	2450	4440	892	<1	567	340	2380	115	3.00	10	9
BOD	mg/L	2								14	5	24	7	47	4	<2	2	2	25	<2	<2	<2	<2
Alkalinity (Carbonate as CaCO3)	mg/L	1								<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cations Total		0.01								9.64	34	20.3	55.7	128	25.1	2.4	19.8	10.4	59.3	4.85	5.34	1.6	1.62
Chloride	mg/L	1		250^			250^	6000		54	1080	173	435	1600	401	102	159	62	311	58	205	49	42
COD	mg/L	10								290	<10	305	246	2270	106	<10	67	41	212	<10	<10	10	63
Ferrous Iron	mg/L	0.05								0.05	38.9	8.74	6.53	2.7	33	0.34	38.9	23	0.18	15.1	<0.05	0.2	15.5
Ionic Balance	%	0.01								1.02	1.93	4.71	4.73	2.34	8.01	-	0.31	1.49	2.28	1.28	4.9	-	4.77
Kjeldahl Nitrogen Total	mg/L	0.1	000							3.9	0.5	9.7	9.3	889	51.7	<0.1	3.1	3.6	8.8	0.1	0.3	<0.1 40	0.3
Ammonia as N	μg/L	10	900	500^			500^			3410 4,126	460 557	9600 11,616	9280 11,229	823,000	35,400 42,834	80 97	3000 3,630	2450 2,965	8530 10,321	20 24	30	48	73
Ammonia as ammonia (8) Nitrate (as N)	μg/L mg/L	0.01		300**	25		300			<0.01	0.03	0.02	0.01	995,830 0.03	0.04	0.04	0.02	<0.01	0.01	<0.01	1.63	0.46	0.08
Nitrate as nitrate (9)	mg/L	-	31.900 ¹²	50^	25	400	50^			-	0.13	0.09	0.04	0.13	0.18	0.18	0.09		0.04		7.22	2.04	0.35
Nitrite (as N)	mg/L	0.01	31.500							0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01	0.01
Nitrite as nitrite (10)	mg/L	-				30				0.03	0.03	-	-	-	-	-	-	-	-	0.03	-	0.03	0.03
Nitrogen (Total Oxidised)	mg/L	0.01								0.01	0.04	0.02	0.01	0.03	0.04	0.04	0.02	<0.01	0.01	0.01	1.63	0.47	0.09
pH (Lab)	pH_Uni	ts 0.01						<5.5		8.17	5.6	7.1	6.5	6.93	6.38	3.9	6.61	6.71	6.97	5.79	4.81	4.72	4.69
Sulfate as SO4 - Turbidimetric (Filtered)	mg/L	1								2	124	53	<10	<10	16	10	196	72	276	38	2	21	5
Sulfate as S (11)	mg/L							1000		1	41	18	-	-	5	3	65	24	92	13	1	7	2
TDS	mg/L	10		600^			600^			610	2020	1600 69	2860 77	4570	1470	430	1040	548	2930	610	374	202	158
TOC	mg/L mg/L	I								10 1980	24	1380	325	373 73	966	89	12 102	220	70 <5	265	27	531	776
IONS	mig/ L	-								1300	24	1300	323	,,,	300	0.5	102	220	,,	203		331	,,,,
Calcium (Filtered)	mg/L	1				1000				6	37	15	155	7	30	<1	84	29	443	2	1	<1	4
Magnesium (Filtered)	mg/L	1								4	97	18	244	26	82	8	56	34	250	4	23	2	4
Potassium (Filtered)	mg/L	1								15	1	6	15	356	19	<1	11	<1	48	<1	<1	<1	<1
Sodium (Filtered)	mg/L	1		180^			180^			192	555	412	633	1320	290	40	193	108	354	83	78	33	25
METALS	-																						
Arsenic (Filtered)	mg/L	0.001		0.01	0.1	0.5	0.1			0.004	0.06	0.008	0.014	0.103	0.52	<0.001	0.016	0.042	0.001	0.004	<0.001	<0.001	<0.001
Barium (Filtered) Beryllium (Filtered)	mg/L	0.001		0.06	0.1		20 0.6			0.016 <0.001	0.034 <0.001	-	-	-	 -	-	 	 	-	0.019	+ -	0.006 <0.001	
Boron (Filtered)	mg/L mg/L	0.001	0.37	0.06 4	0.1		40			0.82	<0.001	-	-	 	+ -	-	-	+ -	1 -	<0.001 <0.05	-	<0.001	
Cadmium (Filtered)	mg/L	0.000		0.002	0.01	0.01	0.02			<0.0001	0.0001	<0.0001	<0.0001	0.0016	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001
Chromium (hexavalent) (Filtered)	mg/L	0.000	0.0002	0.002	0.01	0.01	0.5			<0.001	<0.01			0.0010			- 10.0001	- 10.0001		<0.001		<0.001	
Chromium (Filtered)	mg/L	0.001				1				<0.001	<0.001	0.001	0.002	0.078	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	0.003
Cobalt (Filtered)	mg/L	0.001			0.05	1				<0.001	0.006		-	-	-	-	-	-	-	<0.001	-	0.002	-
Copper (Filtered)	mg/L	0.001	0.0014	1^	0.2	0.4	1^			<0.001	0.02	0.004	<0.001	0.035	<0.001	0.04	<0.001	<0.001	<0.001	<0.001	0.015	0.011	<0.001
Lead (Filtered)	mg/L	0.001		0.01	2	0.1	0.1			<0.001	<0.001	<0.001	<0.001	0.077	<0.001	0.016	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001
Manganese (Filtered)	mg/L	0.001		0.1^	0.2		0.1^			0.068	0.074	-	-	-	-	-	-	-	-	0.396	-	0.038	-
Mercury (Filtered)	mg/L	0.000		0.001	0.002	0.002	0.01			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel (Filtered)	mg/L	0.001		0.02	0.2	1	0.2			0.008	0.02	0.01	0.005	0.475	0.054	0.054	0.002	0.018	0.003	0.017	0.046	0.017	0.024
Selenium (Filtered) Vanadium (Filtered)	mg/L	0.01	0.011	0.01	0.02	0.02	0.1			<0.01 <0.01	<0.01 <0.01	-	-	-	-	-	-	1 -	-	<0.01 <0.01	-	<0.01 <0.01	-
Zinc (Filtered)	mg/L	0.01	0.008	3^	0.1	20	3^			<0.01	0.226	0.013	0.036	0.28	0.111	0.13	0.013	0.071	<0.005	0.041	0.145	0.392	0.156
METHANE	IIIg/ L	0.003	0.000	J		20	J			10.003	0.220	0.013	0.030	0.20	0.111	0.13	0.013	0.071	10.003	0.041	0.143	0.552	0.150
Methane	mg/L	0.01								2.41	0.333	17.1	3.46	8.33	1.97	<0.01	0.261	0.839	5.93	<0.01	<0.01	<0.01	<0.01
		,																					

- 1: ANZECC (2000) Maintenance of Ecosystems Freshwater 95% Protection
 2: NHMRC/NRMMC (2015) Australian Drinking Water Guidelines (health based)
 ^. NHMRC/NRMMC (2015) Australian Drinking Water Guidelines (aesthetics based)
 3: ANZECC (2000) Water Quality Guidelines for Agricultural Water Use (Irrigation)
 4: ANZECC (2000) Water Quality Guidelines for Agricultural Water Use (Livestock)
 5: NHMRC/NRMMC (2015) Australian Drinking Water Guidelines (health based) multiplied by a factor of 10
 6: AS 2159-2009 Piling Design and Installation Limits for mild exposure classification of soil condition A
 7: NEPC (2013) Health Screening Levels for Vapour Intrusion, Low-high density Residential, Sand, 2m to <4m
 8: Linear conversion Ammonia = Ammona as N * 1.21
 9: Linear conversion Nitrate = Nitrate as N * 4.43
 10: Linear conversion Nitritate = Nitrate as N * 3.29
 11: Linear conversion Sulphate as S = Sulphate as SO4 * 0.33
 12: NIWA (2002) Memorandum Nitrate guideline valles in ANZECC 2000
 13: ANZECC (1992) Australian Water Quality Guidelines
 NL: Not Limiting

- NL: Not Limiting



Table 6B: Groundwater Results - Broad Screen (August / September 2016)

Field_ID BH09A

BH18

BH25

BH26

BH36

BH38

Color									Sampled Date	2/09/2016	7/09/2016	6/09/2016	6/09/2016	6/09/2016	6/09/2016
Change C						I	I		SampleCode	EM1610304005	EM1610462013	EM1610462007	EM1610462005	EM1610462003	EM1610462001
Color	ChemName	Units	EQL			-	Stock Watering ⁴		Human Health ⁷						
A.	OCPs														$\overline{}$
Add Mark Mark Mark Mark Mark Mark Mark Mark	4,4-DDE														
Page															
Part					0.3		0.22	3							
Chicago	b-BHC				0.3		0.3	3							
Color	Chlordane	μg/L		0.08	2		2 ²	20							
Section															
Section															
Speaker Spea	DDT			0.01	9		9 ²	90					i e		
Property DDT+DDE+DDD															
Frace															
Fried by 10 10 1 10 10 10 10 10 10 10 10 10 10 1	Endosulfan sulphate														
From bready ph 05		μg/L		0.02											
Property 19															
Property 1974 1975 197				0.2	10		10.2	100							
Property															
Methogodole Surf. 2	Heptachlor epoxide	μg/L	0.5												
Transcentioners M.													i e		
PPS															
Interpretace whether Mark S	OPPs	PD/ -	0.5							-5.5	-0.5	-0.5	.0.5	10.5	.5.5
Carloghees Mile 10 10 10 10 10 10 10 1	Azinophos methyl			0.02											
Cheferentheles	Bromophos-ethyl Carbophonothion														
Chlografic March 1974 100 1972 2 40.5															
Demoter spil. 0.5	Chlorpyrifos			0.01											
Digition	Chlorpyrifos-methyl														
Dichloros mg/L 0.5 0.5 7 7.7 100 -0.5 -0				0.01	4		. 2	10							
Dimethorate mg/L 0.5 0.15 7 7 200 -0.5 -				0.01											
Fearmphops	Dimethoate			0.15											
Ferthinn	Ethion							6							
Metathon W/L 0.5															
Methylapathon MA 2				0.05				100							
Parathon	Methyl parathion		2				0.7 2						i e		
Primphose bethy 19/1 0.5	Monocrotophos			2.22											
Procession March				0.004											
MARS	Prothiofos				0.5		0.5	1							
Access A	PAHs														
Anthracene MFL 1 1 1 1 1 1 1 1 1	Acenaphthene														
Benzo alphracene													1		
Benzo Byrene ya/L 0.5	Benzo(a)anthracene		-										i e		
Benotifythoranthene Igil 1 1 1 1 1 1 1 1 1	Benzo(a)pyrene	μg/L			0.01		0.012	0.01		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene															
Benzole- Hororanthene mg/L 0.001 0.0															
Dibergia Diametracene Ug/L 1 1 1 1 1 1 1 1 1	Benzo[b+j]fluoranthene														
Fluorene	Dibenz(a,h)anthracene	μg/L	1							<1	<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	Fluoranthene												i e		
Phenathrene µg/L 1															
Pyrene	Phenanthrene												i e		
Total PAHs	Pyrene	μg/L	1								<1			<1	
PHENOLS	Benzo(a)pyrene TEQ (zero)			_ 13											
2,4,5-trichlorophenol μg/L 1 <1		ug/L	0.5	3.5						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-trichlorophenol µg/L 1 20 2^A 20^2 10 2,4-dichlorophenol µg/L 1 160 0.3^A 200² 300² 2,4-dimethylphenol µg/L 1 41 41 41 41 41 2,6-dichlorophenol µg/L 1 40 41 41 41 41 41 2,6-dichlorophenol µg/L 1 490 0.1^A 300² 41 41 41 41 41 41 41 2-methylphenol µg/L 1 490 0.1^A 300² 41 41 41 41 41 41 41 2-methylphenol µg/L 1 490 0.1^A 300² 41 41 41 41 41 41 41 2-methylphenol µg/L 1 490 0.1^A 300² 41 41 41 41 41 41 41 2-methylphenol µg/L 1 40 41 <td>2,4,5-trichlorophenol</td> <td>μg/L</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td><1</td> <td><1</td> <td><1</td> <td><1</td> <td><1</td> <td><1</td>	2,4,5-trichlorophenol	μg/L	1					1		<1	<1	<1	<1	<1	<1
2,4-dimethylphenol µg/L 1	2,4,6-trichlorophenol	μg/L					20 ²	10					i e		
2,6-dichlorophenol µg/L 1 490 0.1^4 300^2 41 41 41 41 41 41 41			-	160	0.3^		200 ²						i e		
2-chlorophenol µg/L 1 490 0.1^ 300^2															
2-methylphenol µg/L 1	2-chlorophenol			490	0.1^		300 ²								
3-84-methylphenol	2-methylphenol	μg/L								<1	<1	<1	<1	<1	<1
4-chloro-3-methylphenol µg/L 1	2-nitrophenol														
Pentachlorophenol µg/L 2 10 10 10 10 10 10 10 < 2 < 2 < 2 < 2 < 2 < 2 < 2			_										i e		
	Pentachlorophenol			10	10		10 ²	10							
	Phenol														

Table 6B: **Groundwater Results - Broad Screen** (August / September 2016)



									Field ID	ВНООД	BH18	BH25	BH26	BH36	BH38
									Sampled_Date		7/09/2016	6/09/2016	6/09/2016	6/09/2016	6/09/2016
											EM1610462013				EM1610462001
			Maintenance of	Potable Water	Agriculture Parks		Primary Contact	Buildings and							
ChemName	Units	EQL	Ecosystems ¹	Supply ²	and Gardens ³	Stock Watering ⁴	and Recreation ⁵	Structures ⁶	Human Health ⁷						
BROAD SCREEN															
Weak Acid Dissociable Cyanide	mg/L	0.004								<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
2,2-dichloropropane	μg/L	5								<5	<5	<5	<5	<5	<5
Hexachlorocyclopentadiene	μg/L	10								<10	<10	<10	<10	<10	<10
Hexachloroethane	μg/L	2	360							<2	<2	<2	<2	<2	<2
Pentachlorobenzene	μg/L	2								<2	<2	<2	<2	<2	<2
Atrazine	mg/L	0.0005	0.013	0.02		0.02 2				< 0.0005	< 0.0005	<0.0005	<0.0005	< 0.0005	<0.0005
Bifenthrin	mg/L	0.0005								<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
PCBs (Sum of total)	μg/L	1					0.1			<1	<1	<1	<1	<1	<1
Hexachloropropene	μg/L	2								<2	<2	<2	<2	<2	<2
VHCs															
1,1,1,2-tetrachloroethane	μg/L	5								<5	<5	<5	<5	<5	<5
1,1,1-trichloroethane	μg/L	5								<5	<5	<5	<5	<5	<5
1,1,2,2-tetrachloroethane	μg/L	5								<5	<5	<5	<5	<5	<5
1,1,2-trichloroethane	μg/L	5	6500							<5	<5	<5	<5	<5	<5
1,1-dichloroethane	μg/L	5				2				<5	<5	<5	<5	<5	<5
1,1-dichloroethene	μg/L	5		30		30 ²	300			<5	<5	<5	<5	<5	<5
1,1-dichloropropene	μg/L	5								<5	<5	<5	<5	<5	<5
1,2,3-trichlorobenzene	μg/L	5	10							<5	<5	<5	<5	<5	<5
1,2,3-trichloropropane	μg/L	5								<5	<5	<5	<5	<5	<5
1,2,4-trichlorobenzene	μg/L	2	170							<2	<2	<2	<2	<2	<2
1,2-dibromo-3-chloropropane	μg/L	5				2				<5	<5	<5	<5	<5	<5
1,2-dibromoethane	μg/L	5		1		12	10			<5	<5	<5	<5	<5	<5
1,2-dichlorobenzene	μg/L	2	160	1^		1500 ²	1^			<2	<2	<2	<2	<2	<2
1,2-dichloroethane	μg/L	5		3		32	30			<5	<5	<5	<5	<5	<5
1,2-dichloropropane	μg/L	5	260	20^			204			<5 <2	<5 <2	<5 <2	<5	<5 <2	<5
1,3-dichlorobenzene	μg/L	2	260	20^			20^						<2	+	<2
1,3-dichloropropane	μg/L	5	60	0.24		2	0.24			<5	<5	<5	<5	<5	<5
1,4-dichlorobenzene	μg/L		60	0.3^		40 ²	0.3^			<2	<2	<2	<2	<2	<2
2-chlorotoluene	μg/L μg/L	5								<u><5</u> <5	<5 <5	<5 <5	<5 <5	<5 <5	<5 <5
4-chlorotoluene Bromobenzene	μg/L μg/L	5									<5	<5	<5	<5	<5
Bromodichloromethane	μg/L μg/L	5								<5	<5	<5	<5	<5	<5
Bromoform	μg/L μg/L	5									<5	<5	<5	<5	<5
Bromomethane	μg/L	50		1		1 ²	10			<50	<50	<50	<50	<50	<50
Carbon tetrachloride	μg/L	5		3		3 ²	30			<5 <5	<5	<5	<5	<5	<5
Chlorobenzene	μg/L μg/L	5		10^		300 ²	10^			6	<5	<5	<5	<5	<5
Chlorodibromomethane	μg/L	5				. JUJU				<5	<5	<5	<5	<5	<5
Chloroethane	μg/L	50								<50	<50	<50	<50	<50	<50
Chloroform	μg/L	5								<5	<5	<5	<5	<5	<5
Chloromethane	μg/L	50								<50	<50	<50	<50	<50	<50
cis-1,2-dichloroethene	μg/L	5								<5	<5	<5	<5	<5	<5
cis-1,3-dichloropropene	μg/L	5								<5	<5	<5	<5	<5	<5
cis-1,4-Dichloro-2-butene	μg/L	5								<5	<5	<5	<5	<5	<5
Dibromomethane	μg/L	5								<5	<5	<5	<5	<5	<5
Dichlorodifluoromethane	μg/L	50								<50	<50	<50	<50	<50	<50
Hexachlorobutadiene	μg/L	2		0.7		0.72	7			<2	<2	<2	<2	<2	<2
Iodomethane	μg/L	5								<5	<5	<5	<5	<5	<5
Pentachloroethane	μg/L	5								<5	<5	<5	<5	<5	<5
Trichloroethene	μg/L	5								<5	<5	<5	<5	<5	<5
Tetrachloroethene	μg/L	5		50		50 ²	500			<5	<5	<5	<5	<5	<5
trans-1,2-dichloroethene	μg/L	5								<5	<5	<5	<5	<5	<5
trans-1,3-dichloropropene	μg/L	5								<5	<5	<5	<5	<5	<5
trans-1,4-Dichloro-2-butene	μg/L	5								<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	μg/L	50								<50	<50	<50	<50	<50	<50
Vinyl chloride	μg/L	50		0.3		0.32	3			<50	<50	<50	<50	<50	<50

- 1: ANZECC (2000) Maintenance of Ecosystems Freshwater 95% Protection
 2: NHMRC/NRMMC (2015) Australian Drinking Water Guidelines (health based)

 ^: NHMRC/NRMMC (2015) Australian Drinking Water Guidelines (aesthetics based)
 3: ANZECC (2000) Water Quality Guidelines for Agricultural Water Use (Irrigation)
 4: ANZECC (2000) Water Quality Guidelines for Agricultural Water Use (Livestock)

- 5: NHMRC/NRMMC (2015) Australian Drinking Water Guidelines (health based) multiplied by a factor of 10
- S: NAMKC/NRMMC (2013) Australian Drinking water Guidelines (healin based) multiplied by a factor of 10 6: AS 2159-2009 Piling Design and Installation Limits for mild exposure classification of soil condition A 7: NEPC (2013) Health Screening Levels for Vapour Intrusion, Low-high density Residential, Sand, 2m to <4m 8: Linear conversion Ammonia = Ammona as N * 1.21

 9: Linear convsersion Nitrate = Nitrate as N * 4.43
- 10: Linear conversion Nitrite = Nitrite as N * 3.29
- 11: Linear conversion Number as N * 3.29

 11: Linear conversion Sulphate as S = Sulphate as SO4 * 0.33

 12: NIWA (2002) Memorandum Nitrate guideline valies in ANZECC 2000

 13: ANZECC (1992) Australian Water Quality Guidelines

 NL: Not Limiting

Table 7A: Groundwater Results (March 2017)

Huntingdale Estate 1221-1249 Centre Rd 22 Talbot Ave Oakleigh South

									Field_ID	DHOAD	BH6A	ВН7А	ВН09А	BH11A	BH12	BH15	BH16A	BH21A	BH22	BH24A	BH25	BH26	BH29	ВН30
									Sampled_Date				22/03/2017			28/03/2017		22/03/2017	24/03/2017			24/03/2017		23/03/2017
					1	1			SampleCode	EM1703572003	EM1703484005	EM1703386002	EM1703386005	EM1703748002	EM1703484003	EM1703748001	EM1703484006	EM1703386001	EM1703572006	EM1703748004	EM1703484002	EM1703572002	EM1703572004	EM1703484001
			Maintenance of	Potable Water	Agriculture Parks	4	Primary Contact	Buildings and																
ChemName	Units	EQL	Ecosystems ¹	Supply ²	and Gardens ³	Stock Watering *	and Recreation 5	Structures ⁶	Human Health '															
BTEXN	-												T											
Benzene	μg/L	1	950	1		1 ²	10		800	<1	<1	<1	<1	3	2	<1	<1	<1	<1	<1	<1	1	<1	4
Ethylbenzene	μg/L	2		3^		300 ²	3^		NL	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	11
Toluene Xylene (m & p)	μg/L μg/L	2		25^		800 ²	25^		NL	<2 <2	<2 <2	<2 <2	<2 <2	<2	<2	<2	<2 <2	<2 <2	<2 <2	<2 <2	<2	<2 <2	<2	9
Xylene (o)	μg/L	2	350							<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	6
Xylene Total	μg/L	2		20^		600 ²	20^		NL	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	15
Naphthalene	μg/L	1	16						NL	<5	<5	<5	<1	<5	<5	<5	<5	<5	<5	<5	<1	<1	<5	9
Total BTEX HYDROCARBONS	mg/L	0.001								<0.001	<0.001	<0.001	<0.001	0.005	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.036
C6 - C9	μg/L	20								<20	<20	<20	<20	100	40	<20	<20	<20	<20	<20	<20	<20	<20	200
C10 - C14	μg/L	50								<50	<50	<50	<50	160	<50	<50	220	<50	<50	<50	<50	<50	<50	4270
C15 - C28 C29 - C36	μg/L μg/L	100 50								440 <50	<100 <50	<100 <50	260 <50	1450 1240	580 710	<100 <50	2040 100	<100 <50	420 50	100 <50	170	<100 <50	240 <50	5730 570
C10 - C36 (Sum of total)	μg/L	50								440	<50	<50	260	2850	1290	<50	2360	<50	470	100	230	<50	240	10,600
C6 - C10	mg/L	0.02								<0.02	<0.02	<0.02	<0.02	0.1	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.18
C10-C16 C16-C34	mg/L	0.1								<0.1 0.39	<0.1	<0.1	<0.1	0.3	0.16	<0.1	1.47	<0.1	<0.1 0.38	<0.1	<0.1	<0.1	<0.1	4.96 4.98
C16-C34 C34-C40	mg/L mg/L	0.1								<0.1	<0.1	<0.1 <0.1	0.24 <0.1	0.82	1.1 0.17	<0.1 <0.1	0.94 <0.1	<0.1 <0.1	<0.1	0.11 <0.1	0.18 <0.1	<0.1 <0.1	0.22 <0.1	0.24
C10 - C40 (Sum of total)	μg/L	100								390	<100	<100	240	3260	1430	<100	2410	<100	380	110	180	<100	220	10,200
C6-C10 less BTEX (F1)	mg/L	0.02							1	<0.02	<0.02	<0.02	<0.02	0.1	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.14
F2-NAPHTHALENE INORGANICS	mg/L	0.1							1	<0.1	<0.1	<0.1	<0.1	0.3	0.16	<0.1	1.47	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	4.95
Alkalinity (Hydroxide) as CaCO3	μg/L	1000								<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Alkalinity (total) as CaCO3	mg/L	1								1590	132	<1	618	977	752	325	126	8	1310	154	590	59	2140	4400
Anions Total Alkalinity (Bicarbonate as CaCO3)	meq/L	0.01								37.6 1590	6.04 132	3.6 <1	618	22.8 977	18.6 752	15.5 325	8.19 126	5.36	33.6 1310	10.1	13.4 590	32.6 59	56.7 2140	134 4400
Alkalinity (Bicarbonate as CaCO3)	mg/L mg/L	1								<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BOD	mg/L	2								7	<2	<2	53	35	62	11	<2	<2	21	12	33	6	7	56
Cations Total	meq/L	0.01		2504			2504	5000		35.2	4.31	3.35	18.1	20.8	17	13.8	6.45	4.73	30.4	8.12	11.3	28.7	49.5	126
Chloride	mg/L mg/L	10		250^			250^	6000		205 782	91 245	126 <20	267 280	115 243	126 242	132 234	199 31	163 <10	265 380	216 37	51 219	1030 <10	494 390	1620 1960
Ferrous Iron		0.05								71.6	2.63	0.36	4.69	12.1	0.42	20	6.61	4.96	1.41	28.5	0.07	25	14.6	1.88
Ionic Balance	%	0.01								3.26	16.6	3.58	9.74	4.47	4.6	5.7	11.9	6.24	5.02	11	8.42	6.35	6.75	2.26
Kjeldahl Nitrogen Total Ammonia as N	mg/L	0.1 10	900							71.9 70,600	4.1 660	0.7 60	7 6950	63.7	70.5 68,900	11.9 3610	2.3 1810	0.4 260	9.6 9510	90	14.6 6260	0.8 460	9340	767 887,000
Ammonia as ammonia (8)	μg/L μg/L	-	300	500^			500^			85,426	799	73	8,410	73,205	83,369	4,368	2,190	315	11,507	109	7,575	557	11,301	1,073,270
Nitrate (as N)	mg/L	0.01			25					0.01	0.19	0.82	0.32	<0.01	0.03	0.03	0.15	0.18	0.02	0.02	0.03	0.03	0.08	0.04
Nitrate as nitrate (9) Nitrite (as N)	mg/L	- 0.01	31.900 12	50^		400	50^			0.04 <0.01	0.84	3.63 <0.01	0.21	0.01	0.13 <0.01	0.13 <0.01	0.66 <0.01	0.80 <0.01	0.09 <0.01	0.09	0.13 <0.01	0.13	0.35 <0.01	0.18 <0.01
Nitrite (as N) Nitrite as nitrite (10)	mg/L mg/L	0.01				30					0.02		0.69	0.01	- 40.01					0.01	- 40.01	<0.01		- 0.01
Nitrogen (Total Oxidised)	mg/L	0.01								0.01	0.21	0.82	0.53	0.01	0.03	0.03	0.15	0.18	0.02	0.03	0.03	0.03	0.08	0.04
pH (Lab)	pH_Units	0.01						<5.5		6.69	6.08	4.23	6.62	7.14	6.99	6.68	5.29	4.63	6.48	6.35	8.13	6	6.5	7.24
Sulfate as SO4 - Turbidimetric (Filtered Sulfate as S (11)	mg/L mg/L	-						1000		<10	40 13	1	33	<1	3	254 85	3	29 10	<1	46 15	8	116 39	<10	<1
TDS (Filtered)	mg/L	10		600^			600^			2030	10400	513	1230	1060	947	8080	513	347	1770	551	872	1970	2740	4870
TOC	mg/L	1								251	17	3	46	32	80	40	10	4	114	9	18	7	97	466
IONS	mg/L	[5								442	11,500	6660	10,500	462	600	11,200	78	26	96	449	444	8	310	35
Calcium (Filtered)	mg/L	1				1000				224	3	1	92	117	45	74	10	2	105	3	13	32	148	8
Magnesium (Filtered)	mg/L	1								97	17	11	68	35	17	46	24	14	155	34	9	87	208	23
Potassium (Filtered) Sodium (Filtered)	mg/L	1		180^			180^			46 226	63	<1 55	12	36 158	31 176	139	4 89	<1 80	22 273	<1 119	19 217	1 459	19 564	338 1230
METALS	mg/L	1		100			100			220	05	33	1/4	130	1/0	159	03	00	2/3	119	21/	439	304	1230
Arsenic (Filtered)	mg/L	0.001		0.01	0.1	0.5	0.1			0.371	0.016	<0.001	0.016	0.002	0.004	0.009	0.002	0.01	0.011	0.077	0.004	0.037	0.016	0.107
Barium (Filtered)	mg/L	0.001		0.06	0.1		20 0.6			-	-	-	0.081 <0.001	-	-	-	-	-	-	-	0.02 <0.001	0.046 <0.001	-	
Beryllium (Filtered) Boron (Filtered)	mg/L mg/L	0.001	0.37	0.06	0.1		0.6 40			-	-	-	<0.001 0.13	-	-	-	-	-	-	+ -	<0.001	<0.001	-	
Cadmium (Filtered)	mg/L	0.0001	0.0002	0.002	0.01	0.01	0.02			<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0003	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0017
Chromium (hexavalent) (Filtered)	mg/L	0.01	0.001	0.05	0.1		0.5				-	-	<0.01	-	-	-	-	-	-	-	<0.01	<0.01	-	-
Chromium (Filtered) Cobalt (Filtered)	mg/L mg/L	0.001			0.05	1				0.004	<0.001	<0.001	0.002	0.002	0.003	0.001	<0.001	<0.001	0.002	<0.001	<0.001 <0.001	<0.001 0.011	0.002	0.096
Copper (Filtered)	mg/L	0.001	0.0014	1^	0.03	0.4	1^			0.002	0.001	0.237	<0.001	<0.001	0.002	<0.001	0.021	0.039	<0.001	<0.001	<0.001	<0.001	<0.001	0.074
Lead (Filtered)	mg/L	0.001	0.0034		2	0.1	0.05			<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.106
Manganese (Filtered)	mg/L	0.001	1.9	0.1	0.2	0.002	0.1 0.001				-0.0001	-0.0001	0.433			-0.0001					0.244	0.065	-0.0001	
Mercury (Filtered) Nickel (Filtered)	mg/L mg/L	0.0001	0.0006 0.011		0.002	0.002	0.001			<0.0001 0.006	<0.0001 0.017	<0.0001 0.103	<0.0001 0.022	<0.0001 0.002	<0.0001 0.007	<0.0001 0.005	<0.0001 0.025	<0.0001 0.145	<0.0001 0.01	<0.0001 0.017	<0.0001 0.004	<0.0001 0.012	<0.0001 0.01	<0.0001 0.6
Selenium (Filtered)	mg/L	0.001	0.011		0.02	0.02	0.01			-	-	-	<0.01	-	-	-	-	-	-	-	<0.01	<0.01	-	-
Vanadium (Filtered)	mg/L	0.01	0.000	2	0.1	20	2			0.015	- 0.013	- 0.520	0.02	- 0.007	- 0.040	- 0.007	- 0.224	- 0.7	- 0.045	- 0.101	<0.01	<0.01	- 0.072	- 0.440
Zinc (Filtered) METHANE	mg/L	0.005	0.008	3	2	20	3			0.046	0.013	0.538	0.007	0.007	0.048	0.007	0.234	0.7	0.015	0.101	<0.005	0.132	0.073	0.449
Methane	mg/L	0.01								7.68	0.345	<0.01	0.432	12.9	13.5	0.094	0.461	<0.01	7.27	1.83	0.477	0.648	1.42	1.41
						•				-				•					•	•			•	

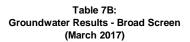
- 1: ANZECC (2000) Maintenance of Ecosystems Freshwater 95% Protection
 2: NHMRC/NRMMC (2015) Australian Drinking Water Guidelines (health based)
 3: ANZECC (2000) Water Quality Guidelines for Agricultural Water Use (Irrigation)
 4: ANZECC (2000) Water Quality Guidelines for Agricultural Water Use (Irrigation)
 4: ANZECC (2000) Water Quality Guidelines for Agricultural Water Use (Livestock)
 5: NHMRC/NRMMC (2015) Australian Drinking Water Guidelines (health based) multiplied by a factor of 10
 6: AS 2159-2009 Piling Design and Installation Limits for mild exposure classification of soil condition A
 7: NEPC (2013) Health Screening Levels for Vapour Intrusion, Low-high density Residential, Sand, 2m to <4m
 8: Linear conversion Ammonia = Ammona as N * 1.21
 9: Linear conversion Nitrate = Nitrate as N * 4.43
 10: Linear conversion Nitrite = Nitrite as N * 3.29
 11: Linear conversion Nitrite = Nitrite as N * 3.29
 12: NIWA (2002) Memorandum Nitrate guideline valies in ANZECC 2000
 13: ANZECC (1992) Australian Water Quality Guidelines
 NL: Not Limiting



									Field ID	RH31	BH32D	BH33	BH34	BH35	BH36	BH37	BH38	ВН39
									Sampled_Date		22/03/2017	28/03/2017	22/03/2017	24/03/2017	27/03/2017	23/03/2017	27/03/2017	27/03/2017
														EM1703572005				
			Maintenance of	Potable Water	Agriculture Parks		Primary Contact	Buildings and										
			Ecosystems ¹	Supply ²	and Gardens 3	Stock Watering ⁴	and Recreation 5	Structures 6	Human Health ⁷									
ChemName	Units	EQL	Leosystems	зарріу	una Garaciis		and neer cation	Structures										
BTEXN						,					1							
Benzene Ethylbenzene	μg/L μg/L	1	950	3^		1'	10 3^		800 NL	<1 <2	<1 <2	<1 <2	<1 <2	<1 <2	<1 <2	<1 <2	<1 <2	<1 <2
Toluene	μg/L	2		25^		300 ² 800 ²	25^		NL NL	<2	<2	<2	<2	<2	<2	<2	<2	<2
Xylene (m & p)	μg/L	2				555				<2	<2	<2	<2	<2	<2	<2	<2	<2
Xylene (o)	μg/L	2	350							<2	<2	<2	<2	<2	<2	<2	<2	<2
Xylene Total	μg/L	2	16	20^		600 ²	20^		NL NI	<2	<2	<2	<2	<2	<2	<2	<2	<2
Naphthalene Total BTEX	μg/L mg/L	0.001	16						NL	<5 <0.001	<5 <0.001	<5 <0.001	<5 <0.001	<5 <0.001	<0.001	<5 <0.001	<0.001	<5 <0.001
HYDROCARBONS												-						0.002
C6 - C9	μg/L	20								<20	<20	<20	<20	<20	<20	<20	<20	<20
C10 - C14	μg/L	50								<50 240	<50	<50	<50	<50 210	<50	<50	<50	<50
C15 - C28 C29 - C36	μg/L μg/L	100 50								<50	<100 <50	450 120	<100 <50	<50	<100 <50	<100 <50	<100 <50	<100 <50
C10 - C36 (Sum of total)	μg/L	50								240	<50	570	<50	210	<50	<50	<50	<50
C6 - C10	mg/L	0.02								<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
C10-C16	mg/L	0.1								<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
C16-C34 C34-C40	mg/L mg/L	0.1								0.2 <0.1	<0.1 <0.1	0.5 <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
C10 - C40 (Sum of total)	μg/L	100								200	<100	500	<100	200	<100	<100	<100	<100
C6-C10 less BTEX (F1)	mg/L	0.02							1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
F2-NAPHTHALENE	mg/L	0.1							1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
INORGANICS Alkalinity (Hydroxide) as CaCO3	μg/L	1000								<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Alkalinity (trydroxide) as CaCO3	mg/L	1								733	<1	318	306	2140	64	3	4	23
Anions Total	meq/L	0.01								23.9	2.78	17	9.89	55	3.47	6.11	1.63	1.66
Alkalinity (Bicarbonate as CaCO3)	mg/L	1								733	<1	318	306	2140	64	3	4	23
Alkalinity (Carbonate as CaCO3)	mg/L	1								<1	<1	<1	<1 2	<1 7	<1 4	<1	<1 5	<1
BOD Cations Total	mg/L meq/L	0.01								8 22.4	<2 2.44	12 14.3	8.81	50	3.26	<2 5.01	1.69	1.65
Chloride	mg/L	1		250^			250^	6000		322	92	161	66	292	49	213	43	36
COD	mg/L	10								87	47	900	47	224	17	12	<10	102
Ferrous Iron	mg/L	0.05								26.9	0.18	14.4	21.3	2.11	4.69	<0.05	0.31	3.74
Ionic Balance Kjeldahl Nitrogen Total	mg/L	0.01								3.34 41.6	1	8.53 2.2	5.78 2.2	4.66 8.1	3.13 0.4	9.93	0.2	0.47 1.5
Ammonia as N	μg/L	10	900							40,600	50	1800	1930	8030	60	100	40	70
Ammonia as ammonia (8)	μg/L	-		500^			500^			49,126	61	2,178	2,335	9,716	73	121	48	85
Nitrate (as N)	mg/L	0.01	12		25					0.05	0.05	0.02	0.01	0.11	<0.01	1.65	0.14	0.4
Nitrate as nitrate (9) Nitrite (as N)	mg/L mg/L	0.01	31.900 12	50^		400	50^			0.22 <0.01	0.22 <0.01	0.09 <0.01	0.04 <0.01	0.49 <0.01	<0.01	7.31 <0.01	0.62 <0.01	1.77
Nitrite as nitrite (10)	mg/L	0.01				30				-	-	-	-	-	-	-	-	-
Nitrogen (Total Oxidised)	mg/L	0.01								0.05	0.05	0.02	0.01	0.11	<0.01	1.65	0.14	0.4
pH (Lab)	pH_Unit	5 0.01						<5.5		6.65	3.87	6.74	6.3	6.84	6.1	4.75	4.84	4.86
Sulfate as SO4 - Turbidimetric (Filtered Sulfate as S (11)	d) mg/L mg/L	1						1000		3	3	292 97	92 31	190 63	39 13	1	16	3
TDS (Filtered)	mg/L	10		600^			600^	1000		1100	311	2200	540	2690	500	360	206	626
тос	mg/L	1								30	5	56	15	78	3	3	2	17
TSS	mg/L	5								151	4330	47,300	241	16	154	73	73	1400
IONS Calcium (Filtered)	ma/I	1				1000				22	1	56	30	354	<1	1	<1	2
Magnesium (Filtered)	mg/L mg/L	1				1000				60	9	43	36	220	<1	19	2	4
Potassium (Filtered)	mg/L	1								19	<1	9	<1	45	<1	<1	<1	<1
Sodium (Filtered)	mg/L	1		180^			180^			298	38	178	100	302	75	78	35	28
METALS Arsenic (Filtered)	mg/L	0.001		0.01	0.1	0.5	0.1			0.442	<0.001	0.002	0.062	0.002	0.043	<0.001	<0.001	0.003
Barium (Filtered)	mg/L	0.001		2	0.1	0.5	20			-			-	-	0.007		0.01	-
Beryllium (Filtered)	mg/L	0.001		0.06	0.1		0.6			-	-	-	-	-	<0.001	-	<0.001	-
Boron (Filtered)	mg/L	0.05	0.37	4	0.5		40			-	-	-	-	-	<0.05	-	<0.05	-
Cadmium (Filtered) Chromium (hexavalent) (Filtered)	mg/L	0.0001	0.0002 0.001	0.002 0.05	0.01	0.01	0.02 0.5			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001 <0.01	<0.0001	<0.0001 <0.01	<0.0001
Chromium (Filtered)	mg/L mg/L	0.01	0.001	0.03	0.1	1	0.3			<0.001	<0.001	<0.001	<0.001	0.005	<0.01	<0.001	<0.01	0.001
Cobalt (Filtered)	mg/L	0.001			0.05	1				-	-	-	-	-	<0.001	-	0.002	-
Copper (Filtered)	mg/L	0.001	0.0014	1^	0.2	0.4	1^			<0.001	0.105	<0.001	<0.001	<0.001	<0.001	0.027	0.02	<0.001
Lead (Filtered)	mg/L	0.001	0.0034	0.1	2	0.1	0.05			<0.001	0.002	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001
Manganese (Filtered) Mercury (Filtered)	mg/L mg/L	0.001	1.9 0.0006	0.1	0.2 0.002	0.002	0.1 0.001			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.046 <0.0001	<0.0001	0.015 <0.0001	<0.0001
Nickel (Filtered)	mg/L	0.0001	0.011		0.002	1	0.1			0.007	0.059	0.01	0.008	0.004	0.003	0.027	0.018	0.009
Selenium (Filtered)	mg/L	0.01	0.011		0.02	0.02	0.01			-	-	-	-	-	<0.01	-	<0.01	-
Vanadium (Filtered)	mg/L	0.01	0.000	2	0.1	22				- 0.050	- 0.403	- 0.007	- 0.047		<0.01	- 0.141	<0.01	- 0.101
Zinc (Filtered) METHANE	mg/L	0.005	0.008	3	2	20	3			0.059	0.483	0.007	0.047	<0.005	0.029	0.141	0.24	0.191
Methane	mg/L	0.01								3.99	<0.01	0.053	0.62	3.07	<0.01	<0.01	<0.01	<0.01
	16/ -	10.02									, 5.01	, 5.555		, 5.07	, 5.01	, 5.01	, 0.01	

- 1: ANZECC (2000) Maintenance of Ecosystems Freshwater 95% Protection
 2: NHMRC/NRMMC (2015) Australian Drinking Water Guidelines (health based)
 ^. NHMRC/NRMMC (2015) Australian Drinking Water Guidelines (aesthetics based)
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 9: Linear conversion Nitriate = Nitrate as N * 4.43
 10: Linear conversion Nitriate = Nitrite as N * 3.29
 11: Linear conversion Sulphate as S = Sulphate as SO4 * 0.33
 12: NIWA (2002) Memorandum Nitrate guideline valles in ANZECC 2000
 13: ANZECC (1992) Australian Water Quality Guidelines
 NI: Not Limiting

- NL: Not Limiting





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									Field_ID	вно9А	BH25	BH26	BH36	BH38
									Sampled_Date	22/03/2017	23/03/2017	24/03/2017	27/03/2017	27/03/2017
				ı		1			SampleCode	EM1703386005	EM1703484002	EM1703572002	EM1703689003	EM1703689001
			Maintenance of	Potable Water	Agriculturo Barks		Primary Contact	Puildings and						
					Agriculture Parks	Stock Watering 4	Primary Contact	Buildings and	Human Health ⁷					
ChemName	Units	EQL	Ecosystems ¹	Supply ²	and Gardens ³		and Recreation 5	Structures ⁶						
OCPs														$\overline{}$
4,4-DDE	μg/L	0.5								<0.5	<0.5	<0.5	<0.5	<0.5
a-BHC	μg/L	0.5								<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	μg/L	0.5								<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin + Dieldrin	μg/L	0.5		0.3		0.32	3			<0.5	<0.5	<0.5	<0.5	<0.5
b-BHC	μg/L	0.5								<0.5	<0.5	<0.5	<0.5	<0.5
Chlordane	μg/L	0.5	0.08	2		2 ²	20			<0.5	<0.5	<0.5	<0.5	<0.5
cis-Chlordane	μg/L	0.5								<0.5	<0.5	<0.5	<0.5	<0.5
d-BHC	μg/L	0.5								<0.5	<0.5	<0.5	<0.5	<0.5
DDD DDT	μg/L	0.5	0.01	9		9 ²	90			<0.5 <2	<0.5 <2	<0.5 <2	<0.5 <2	<0.5 <2
DDT+DDE+DDD	μg/L μg/L	0.5	0.01	9		9-	90			<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	μg/L μg/L	0.5					1			<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan I	μg/L	0.5					-			<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan II	μg/L	0.5								<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulphate	μg/L	0.5								<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	μg/L	0.5	0.02				1			<0.5	<0.5	<0.5	<0.5	<0.5
Endrin aldehyde	μg/L	0.5								<0.5	<0.5	<0.5	<0.5	<0.5
Endrin ketone	μg/L	0.5								<0.5	<0.5	<0.5	<0.5	<0.5
g-BHC (Lindane)	μg/L	0.5	0.2	10		10 ²	100			<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor	μg/L	0.5	0.09	0.3		0.32	3			<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	μg/L	0.5								<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene	μg/L	0.5								<0.5	<0.5	<0.5	<0.5	<0.5
Methoxychlor	μg/L	2								<2	<2	<2	<2	<2
trans-chlordane OPPs	µg/L	0.5								<0.5	<0.5	<0.5	<0.5	<0.5
	ug/!	0.5	0.02	30		20.2	10			<0.5	<0.5	<0.5	<0.5	<0.5
Azinophos methyl Bromophos-ethyl	μg/L μg/L	0.5	0.02	10		30 ² 10 ²	20			<0.5	<0.5	<0.5	<0.5	<0.5
Carbophenothion	μg/L μg/L	0.5		0.5		0.5 2	1			<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	μg/L	0.5		2		2 ²	10			<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	μg/L	0.5	0.01	10		10 ²	2			<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	mg/L	0.0005	0.01			10	_			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Demeton-S-methyl	μg/L	0.5								<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	μg/L	0.5	0.01	4		4 ²	10			<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorvos	μg/L	0.5		5		5 ²	20			<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	μg/L	0.5	0.15	7		7 ²	100			<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	μg/L	0.5		4		4 ²	6			<0.5	<0.5	<0.5	<0.5	<0.5
Fenamiphos	μg/L	0.5		0.5		0.52				<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	μg/L	0.5		7		72				<0.5	<0.5	<0.5	<0.5	<0.5
Malathion	μg/L	0.5	0.05	70		70 ²	100			<0.5	<0.5	<0.5	<0.5	<0.5
Methyl parathion	μg/L	2		0.7		0.72	6			<2	<2	<2	<2	<2
Monocrotophos	μg/L	2	2.224	2		22	2			<2	<2	<2	<2	<2
Parathion	μg/L		0.004	20		20 ²	30			<2	<2	<2	<2	<2
Pirimphos-ethyl	μg/L	0.5		0.5		0.5 2	1			<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos PAHs	μg/L	0.5								<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	μg/L	1								<1	<1	<1	<1	<1
Acenaphthylene	μg/L	1								<1	<1	<1	<1	<1
Anthracene	μg/L	1								<1	<1	<1	<1	<1
Benzo(a)anthracene	μg/L	1								<1	<1	<1	<1	<1
Benzo(a)pyrene	μg/L	0.5		0.01		0.012	0.01			<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	μg/L	1				0.01				<1	<1	<1	<1	<1
Benzo(k)fluoranthene	μg/L	1								<1	<1	<1	<1	<1
Chrysene	μg/L	1								<1	<1	<1	<1	<1
Benzo[b+j]fluoranthene	mg/L	0.001								<0.001	<0.001	<0.001	<0.001	<0.001
Dibenz(a,h)anthracene	μg/L	1								<1	<1	<1	<1	<1
Fluoranthene	μg/L	1								<1	<1	<1	<1	<1
Fluorene	μg/L	1								<1	<1	<1	<1	<1
Indeno(1,2,3-c,d)pyrene	μg/L	1								<1	<1	<1	<1	<1
Phenanthrene	μg/L	1								<1	<1	<1	<1	<1
Pyrene Benzo(a)pyrene TEQ (zero)	μg/L μg/L	0.5								<1 <0.5	<1 <0.5	<1 <0.5	<1 <0.5	<1 <0.5
Total PAHs	μg/L μg/L	0.5	3 ¹³							<0.5	<0.5	<0.5	<0.5	<0.5
PHENOLS	μς/ L	0.5	1							\U.J	\0.5	\U.3	\0.3	10.5
2,4,5-trichlorophenol	μg/L	1					1			<1	<1	<1	<1	<1
2,4,6-trichlorophenol	μg/L μg/L	1	20	2^		20 ²	10			<1	<1	<1	<1	<1
2,4-dichlorophenol	μg/L	1	160	0.3^		200 ²	-0			<1	<1	<1	<1	<1
2,4-dimethylphenol	μg/L	1				2.50				<1	<1	<1	<1	<1
2,6-dichlorophenol	μg/L	1								<1	<1	<1	<1	<1
2-chlorophenol	μg/L	1	490	0.1^		300 ²				<1	<1	<1	<1	<1
2-methylphenol	μg/L	1								<1	<1	<1	<1	<1
	μg/L	1								<1	<1	<1	<1	<1
2-nitrophenol		2								<2	<2	<2	<2	<2
2-nitrophenol 3-&4-methylphenol	μg/L									<1	<1	<1	<1	<1
2-nitrophenol 3-&4-methylphenol 4-chloro-3-methylphenol	μg/L	1												
2-nitrophenol 3-&4-methylphenol 4-chloro-3-methylphenol Pentachlorophenol	μg/L μg/L	1 2	10	10		10 ²	10			<2	<2	<2	<2	<2
2-nitrophenol 3-&4-methylphenol 4-chloro-3-methylphenol Pentachlorophenol Phenol	μg/L	1 2 1	10 320	10		10 ²	10			<2 <1	<2 <1	<2 <1	<2 <1	<1
2-nitrophenol 3-&4-methylphenol 4-chloro-3-methylphenol Pentachlorophenol Phenol BROAD SCREEN	µg/L µg/L µg/L	1		10		10 ²	10			<1	<1	<1	<1	<1
2-nitrophenol 3-&4-methylphenol 4-chloro-3-methylphenol Pentachlorophenol Phenol BROAD SCREEN Weak Acid Dissociable Cyanide	μg/L μg/L μg/L mg/L	0.004		10		10 2	10			<0.004	<0.004	<0.004	<0.004	<0.004
2-nitrophenol 3-&4-methylphenol 4-chloro-3-methylphenol Pentachlorophenol Phenol BROAD SCREEN	µg/L µg/L µg/L	1		10		10 2	10			<1	<1	<1	<1	<1

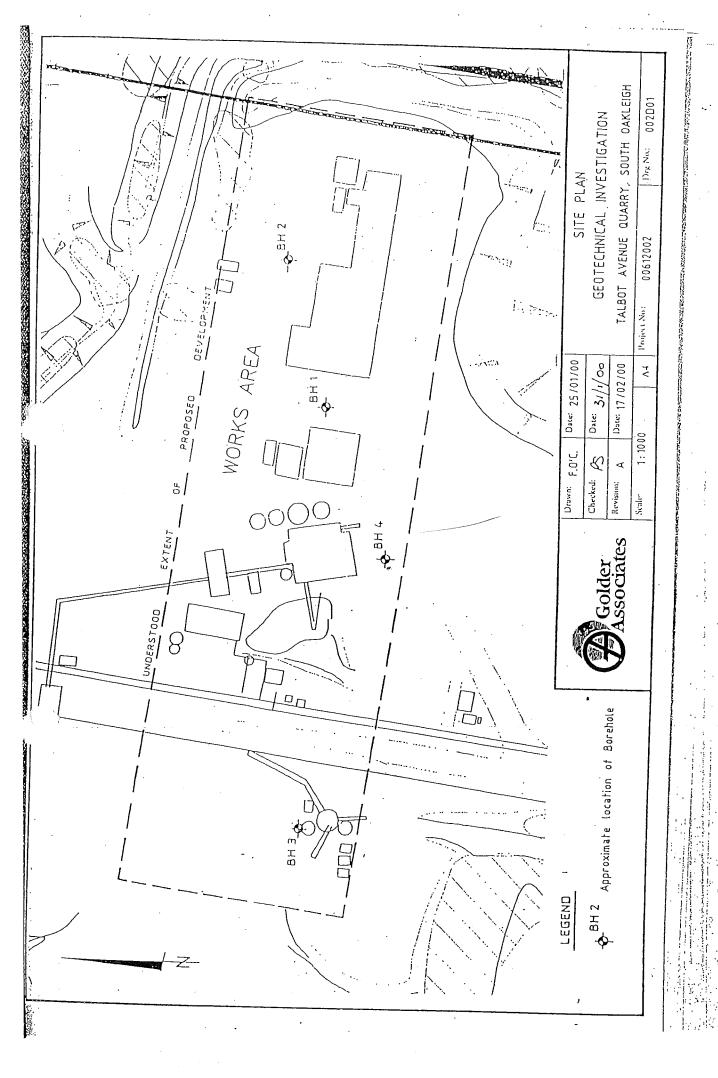
Table 7B: **Groundwater Results - Broad Screen** (March 2017)

									Field_ID	вно9а	BH25	BH26	ВН36	BH38
									Sampled_Date	22/03/2017	23/03/2017	24/03/2017	27/03/2017	27/03/2017
									SampleCode	EM1703386005	EM1703484002	EM1703572002	EM1703689003	EM1703689001
ChemName	Units	EQL	Maintenance of Ecosystems ¹	Potable Water Supply ²	Agriculture Parks and Gardens ³	Stock Watering ⁴	Primary Contact and Recreation ⁵	Buildings and Structures ⁶	Human Health ⁷					
Pentachlorobenzene		2								<2	<2	<2	<2	<2
Atrazine	μg/L	0.0005	0.013	0.02		2 22 2				<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Bifenthrin	mg/L mg/L	0.0005	0.013	0.02		0.02 2				<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
PCBs (Sum of total)	μg/L	1					0.1			<1	<1	<1	<1	<1
Hexachloropropene	μg/L μg/L	2					0.1			<2	<2	<2	<2	<2
VHCs	µg/L									\ <u>\</u>	\2	\2	\2	\
1,1,1,2-tetrachloroethane	μg/L									<5	<5	<5	<5	<5
1,1,1-trichloroethane	μg/L μg/L	5								<5	<5	<5	<5	<5
1,1,2,2-tetrachloroethane	μg/L μg/L	5								<5	<5	<5	<5	<5
1,1,2-trichloroethane	μg/L	5	6500							<5	<5	<5	<5	<5
1,1-dichloroethane	μg/L μg/L	5	0300							<5	<5	<5	<5	<5
1,1-dichloroethene	μg/L μg/L	5		30		30 ²	300			<5	<5	<5	<5	<5
1,1-dichloropropene	μg/L μg/L	5		30		30	300			<5	<5	<5	<5	<5
1,2,3-trichlorobenzene	μg/L	5	10							<5	<5	<5	<5	<5
1,2,3-trichloropropane	μg/L	5	10							<5	<5	<5	<5	<5
1,2,4-trichlorobenzene	μg/L	2	170							<2	<2	<2	<2	<2
1,2-dibromo-3-chloropropane	μg/L	5	170							<5	<5	<5	<5	<5
1,2-dibromoethane	μg/L	5		1		1 2	10			<5	<5	<5	<5	<5
1,2-diblomoetrialie	μg/L	2	160	1^		1500 ²	1^			<2	<2	<2	<2	<2
1,2-dichloroethane	μg/L	5	100	3		3 ²	30			<5	<5	<5	<5	<5
1,2-dichloropropane	μg/L	5		<u> </u>		.3	30			<5	<5	<5	<5	<5
1,3-dichlorobenzene	μg/L	2	260	20^			20^			<2	<2	<2	<2	<2
1,3-dichloropropane	μg/L μg/L		200	20"			20'			<5	<5	<5	<5	<5
1,4-dichlorobenzene	μg/L μg/L	2	60	0.3^		40 ²	0.3^			<2	<2	<2	<2	<2
2-chlorotoluene	μg/L	5	00	0.3**		40	0.5			<5	<5	<5	<5	<5
4-chlorotoluene	μg/L μg/L	5								<5	<5	<5	<5	<5
Bromobenzene	μg/L μg/L	5								<5	<5	<5	<5	<5
Bromodichloromethane	μg/L	5								<5	<5	<5	<5	<5
Bromoform	μg/L	5								<5	<5	<5	<5	<5
Bromomethane	μg/L	50		1		1 2	10			<50	<50	<50	<50	<50
Carbon tetrachloride	μg/L μg/L	5		3		32	30			<5	<5	<5	<5	<5
Chlorobenzene	μg/L	5		10^		300 ²	10^			<5	<5	<5	<5	<5
Chlorodibromomethane	μg/L	5		10"		300	10*			<5	<5	<5	<5	<5
Chloroethane	μg/L	50								<50	<50	<50	<50	<50
Chloroform	μg/L	5								<5 <5	<5	<5	<5 <5	<5
Chloromethane	μg/L	50								<50	<50	<50	<50	<50
cis-1,2-dichloroethene	μg/L	5								<5	<5	<5	<5	<5
cis-1,3-dichloropropene	μg/L	5								<5	<5	<5	<5	<5
cis-1,4-Dichloro-2-butene	μg/L μg/L	5								<5	<5	<5	<5	<5
Dibromomethane	μg/L	5								<5	<5	<5	<5	<5
Dichlorodifluoromethane	μg/L	50								<50	<50	<50	<50	<50
Hexachlorobutadiene	μg/L	2		0.7		0.72	7			<2	<2	<2	<2	<2
Iodomethane	μg/L	5		0.7		U. /	,			<5	<5	<5	<5	<5
Pentachloroethane	μg/L	5								<5	<5	<5	<5	<5
Trichloroethene	μg/L	5								<5	<5	<5	<5	<5
Tetrachloroethene	μg/L	5		50		50 ²	500			<5	<5	<5	<5	<5
trans-1,2-dichloroethene	μg/L	5		30		50	300			<5	<5	<5	<5	<5
trans-1,3-dichloropropene	μg/L μg/L	5								<5	<5	<5	<5	<5
trans-1,4-Dichloro-2-butene	μg/L	5								<5	<5	<5	<5	<5
Trichlorofluoromethane	μg/L μg/L	50								<50	<50	<50	<50	<50
Vinyl chloride	μg/L μg/L	50		0.3		0.32	3			<50	<50	<50	<50	<50
viiryi cinoriae	µĶ/ L	150		0.3		U.3	J			\JU	1 \30	1 130	\ \JU	

- 1: ANZECC (2000) Maintenance of Ecosystems Freshwater 95% Protection 2: NHMRC/NRMMC (2015) Australian Drinking Water Guidelines (health based) ^: NHMRC/NRMMC (2015) Australian Drinking Water Guidelines (aesthetics based)

- 3: ANZECC (2000) Water Quality Guidelines for Agricultural Water Use (Irrigation)
 4: ANZECC (2000) Water Quality Guidelines for Agricultural Water Use (Irrigation)
 5: NHMRC/NRMMC (2015) Australian Drinking Water Guidelines (health based) multiplied by a factor of 10
 6: AS 2159-2009 Piling Design and Installation Limits for mild exposure classification of soil condition A
 7: NEPC (2013) Health Screening Levels for Vapour Intrusion, Low-high density Residential, Sand, 2m to <4m
- 8: Linear conversion Ammonia = Ammona as N * 1.21
- 9: Linear convsersion Nitrate = Nitrate as N * 4.43
- 10: Linear conversion Nitrite = Nitrite as N * 3.29
- 11: Linear conversion Sulphate as S = Sulphate as SO4 * 0.33
 12: NIWA (2002) Memorandum Nitrate guideline valies in ANZECC 2000
 13: ANZECC (1992) Australian Water Quality Guidelines
- NL: Not Limiting

Appendix C - Borelogs





PROJECT:

Pioneer International

Talbot Avenue Quarry LOCATION: South Oakleigh

BOREHOLE LOCATION: Refer to Sile Plan SURFACE RL: m DATUM: AHD

INCLINATION: -90°

SHEET: 1 OF 3 DRILL RIG: Fox B40L

LOGGED: BJF CHECKED: PR DATE: 20-1-00 DATE: 17/2/00

Ŀ	JOB I	10:		00612	002						CH	ECKED: PS	DATE:	17/2/0	70
			Orilling		Sampling		 		Field Material Descr	· i —	τ-	T			
00700	PENETRATION RESISTANCE	WATER	DEPTH (meres)	OEP111 RL	SAMPLE OR FIELD TEST	AECOVERED	GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE	CONSISTENCY	STRU AD OBS	ICTURE AND DITIONAL ERVATIONS		
	Ī	Т	1	0 20		7			FILL-CONCRETE SLAB						
	i	-						ci.	FILL-CLAY, dark grey (hydrocarbon adour), Irace brick	M-W					
	ļ		1-	, 1 00	SP1 @ 1.5m			СН	FILL-CLAY, high plasticity, dark grey, trace sand		s _v				
\			2-	2.30	HW/450mm				THE PROTECT OF EAST LONG COLUMN TO A TRANSPORT OF THE TANK OF THE						
			3-	3.00					FILL-Sandy CLAY, pale grey brown, fine to medium quartz sand		155	,			
				3,60	SPT @ 3.0m 3, 4, 6 N=10				FILL-Silty CLAY, pale brown, trace medium sand Clayey SAND, medium grained, pale grey trace orange						
	separation .		4-						brown, trace line quartz gravel						
	ı	:	5		SPT @ 4.5m 12, 16, 20 N=35	3 and					0				
			-	5.40				sw	SAND, fine to coarse quartz sand, pale grey and orange brown	Σ			:		
			6		SPT @ 6.0m 20, 30/150mm	1000				-					-
100			7-	7.00				SP	SAND, line to medium quartz sand, pale grey						1
			8-		SPT @ 7.5m 13, 30/150mm						σν				
			g		SPT @ 9.0m 26, 30/130mm	1								· .	
				10 00	J	-2:1 0	boreh	ode u	nust be read in conjunction with accompanying notes and a	bbre	viation				



CLIENT:

Pioneer International

PROJECT: LOCATION. Talbot Avenue Quarry

South Oakleigh 00612002

BOREHOLE LOCATION: Refer to Site Plan

SURFACE RE: m DATUM: AHD ... INCLINATION -90*

SHEET: 2 OF 3

DRILL RIG: Fox B40L.

LOGGED: BJF CHECKED: PS

DATE: 20-1-00

J.	4 8C	10:		00612	Oakleigh 002				INCLINATION 90'		CI-	GGED: BJF IECKED: PS	DATE: 2	17/2/0
ļ			rilling		Sampling				Field Material Descr	iptic	n			
METHOD	PENETRATION RESISTANCE	WATER	(metres)	DEF111	SAMPLE OR FIELD TEST	RECOVERED	GPAPHIC	USC Symeot	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE	CONSISTENCY DENSITY:	STRUCTU ADDITI OBSERV	ONAL	
			11 —	1290	SPT @ 10 Sm 12, 17, 25 N=42 SPT @ 12 0m 20, 39/100mm			ne	tow plastedy fines		0			
9,			13	14 40	SPT @ 13 5m 30/150mm				brown, trace coarse quarts sand					
Washbore	ι		15	15.90	SPT @ 15 0m 30/130mm	and the second			fine to medium grained	*	٥٨			
-			17 —	17.60	SPT @ 16 5m 22, 30/110mm	美型			with coarse grained quartz sand, fine gravel					
			18-		SPT @ 18.0m 30/150nm No Recovery	17885		SP.	Clayey SAND, fine to coarse grained, dark grey, low plasticity fines					
			-20	1	SPT @ 19.5m 20, 22, 16 N=38	0 5	orehol	c m:	st be read in conjunction with accompanying notes and abb		o			



CLIENT:

Pioneer International

PROJECT: LOCATION: JOB NO:

Talbot Avenue Quarry South Oakleigh

BOREHOLE LOCATION: Refer to Site Plan

SURFACE RL m DATUM: AHD INCLINATION . 90.

SHEET: 3 OF 3

DRILL RIG: Fox B40L

DATE: 20-1-00

LOGGED: BJF 00612002 CHECKED: PS DATE: 17 2 00 Dritting Sampling Field Material Description SAMPLE OR FIELD TEST STRUCTURE AND ADDITIONAL OBSERVATIONS DEPTH (metres) MOISTURE SOIL / ROCK MATERIAL DESCRIPTION DEPTH RL Clayey SAND, fine to coarse grained, dark grey, low plasticity lines SPT @ 21.0m 13, 9, 10 N=19 Š 22 SPT @ 22.5m 20, 25, 23 N=48 2 23 -24 SPT @ 24.5m 11, 12, 14 N=26 END OF BOREHOLE @ 24.95m GROUNDWATER NOT OBSERVED

Report of borehole must be read in conjunction with accompanying notes and abbreviations

GAP Form No. 9

RL 5.4



PROJECT: LOCATION: Pioneer International

Talbot Avenue Quarry South Oakleigh

BOREHOLE LOCATION: Refer to Site Plan SURFACE RL: m DATUM: AHD

INCLINATION .90

SHEET: 1 OF 3

DRILL RIG: Fox B40L

GAP Form No. 9

JOB NÓ: 00612002 LOGGED: BJF DATE: 19-1-00 CHECKED: PS Sampling DATE: 1720 Field Material Description SAMPLE OR FIELD TEST WATER SOIL / ROCK MATERIAL DESCRIPTION STRUCTURE AND ADDITIONAL OBSERVATIONS GW FILL-GRAVEL, fine to coarse, round to angular FILL-SAND, line grained, light brown and brown bricks, trace straw 0 60 0 60 ٥ FILL-GRAVEL, medium to coarse, angular 1 20 FILL-Clayey SAND, tine grained, dark grey, (hydrocarbon odour), and brown grey, trace gravel, trace wire 2 30 light brown grey SPT @ 3.0m HW, 0, 0 5.00 CH FILL-CLAY, high plasticity, grey brown, with trace line SPT @ 6.0m HW, 0, 0 Ś 9 10 SPT @ 9.0m HW, 2, 2 N=4 Clayey SAND, line to coarse grained, pale grey, quartz Ξ ₹ Report of borehole must be read in conjunction with accompanying notes and abbreviations



PROJECT:

LOCATION:

Pioneer International

Talbot Avenue Quarry

South Oakleigh,

BOREHOLE LOCATION: Refer to Site Plan

SURFACE RL: m DATUM; AHD

INCLINATION: -901

SHEET: 2 OF 3

DRILL RIG: Fox B40L

LOGGED: BJF

DATE: 19-1-00

JC	OCATION: South Oakleigh INCLINATION: 90' JOB NO: 00612002				incliny hou: -80.			GED: BJF CKED: PS	DATE: 19					
_		T - (Drilling		Sampling			···-	Field Material Desc	riptio	n ,			
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC 1	USC Symaat	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE	CONSISTENCY DENSITY	STRUCTU AUDITI OBSERV	JANO	
		1	10-					SP	SANO, fine to medium grained quartz sand, pale grey, trace of low plasticity fines					
			11 —		SPT @ 10 5m 10, t2, 15 N=27						MO			
ode			-	11,40					nedium to coarse grained	-			•	
			12		SPT @ 12 0m 12, 30/150mm Double Bouncing									
			13 —	13,00					fina to medium grained, trace coarse	_				
			-									•		
			14	14,50	SPT @ 13.7m 19. 30/70mun	.335			*			•		
	ι		15—	-	SPT @ 15.0m 18, 30/110mm	20.45			line to medium grained	æ	0.0			
			16-											
					SPT @ 16,5m 41/150mm	200								
				17,20					medium to coarse grained					
			18-		SPT @ 18.0ni 30, 30/80mm	E STATE		,						
			19	19.00	·			SP	Clayey SAMO, fine to coarse, dark green grey, low plasticity fines					٠
			-20	1	SPT @ 19.5m 22, 20, 20 N=40						٥			



CLIENT: PROJECT LOCATION:

Pioneer International

Talbot Avenue Quarry South Oakleigh

BOREHOLE LOCATION: Refer to Site Plan SURFACERL: m DATUM: AHD

INCLINATION: .90*

SHEET: 3 OF 3 DRILL RIG: Fox B40L

LOGGED: BJF

JOB NO: DATE: 19-1-00 00612002 CHECKED: PS DATE: 17/2/00 Drilling Sampling Field Material Description SAMPLE OR FIELD TEST STRUCTURE AND ADDITIONAL OBSERVATIONS SOIL / ROCK MATERIAL DESCRIPTION DEPTH RL SP Clayey SANO, line to coarse sand, dark green grey, low plasticity lines SPI @ 21 0m 11, 12, 12 N=24 SPT @ 22,5m 12, 11, 9 N=20 S ž 23 10 fine grained, with set SPT @ 24.5m 10, 10, 9 N=19 END OF BOREHOLE @ 24.95m GROUNDWATER NOT OBSERVED

Report of borehole must be read in conjunction with accompanying notes and abbreviations



CLIENT:

Pioneer International

PROJECT: L'OCATION: Talbot Avenue Quarry

South Oakleigh

BOREHOLE LOCATION: Refer to Site Plan

SURFACE RL: m DATUM, AHD INCLINATION: .90°

SHEET: 1 OF 3 DRILL RIG: Fox B40L

LOGGED: BJF DATE: 21-1-00

	JOB NO: 00612002 -								CHECKED: PS DATE: 17 2 00						
		1		rilling		Sampling	1		r	Field Material Description					
метноо	PENETRATION	RESISTANCE	WATER	DEPTH (metres)	DEPIH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION SOIL / ROCK MATERIAL DESCRIPTION STRUCTURE AND ADDITIONAL OBSERVATIONS					
ŀ	T	Т		0	0 20		<u> </u>			FILL-CONCRETE SLAB					
				-	0 80					FILL-SAND, fine to medium gramed, black					
				1	1 00				SC	dark grey brown FILL-Clayer SAIID line to medium grained, black, brown grey, pale grey and orange brown trace glass, trace brick, trace carbonate deposit					
				2-		SPT @ 1 5m 2. 2. 2 N=4									
		and the standard stan		3 —		SPI @ J 0m 15, 9, 8	**,7.4								
Solid Auger		į			J 50	N=17				with refuse (methane odour), plastic, brick, wood, cloth, wood, vire					
SS				4-						GW OW					
	L			5 —		SPT @ 4 5m 7, 4, 10 N=14									
				6-											
						-									
-				7-		SPT @ 7.5m	Action Contraction								
Xore				8—	- }	1, 2, 2 N=4 No Recovery				3 5					
Washbore				9 —			2525255555555								
				10	10.00										



CLIENT: PROJECT: LOCATION: Pioneer International

Talbot Avenue Quarry South Oakleigh

BOREHOLE LOCATION: Refer to Site Plan SURFACE RL: m DATUM: AHD

INCLINATION .90°

SHEET: 2 OF 3 DRILL RIG: Fox B40L

LOGGED: BJF

DATE: 21-1-00

SPT @ 10 Sin 13, 30/150mm No Recovery SPT @ 12 Om 24, 30/150mm	SOIL / ROCK MATERIAL DESCRIPTION SSW SAND, fine to coarse quartz sand, pale brown grey	CHECKED: S DATE: 17 2 00
SPT @ 10 5m 13, 30/150mm No Recovery 11 — SPT @ 12 0m 24, 30/150mm 13 — SPT @ 13.5m 24, 30/150mm 14 — I4.40 SPT @ 15.0m 40/150mm 16 — SPT @ 15.0m 26, 30/150mm No Recovery		STRUCTURE AND ADDITIONAL OBSERVATIONS
SPT @ 10 5in 13, 30/150nin No Recovery 12— SPT @ 12 0m 24, 30/150nim 14— 14.40 SPT @ 15.0m 40/150nim 16— SPT @ 15.0m 40/150nim No Recovery		
SPT @ 15.0m 14— 14.40 15— SPT @ 15.0m 40/150mm 16— SPT @ 15.0m 26, 30/150mm No Recovery		
SPT @ 13.5m 24, 30/150mm 14— 14.40 SPT @ 15.0m 40/150mm 16— SPT @ 16.5m 26, 30/150mm No Recovery		
14— 14.40 15— SPT @ 15.0m 40/150nm 16— SPT @ 16.5m 26, 30/150mm No Recovery	SP SAHD, fing to medium grained, pale grey and brown	
SPT @ 16 5m 26, 30/150mm No Recovery	grey brown	0.00
No Recovery		Σ
17,40	P Clayey SAND, fine to coarse sand, dark grey, low	
SPT @ 18 0m	plasticity fines	
19 — 19.50 SPT @ 19.5m	1	

GAP Form No. 9 RL.5.4



ROJECT:

Pioneer International

Talbot Avenue Quarry CATION:

South Oakleigh

BOREHOLE LOCATION: Refer to Site Plan

SURFACE RL m DATUM: AHD

INCLINATION -90'

SHEET: 3 OF 3

DRILL RIG: Fox B40L

LOGGED: BJF

DATE: 21-1-00

B NO: 00612002 CHECKED: PS DATE: 17/2/00 Drilling Sampling Field Material Description SAMPLE OR FIELD TEST GRAPHIC LCG OEPTH OEPTH STRUCTURE AND ADDITIONAL OBSERVATIONS PENETR RESISTA WATER SOIL / ROCK MATERIAL DESCRIPTION Clayey SATID, fine to coarse sand, dark grey, low plasticity fines 21 SPT @ 21.0m 15, 16, 17 N=33 22 SPT @ 22 5m 16, 22, 23 N=45 Σ 23 SPT @ 24.5m 5, 8, 8 N=16 õ 24,95 END OF BOREHOLE @ 24.95m GROUNDWATER NOT OBSERVED

Report of borehole must be read in conjunction with accompanying notes and abbreviations

GAP Form No. 9

RL 5.4



PROJECT: OCATION:

OB NO

Pioneer International Talbot Avenue Quarry

South Oakleigh .00612002

BOREHOLE LOCATION: Refer to Site Plan

SURFACERL: m DATUM AND

INCLINATION - 90

SHEET: 1 OF 3

DRILL RIG: Fox B40L

LOGGED: DP DATE: 14-2-00

SAMPLE OF PACKED	D.::::		CHECKED: PS DA	TE: 14-2-
SATURE OF PELD 16ST 5 0 0 0 1 1 1 1 2 1 1 1 2 1 1 2 1 1 2 1 1 1 2 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1	Drilling	Jampany 1		(1E: ()
FILL Samy CRAVEL with some cability, hard, SPT @ 1.5m 1.7 SPT @ 1.5m 2.2, 150mm, hW SPT @ 3.5m 3.2, 150mm, hW SPT @ 3.5m 5.7 FILL Cityey SAID, dask yet, fine, approximately 10% sill, 1.7 7.10 SPT @ 3.5m N=3 SPT @ 3)	SOIL / ROCK MATERIAL DESCRIPTION SOIL / ROCK MATERIAL DESCRIPTION STRUCTURE / ADDITIONA OBSERVATIO OBSERVATIO	r
9- U63 @ 9.0m pp=40kPa to >600kPa SW SAND, pale grey, fine to coarse quartz, rounded grains	2	SPT @ 1.5m 1, 2, 3 N=5 SPT @ 3.0m 3, 2, 150mm, HW SPT @ 6.0m RW, 150mm/1, 2 N=3 SPT @ 7.5m 3, 5, 7 N=12	FILL-Sally, Income with some cobbles, hard, subangular, subgrade FILL-SAID, Income, with founded quart, pebbles, trace birck, approximately 20% sill lines, fine to medium grained sand, trace birck fragments SP FILL-Clayer SAHD, dark grey, fine, approximately 40% high plasticity fines SP FILL-Silly SAND, light grey, fine, approximately 40% sill, low plasticity	NS
	9-	U63 @ 9.0m pp=40kPa to	SW SAND, pale grey, fine to coarse quartz, rounded grains	



CLIENT:

Pioneer International

PROJECT: LOCATION: LOB NO: Talbol Avenue Quarry

South Oakleigh 006 | 2002 BOREHOLE LOCATION Refer to Site Plan

SURFACERL m DATUM: AHD

INCLINATION: -90"

SHEET: 2 OF 3

DRILL RIG: Fox 840L

DATE: 14-2-00

LOGGED: DP

CHECKED: PS DATE: 17/2/00 Drilling Sampling Field Material Description SAMPLE OR FIELD TEST GRAPHIC LOG OEPTH (metres) SOIL / ROCK MATERIAL DESCRIPTION SAUTSION STRUCTURE AND ADDITIONAL OBSERVATIONS SW SAHD, pale grey, line to coarse quartz SPT @ 10 5m 13, 30/90mm 1170 Irace orange brown staining 12 SPT @ 12 0m 3, 12, 30/100mm 13. 13 10 fine to medium grained, some orange staining SPT @ 13,5m 30/150mm 14 light brown grange, line to coarse grains SPT @ 15.0m 9 Σ 16 16 20 Silly SAND, brown orange, with trace coarse quarte sand tragments, approximately 20% silt traction, medium plasticity, black SPT @ 16.5m 12, 30/150mm SPT @ 18.0m 9, 26, 30/90mm 18.70 Clayey SAND, grey, fine to coarse grained, trace quartz fragments, low plasticity fines SPT @ 19.5m 10, 26, 30/125mm Report of borehole must be read in conjunction with accompanying notes and abbreviations

> GAP Form No. 9 , Rt. 5,4



PROJECT:

Pioneer International Talbol Avenue Quarry

LOCATION: ·Soulh Oakleigh JOB NO:

BOREHOLE LOCATION: Reler to Site Plan SURFACE RL: m DATUM: AHD

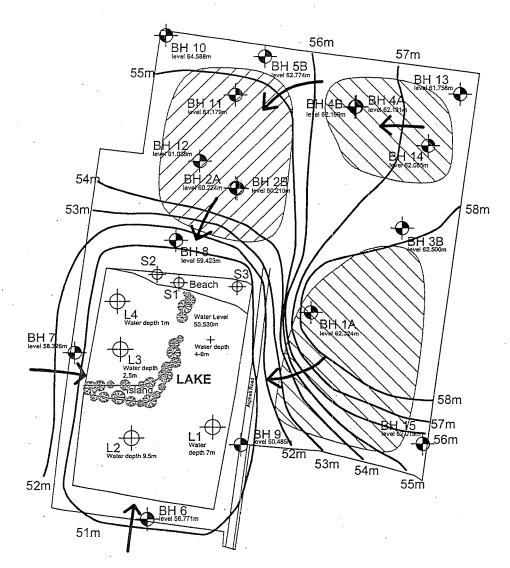
INCLINATION: -90*

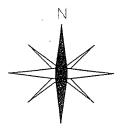
SHEET: 3 OF 3

DRILL RIG: Fox B40L LOGGED: DP

	0612002			LOGGED: DP DATE: 14-2 CHECKED: PS DATE: 171:
Drilling	Sampling		Field Material Desc	
METHOD PENETRATION RESISTANCE WATER DEPTH (meures)	SAMPLE OR SUPPLIED TEST OF SUPPLIED TEST	GRAPHIC LOG USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	STRUCTURE AND ADDITIONAL OBSERVATIONS OUT
21-	SPT @ 21.0m 8, 14, 12 N=26	SP SP	Clayey SAND, grey, fine to coarse grained, trace quartz tragments, low plasticity fines	9
23-	SPT @ 22.5m 7. 16. 21 N=37			3 0
24 —	SPT @ 24 5m 12, 16, 14 5 N=30		, , , , , , , , , , , , , , , , , , ,	
		GF	ID OF BOREHOLE @ 24.95m ROUNDWATER NOT OBSERVED	

Talbot Avenue, Oakleigh





LEGEND

- Water/Silt sample location

Stream water sample location

Borehole Location

Dead Trees

Approximate location of landfill

Approximate location of clay slimes pit

Equipotential lines - groundwater contours (mAHD)

Approximate direction of groundwater flow in Brighton Group Sands Formation and landfill

Scale 1:4000

NBS

09-08-2002

V500/3

BLACK G	EOTEC	HNICAL PTY LTI	D	project		, matteria,]		BLACK
job no		V500-2	date 12.02.02							job no
drilling me			logged by		eer Quarry Site	~ >				drilling
Pioneer 4		L = -=	D Macleod	Talbot A						Pionee
power aug H' casing		роге	checked by G Black	Oakleigh)					power a
location: r		re 1 333259E, 5		level	RL 62.2m					H' casi
BOREH			sheet 1 of 2	datum	AHD			1		BORE
depth	CLL II	1	Sileet 1 01 2	Juatum	And		T	┨		depth
metres	!		material des			tests	sample			metres
	XXX		ravel (GP), dense, f	ine to coars	se grained, grey		0.0			_
		brown, dry					D _			-
_ 0.6	$\times \times \times$	FILL: Clay (CI	-CI), stiff, medium p	lacticity br	own orango		0.5	-		-
-	$\otimes \times$		p, trace plastic, woo				-	-		-
_		2.2	p, acre piacae, acc	u, 00/10/010	,	- 1	-			
_	$\langle XXX \rangle$		•							_
-	$\otimes \otimes$						_	-		-
_ 2.0							-			
2.0	$\frac{1}{2}$	FILL: Sand (SF	P), medium dense, f	ine to medi	um grained, grev	7,8,6	2.0 D			-10.0
_	$\mathbb{N} \mathbb{N}$		moist, some timber			N=14				
_					• .		2.45			_
-		basamina las	aa ta madium daaa		2		-			-
- 1	$\times\!\!\times\!\!\times$	becoming 100	se to medium dense	e, uaik giey	alom		-			-
_		-	•							
_		becoming loo	se, wet at 3.5m							_
		ODT	t	1 5 1						
4.0.		no SP1 samp	le recovered at 4m,	porenole c	aving 4-5.5m,	1 for 450mr	14.0 D	4		12.0
-	$\times\!\times\!$	n casing ins	lalleu			N=0	'\ -	-		-
_		,					4.45	1		L
_								.]	•	_
-	$\times\!\!\times\!\!\times$	•				ŀ	-			-
- _ 5.5	$\times\!\!\times\!\!\times$						-			-
- 3.5		SAND (SW)	·				-	1		
_	: '		um dense, fine to m	edium grai:	ned, yellow white					
6.0		brown, wet	•					1		14.0
-						2,2,2	D			-
- `		hecoming me	dium dense, grey, n	noist to wet	at 6.5m	N=4	6.45	4		-
<u> </u>		20009 1110								
_							1 -			_
_							-			-
-							-		•	-
							-	,		-
8.0	•									16.0
Refer to figu	re 1A for s	ummary of descriptive	e terms.							Refer to f
			sessment unless there a	re test results	.					Description
tests refer		N = Standard Pe				•				tests re
samples r	efer to	D = Disturbed Sa	ample					-		sample
groundwa	ter	refer to Report N	o V500-2R							ground
								J		

	BLACK C	EOTEC	HN' L PTY I	TD	project			
	job no		√ 2	date 12.02.03	2			
	drilling me			logged by D Macleod	Ex-Pioneer Quar Talbot Avenue	ry Site		
	power au		bore	checked by	Oakleigh			
	H' casing			G Black				
	location: I	efer figu	re 1. 333259E	, 5800752N	level RL 62.2	2m	-	
	BOREH	OLE N	013	sheet 2 of 2	datum AHD			
	depth metres			material d	escription	,	tests	sample
•	_	.:	SAND (SW)		,		4,6,3	D
	_	ľ · · .	medium de	ense, fine to mediun	grained, grey, moist	to wet	N=9	
	_				•			8.45
	-							-
	-							-
•	-						-	-
			•	•				-
								-
	10.0							
	-							
	-		End Bore 1	at 10m	•			_
	-		Note: 4m	of Itali agains last in t	-1	_		-
	-		Note, 401	or rete) in fill.	ole due to obstruction	5		-
	-		. (0011	orete) in tim.] -
	_ '							-
•	_			14	- RL 62.2m			-
	_			Standpipe .]
	12.0		Class	18 50mm diameter		,		! _l
	-		0.4mm	machine cut scree	n, threaded joint		İ	_
	-		bentor		6m			-
	-		sand		10m	F		-
	-		screen	8-	10m .	· ·		-
			lan	·			•	-
	_						1	[_]
	_							1 _1
				1B -	- RL 62.3m			_[
	14.0			Standpipe I	Details:			
	-		Class	18 50mm diameter l	PVC Pipe			
	-			machine cut scree				-
	_			,	3m			-
	~		sand		5m			-
	_		screen	3-4	5m			-
								-
	_				•		-]
•	_					•	1	
	16.0							
	Refer to figu	re 1A for s	ummary of descrip	tive terms.				
				assessment unless the	e are test results.			
	tests refer	to	N = Standard I	Penetration Test				
	samples r	efer to	D = Disturbed	Sample		··		
	groundwa	ter	refer to Report	No V500-2R	41			

BLACK (SEOTEC	HNICAL PTY LT	Ď	project					
job no	•	V500-2	date 13.02.02						
drilling m			logged by	Ex-Pioneer Quarry Site					
Pioneer 4			D Macleod	Talbot Avenue					
power au		bore	checked by	Oakleigh					
H' casing		4 0004705	G Black						
location:			290099914	level RL 60.2m					
BOREL	OLE N	o 2B	sheet 1 of 2	datum AHD					
depth				A					
metres	KNKY	FILL: 01/0	material desc	ription	tests	sample			
	$ \!\! \!\!>\!\!\!>\!\!\!>\!\!\!>$	brown, moist		ne to medium grained, pale	i	-			
-	KXXX	Diown, moist			ļ	-			
-	$\Diamond \Diamond $		•	•		-			
	KXXX		•			-			
_					1				
-	\times		avelly Sand at 1.3m		•				
_	$\otimes \otimes$	becoming ora	ange grey, trace steel	at 1.5m		1.5			
- 20	$\langle \rangle \rangle \langle \rangle \langle \rangle$	hanning H-	ok dark aren ezent et	?m	10,13,11	D -			
2.0	KXXX	becoming bia	ck dark grey sand at	ZIII	N=24	1.95			
<u> </u> -	[XXX]			•		-			
-						-			
-					1	-			
	$\mathbb{N} \times \mathbb{N}$	becoming we	t at 3.5m			-			
[2A - RL	60.2m					
_	0.00		Standpipe Deta		1				
_	$\Diamond \Diamond \lambda \lambda \lambda$		50mm diameter PVC			3.5			
_	KXXX		nachine cut screen, th		2,5,8	D _			
4.0		bentonite	•		N=13	3.95			
-		sand	2.5-4.5	• • •		_			
-		screen	2.5-4.5	5m	1	-			
-	8833					-			
_	$\Diamond\Diamond\Diamond$					-			
_	$\otimes X$	becoming we	t at 5m			-			
	8888	ŭ				_			
_ 5.5 -	$\Rightarrow \Rightarrow $					5.5			
_	$\times\!\times\!\times$	FILL: Refuse (r	metal, plastic, wood)	mixed with sand	4,7,15	D _			
6.0	KXXXI				N=22	5.95			
- ' -	$K\!\!\times\!$					-			
	$\mathbb{K}_{\mathbb{K}}$					-			
-	$\mathbb{K}\mathcal{K}\mathcal{X}$					-			
[<u> </u>		very hard obig	ects detected, steel a	nd/or concrete, slow		-			
	$\mathbb{K} \mathbb{K} \mathbb{K}$	drilling below		.,					
_	$\otimes \otimes$	-				.]			
_	$\langle \rangle \langle \rangle \langle \rangle$					7.5 —			
	KXXXI				12,18,16	D			
8.0	<u>(XXX</u>)				N=34	7.95			
Refer to figu	re 1A for s	ımmary of descriptive	terms.		•	,			
Descriptions			sessment unless there are	e test results.					
tests refer	r to	N = Standard Pe	netration Test						
samples r	samples refer to D = Disturbed Sample								
		enforte Desert M	- \/E00.2D						
groundwa	ter	refer to Report N	0 V500-2R			1			
		· · · · · · · · · · · · · · · · · · ·							

BLACK (GEOTEC	HN , PTY LT	D	project		
job no		V. 2	date 13.02.02	p. 0,000		
drilling m	ethod		logged by	Ex-Pioneer Quarry Site		1
Pioneer 4	100		D Macleod	Talbot Avenue		
power au	~	n bore	checked by	Oakleigh		
H' casing			G Black			
location:	refer figu	re 1 333176E,	5800889N	level RL 60.2m		
	OLE N	o 2 B	sheet 2 of 2	datum AHD		
depth						
metres	X X X X	CUI, D.A.	material desc	ription	tests	sample
-	XXX	FILL: Retuse,	metal, plastic, wood v	with sand		-
-	$\times\times\times$					-
-	$\otimes \otimes$	1		_ 60.2m		-
[$\otimes \otimes \times$		Standpipe Deta			-
_	KXXX		50mm diameter PV0			-
	XXX		nachine cut screen, th			-
L	\times	bentonite sand	e pellets 5-6m 6-8.5n			9.5
<u> </u> _	$ \rangle\rangle\rangle\rangle$	screen	6-8.5n		23,14,14	D -
10.0	XXX	3C/CE/I	0-0.51	''	N-28	9.95 —
_	$\times\times\times$					
_	$\times\times\times$					1]
-	$\otimes \times$					_
-	$\bigvee\!$				1	_
_	KXXX					_
-	$\times \times \times$				1	_
i-					1	
-	XXXX	cobbles, grav	el, glass at 11.5m (sa	ample faint smell)	<u> </u>	11.5
- -					4,9,10	D _
12.0	\times				N=19	11.95 ——
-	$\times\times$					-
 -	XXX		•		Ì	-!
-	KXXX					-
-	$\otimes \otimes$			-		-
-						-
			*			-
_		no SPT attem	pted at 13.5m, very h	nard object detected		-
_	$\times\!\!\times\!\!\times$	unable to adv	ance 'H' casing past	14.5m. Borehole redrilled] [
14.0	$\times\!\times\!\!\times\!\!\times$	using 'H' casi	ng.	•		
-	XXX					
-	\mathbb{K}^{\times}			,		
- ·	$\langle \dot{x} \dot{\chi} \dot{\chi}$					14.5
-	$\mathbb{K} \times \mathbb{X}$				13,11,11	D _
-	$\mathbb{K}XXX$			·	N=22	14.95
-		umabhane 4 ke		F 6		_
- 15,5	$\times\times\times$			5.5m, encountered drill	1	-
- 15.5		End Bore 2 at	15.5m in refuse	· · · · · · · · · · · · · · · · · · ·	1	-
16.0		Refusal in ref				-
	re 1A for s	ummary of descriptive			1	·
1			sessment unless there are	e test results		
tests refe		N = Standard Per				
samples r	efer to	D = Disturbed Sa	mple			
groundwa	iter	refer to Report N	o V500-2R			

BLACK G	EOTEC	INICAL PTY LT	D	project	~~			
job no		V500-2	date 12.02.02					
drilling me	ethod		logged by	Ex-Pioneer Qu	uarry Site			
Pioneer 4			D Macleod	Talbot Avenue	9			- 1
power aug		bore	checked by	Oakleigh				
H' casing			G Black	ļ				
location: r	efer figur	e 1 333359E,	5800847N	level RL6	32.5m			
BOREH	IOLE N	o 3A	sheet 1 of 1	datum AHD)			
depth								
metres			material des			tests	sam	ple
_	$\mathbb{X}XX$		Sand (SP), loose, fi		ined,		1	_
		brown, dry to	moist, trace brick, o	oncrete, wire				-
_	[XXX]				•			-
-	$\times\times$							-
-	KXXX							-
 .	$\otimes \otimes$							
-	$\mathbb{K} \times \mathbb{X}$,						
-	KXXX							
_ 2.0	KXXX					_		
	$\times \times $	FILL: Clayey S	Sand (SP), loose, fine	e to medium gra	ined, grey,]		_
_	$\otimes \otimes \otimes$	brown, wet			•			-1
_	$\otimes \times$						2.5	<u>, </u>
_	$\otimes \otimes$					1,1,1		D _
_	KXXX	becoming fin	e grained, white, gre	y, moist at 3m		N=2	2.95	-
	KXXX						l	-
-							1	-
-	$\mathbb{N} \mathbb{N}$							
4.0	\mathbb{R}^{2}	(sand appea	red natural)	•				
	$\otimes \otimes$	(000 0)	,					_
- ,				•			ŀ	_
_	KXXX						4.5 —	
						3,4,5		ㅁ 니
4.9	K X X X					√N=9——	4.95	
_		End Bore 3A	. at 4.9m			1		-
-		ļ	3A - F	RL 62.5m				`-
-			Standpipe De					_
		Class 1	3 50mm diameter P\					_
6.0			machine cut screen,		ļ	1 '		_
-	1		e pellets 1.5-					_
-		sand	2.0-2	2.8m				_
_		. screen	2-2.5	3m		Į		_
			·					_
_								_
_		Note: When	standpipe installed	there was believ	red to be		l	_
_			I soil below 3m. Wh		aniled		į	-
-		the so	il confirmed to be fill	io∃u.sm.				-
8.0		<u> </u>				٠		
-		summary of descripti						
			assessment unless there	are test results.	 			
tests refe	er to	N = Standard P	enetration Test					
samples	refer to	D = Disturbed S	Sample					
groundw	ater	refer to Report	No V500-2R					
4								

•

BLACK (SEOTEC	HNICAL PTY LT	D	project		
job no		V500-2	date 12.02.02		-	
drilling m			logged by	Ex-Pioneer Quarry Site		
Pioneer 4			D Macleod	Talbot Avenue		
power au		bore	checked by	Oakleigh		ļ
H' casing			G Black			
location:	refer figu	re 1 333358E,	5800846N	level RL 62.4m		
BOREH	IOLE N	o 3B	sheet 1 of 2	datum AHD		ŀ
depth	1					1
metres			material desc	ription	tests	sample
_	K 4. X.X	FILL: Silty San		se, fine to coarse grained,		
_	KXXX	brown, dry to	moist, trace wire, brid	ck, with gravel between		
_	KXX	0.5-1m				_
]_				·		_
_	$\mathbb{N} \mathbb{N} \mathbb{N}$				1	1 4
	XXX					_
-	$\times\times$					-
-	\otimes					-
	$\Diamond \Diamond \Diamond$					-
^{2.0}	KXXX					-
-	\bigotimes	,				-
-	[XXX]	·				-
-						-
3.0	$\times\times$	·				-
	XXX	FILL: Sandy C	lay (CH), firm to soft,	high plasticity, pale brown,	7	
	ľŠŠŠŠ	grey, W>>W	ρ		i	
_	$\langle X \rangle \langle X \rangle$	·				_
_	\bigotimes					_
4.0	KXXX					
_	KXXX					[-
-	$\times\times$		•	•		-
-	$\langle \rangle \rangle \rangle \rangle$					-
i -	>>>					-
-	833					-
- , '	KXXX					
-	$\otimes \times$					-
-	$\otimes \times$					-
 6.0	$\Diamond \Diamond \rangle$	· _				-
-0.0	KXXX		•	•		
-	$\mathbb{K}^{\times\times}$		•			-
 	\mathbb{K}^{\times}					-
E	$\times\times$					
	$\mathbb{K} \times \mathbb{K}$					
	$\mathbb{N}^{\mathbb{N}}$					
	\mathbb{N}^{N}					
	$\Diamond \Diamond \Diamond$	1				· _
_	\mathbb{R}^{\times}				1	
8.0,	\overline{KXXX}			· · · · · · · · · · · · · · · · · · ·		
1		summary of descriptiv	e terms. ssessment unless there ar	e test results	•	
		N = Standard Pe		0 1001 1000(ID.		
tests refe	i to	ix - Standard Pe	menanon rest	·		
samples	refer to	D = Disturbed Sa	ample	•		
groundwa	ater	refer to Report N	lo V500-2R			

BLACK C	SEOTECHNI PTY LT	D	project	-:	
job no	V5	date 12.02.02			
drilling me		logged by	Ex-Pioneer Quarry Site		
Pioneer 4		D Macleod	Talbot Avenue		ŀ
	ger/wash bore	checked by	Oakleigh		ŀ
H' casing		G Black			
location: r	refer figure 1 333358E,	5800846N	level RL 62.4m		
BOREH	IOLE No 3B	sheet 2 of 2	datum AHD		
depth	T			1	
metres	· ·	material desc	ription .	tests	sample
_	FILL; Sandy C		asticity, pale brown, grey,		
_	XXX W>>Wp				
_					_i
_					_l
 - -					
_					` _l
 -					
 -	KXXXI			1 1	-
- : <u>-</u> -					-
10.0	KXXI.			1	
-			•	1 1	-
10.5] [-
- 10.5	CLAYEY SAN	D (9C)			-
-		nedium grained, gre	w moist to wat		-
_	derise, inte to	mediam gramed, gre	ey, moist to wet	1 1	-
-	V / 1				-
_	F/ /A				-
_	/ /		• .	1. 1	-
12.0	17 A			,	-
	/ /			1	_
	EZ 7	. '			_
_		3B - RL	62.4m	1	
_		Standpipe Deta		1	_]
	Class 18	50mm diameter PVC			
_		nachine cut screen, th		1	_
_	bentonite				_
-	sand	11-14.	.5m		-1
-	screen	11-14.	.5m	1	-
_14.0					
-	17 A				-
_ _ 14.5	<u> </u>]	-
- 14.5	End Bore 3B	at 14 5m			-
-		GC 1-1,0111		,	-
_					-
<u> </u>	Note: Boreho	ole advanced with wa	ter flush and 'H' casing		-
_		11.5m. Wash bored			_
					_
16.0					
Refer to figu	ire 1A for summary of descriptiv	e terms.			
	s are based on visual & tactile as		e test results.		
tests refe					
				•	
samples i	refer to D = Disturbed Sa	ample			
groundwa	ater refer to Report N	lo V500-2R			
L					

BLACK (GEOTEC	HNICAL PTY LT	D	project	-	
job no		V500-2	date 12.02.02	JP-0,000		
drilling m	ethod		logged by	Ex-Pioneer Quarry Site	*.	•
Pioneer 4	400		D Macleod	Talbot Avenue		
power au	iger/wash	bore ·	checked by	Oakleigh		
H' casing	1		G Black			
location:	refer figur	re 1 333306E,		level RL 62.1m		
BORE	IOLE N		sheet 1 of 3	datum AHD		
depth						
metres			material desc	ription	tests	sample
-	NN			se, fine to medium grained,		
-		brown, grey, i	moist, trace gravel			_
-				-	1	l _
-	XXXX				İ	_
-						_
-	KXXXI			•		_
-	KXXXI		%)			1 -
-	$ \langle \langle \langle \langle \rangle \rangle $	becoming loo	se, black, wet at 1.5r	π		-
	600					
2.0	KXXX	•			0.4.0	2.0
-	KXXXI				2,1,2	D _
-	$\mathbb{K} \times \mathbb{X}$		•		N=3	-
-	[XXXX]			•		2.45
-	$\mathbb{K}\mathcal{K}\mathcal{K}$					
-	\mathbb{K}					-
-	$[\Sigma\Sigma\Sigma]$					-
	\mathbb{K}^{\times}			•	1	-
-	\mathbb{K}^{2}	÷				-
 4.0					1	4.0
4.2	\otimes	•			2,3,3	, D
	(\tilde\tild	FILL: Clavev S	and (SC), medium de	ense, fine to medium	N=6	\ \ -
_ _ 4.6	\mathbb{K}^{\times}	grained, grey		.,		4.45
	1	FILL: Silty Clav	(CI-CH), firm to soft	, medium to high plasticity,	7	-
-	\mathbb{K}_{XXX}	brown, W>>>				-
_	KXXXI	,	•			-
_	[XXX]	•			- [-
_	BÖĞZ	becoming soft	t, grey brown, very fir	ne sand at 5.5m		-
_	\mathbb{K}	-			1	-
6.0	\mathbb{R}^{\times}					6.0
_	$\mathbb{K}^{(N)}$				UOW	6.2 D
_	$\mathbb{K} \times \mathbb{K}$				1,1,1	D _
	KXXXI				N=2	_
-	$\Diamond \Diamond \Diamond A$		·		 	6.45 —
	\mathbb{R}^{2}		y Sandy Clay, pale or	ange brown, W>>Wp		_
_	\mathbb{K}^{\times}	at 7m				_
-	$\mathbb{K}XXX$					
-	KXX4	•		•		_
	BOOM			•		-
8.0	<u> </u>			<u> </u>	<u> </u>	<u> </u>
		mmary of descriptive				
Descriptions tests refe		on visual & tactile as: N = Standard Per	sessment unless there are netration Test	e test results.	· · · · · · · · · · · · · · · · · · ·	
		Standard For				
samples r	efer to	D = Disturbed Sa	mple			
groundwa	ter i	efer to Report No	V500-2R			

BLACK	GEOTEC	HN DTVI	TD	In a single		
job no	GLOTEC	HM PTYL		project		
drilling n	nethod	<u> </u>	date 12.02.02 logged by			
Pioneer			D Macleod	Ex-Pioneer Quarry Site		
	uger/wash	boro	checked by	Talbot Avenue		
H' casing		Dore		Oakleigh		
	refer figu	4 200000	G Black			
			E, 5800980N	level RL 62.1m		
	HOLE N	o 4 B	sheet 2 of 3	datum AHD		
depth metres			motorial des			
medes	KXXX	FILL Silty S	material des	oft, medium to high plasticity,	tests	sample
-		nale orang	e brown, W>>Wp, ver	ort, medium to high plasticity,	1 for 450mm) D_
[-	-RXXXI	pale orange	e brown, vv>>vvp, ver	y fine sand	N=0	-
-						8.45
ļ-						
-	$\times\times\times$				uow	D _
-	\times					-
-	$\mathbb{K}XXX$					9.3
-	KXXXI		•			-
10.0	$\mathbb{K}\!\!\times\!\!\!\times\!\!\!\!\times\!$					-
-	$\mathbb{K}XXX$					
-	[XXX]			• •		-
-					1	-
-					,	-
-						11.0
-						
-	$\times\times$				ńow	D _
-	\times					_
12.0	$\mathbb{K}\!\!\times\!\!\mathbb{K}$					_
-12.0						11.9 ——
-	\mathbb{R}^{2}					_
-	\mathbb{Z}^{\times}		•	•		_
-	\mathbb{K}^{\times}			•	İ	
-	KXXXI		•			_
-	$\times\times$					_
-	$\mathbb{K}\!\!\times\!\!\!\times\!$					_
-	\otimes					_
-	KXXX			•	1	_
_ 14.0	$\otimes \times \times$					_
-'"	KXXX		•			14.0
-	KXXX					-
-	KXXXI	becoming d	ark grey at 14.5m		LIOW	
	KXXXI	becoming a	an grey at 14,0111	-	uow	D _
[_
-	$ \Sigma \times C $			•		45.0
Γ.	\mathbb{X}^{\times}					15.0
-	$\mathbb{K}\times\mathbb{K}$					_
-	KXXXI		•			_
16.0	\mathbb{R}^{\times}					
	ure 1A for su	mmary of descript	ive terms.			
			assessment unless there a	re test results		
tests refe			enetration Test	. UOW = under own weigh	<u> </u>	······································
					-	
samples	refer to I	D = Disturbed S	Sample			
groundwa	ater r	refer to Report	No V500-2R			

BLACK (SECTEC	HNICAL PTY LT	n	project	~2010	
job no	220120	V500-2	date 12.02.02	project		
drilling m	ethod		logged by	Ex-Pioneer Quarry Site	-	
Pioneer 4			D Macleod	Talbot Avenue		
power au		bore	checked by	Oakleigh		
H' casing			G Black			
location:		re 1 333306E,	5800980N	level RL 62.1m		
BOREH			sheet 3 of 3	datum AHD		
depth	102211		1 311661 5 61 6	7010	T	T
metres			material desc	cription	tests	sample
_	$\times \times \times$			t, medium to high plasticity,		
_	XXXX	dark grey, W	>>Wp, very fine sand	d		
_	XXX			•		_
_					ļ	_
_					ı	
_	$\times\times$					-
-	\mathbb{Z}_{XXX}					-
 -	\times				1	-
-	KXXX			•		17.8
18.0	$ \langle \dot{\chi} \dot{\chi} \dot{\chi} \dot{\chi} \rangle$				3,3,3	D
-	$\Diamond \Diamond \Diamond $				N=6	J
-	\bigotimes					18.25
_ 18.5	/ /	CILTY CAND	CAA\			-
- ·		SILTY SAND (יסואו) se, fine to coarse gra	inad gray maint	1	-
-	111	medium dens	se, time to coarse gra	mea, grey, moist		-
-			•			-
-	1.1.1					-
- ·	1 / 1					-
20.0						
	1. 1. 1					
-		End Bore 4 a	t 21.5m		i I	-
Γ	r / 4		•		\	-
_	1 1.7		4A - RL	62.1m	1	1 7
		1	Standpipe Deta	ils:	11.	
	Y / 4	Class 18	50mm diameter PVC	1	\ 	21.1
	1 / 1	f I	achine cut screen, th		\8,10,11	. D _
_ 21.5	-4	bentonite			N=21	21.55
ĺ_]]	sand	18-19.	5m	į	_
22.0		screen	19.5-2	1.5m		
_						_i
 _		,	4B - RL	62 2m		-
			Standpipe Deta			-
-	1	Class 18	50mm diameter PVC			-
			achine cut screen, th			-
-		bentonite				-
-		sand	8-10m	·		-
		screen	8-10m			, -l
- 24.0] 1					-
	re 1A for s	ummary of descriptiv	e terms.			
1			ssessment unless there a	re test results.		
tests refe		N = Standard Pe		UOW = under own weigh	t .	
samples	refer to	D = Disturbed Sa	ample .			
groundwa	ater	refer to Report N	lo V500-2R		, , , , , , , , , , , , , , , , , , , ,	

BLACK GEOTECHNICAL PTY LTD				project				
job no		V500 - 2	date 12.02.02					
drilling me			logged by	Ex-Pione	er Quarry Site			
Pioneer 4	· 00		D Macleod	Talbot Av	renue			i
power aug	ger/wash	bore	checked by	Oakleigh				
H' casing			G Black					1
location: r	efer figur	e 1 333205E,	5501032N	level	RL 63.1m			
BOREH	OFN	0.5%	sheet 1 of 2	datum	AHD			
depth	OLL N	0.315	Sheet 1 ULZ	uatum	AND			
metres			motorial dosa	rintian.		10010		
medes	EXXX	Ell I : Cilty Con	material desc d (SM), medium den			tests	Sa	mple
-		black, dry to r		se, line to	neolum grameu,			-
-	RXXXI	black, dry to i	HOISE				1	-
-	KXXXI		•					-
-	$\otimes \times \times$	becoming Cla	yey Sand, moist, tra	ca araval a	t 1m			-
-		becoming one	iyoy ound, moist, da	cc gravera	C 1111			-
_	$\langle \hat{x} \rangle \langle \hat{x} \rangle$						1.	-
- 1.6	82.23		•				15-	
~	XXX	FILL: Sand (SF), medium dense to	dense fine	to medium	4,7,12		
2.0	XXXI		brown, dry to moist	,	10 1110010111	N=19	1.95	
	XXX		ay (CI-CH), stiff, med	dium to hia	h plasticity, grev	٠٠ ، ١٠	1	
-			, W>Wp, concrete p		placticity, g.c.)			-
-		olaligo blown	,p, cos, c.to p	,0000				-
-	$\times\!\times\!\!\times\!\!1$							-1
-	$\times\!\times\!\!\times\!$	becoming W>	· Wp, brown at 3m				Į.	_
-	$\langle \mathcal{X} \mathcal{X} \mathcal{X} \rangle$		11p; 0101111 at 0111				1	-
-	XXX							-
-	XXX						3.5	
-	8883					4,1,5	5.5	D _
4.0	KXX					N=6	3.95	
	VXXS					1.1.0	3.33	
-	$\Diamond \Diamond \Diamond \Diamond$							
-	$\Diamond \Diamond \Diamond A$						1	-
-	$\Diamond\Diamond \lambda \lambda$					1	1	-
_	$\Diamond\Diamond\Diamond$							-
I	\bigotimes						İ	-
-	$\otimes \otimes$	•						-
_	\mathbb{R}^{\times}					.)		_
_	KXXX							7
6.0	XXX						6.0	7
6.2	bbx	*				11,22,33		D
-	hininit	SANDY CLAY	(CL-CH)			N=55		
_			ird, medium to high p	lasticity, o	ev. arev brown.	-	6.45	
_		,	,	,, 5	-,, 5,,		1	7
_						1	Ī	_
								-
- i						1		-
_								-1
-						1		_
8.0	11111111				•			7
	ro 1A for eu	ımmary of descriptive	teme					
						•		
			sessment unless there are					
tests refer	· to	N = Standard Per	netration lest	UOW =	under own weight			
samples r	efer to	D = Disturbed Sa	mple					
groundwa	ter	refer to Report N	o ∨500-2R					

BLACK GEOTE	CHN LPTY LT	D	project		
job no	V. 2	date 12.02.02	1		
drilling method		logged by	Ex-Pioneer Quarry Site		
Pioneer 400		D Macleod	Talbot Avenue		
power auger/wa	sh bore	checked by	Oakleigh		
H' casing	5.0	G Black	Cardeign .		
location: refer fig	ure 1 333205E	5501032N	level RL 63.1m		
BOREHOLE depth	NO 5 15	sheet 2 of 2	datum AHD		
metres		material de	scription	tests san	nple
2.7	CLAYEY SAN		ocription.	18,32, 30 for 105m	
- ///	dense to ven	vidense fine to coa	rse grained, grey, moist	N>62	'''' -
· //	to wet	,,		8.405	-
1//	()			0.403	-
* - K-/	A]	-
1/-/					
· /.					-
' la / .	<i>/</i>				
	. i	,			-
10.0	/]				
-10.0				10.0	
· / / .	Δ			11,26, 30 for 120m	
1/ /			•	N>56	<u>D</u> .
V. F.	1			10.42	-
-17	/·				
7:1					
1.1	/]		·		_
	<u></u>				-
	-				
	1				
_19.0 /					
,	End Bore 5 a	t 19m			
		· · · · · · · · · · · · · · · · · · ·		1.	
			RL 63.1m		
		Standpipe D			-
		50mm diameter P			-
		nachine cut screen			-
	bentonite				-
.	sand	2-4r	n		-
.	screen	2-41	n ·		-
14.0					-
1		En	RL 62.7m		
. 1				,	-
1	01 10	Standpipe D			-
		50mm diameter P			-
	0.4mm n	nachine cut screen		i	-
1	bentonite		6.5m		-
[sand		19m		-
	screen	16-1	19m		-
.	L				-
					-
_16.0					
	summary of descriptive				
		ssessment unless there	are test results.		
ests refer to	N = Standard Pe	netration Test			
		ample			
amples refer to	D = Disturbed Sa	ample	*		
samples refer to	D = Disturbed Sa	ample	•		
samples refer to groundwater	D = Disturbed Sa refer to Report N			· · · · · · · · · · · · · · · · · · ·	-

BLACK G	EOTEC	HNICAL PTY LTI	D	project		
job no		V500-3	date 15-25.07.02			
drilling me	ethod		logged by	Ex-Pioneer Quarry Site		}
			N Schofield	Talbot Avenue		
Pioneer 4	00 power	r auger	checked by	Oakleigh		Ì
			G Black			
location: s	south of I	ake, refer figure 1	!	level RL . 56.77 m		
BOREH	OLE N	o 6	sheet 1 of 2	datum AHD		
depth						
metres			material descr	ription	tests	sample
_	1//	SILTY SAND (_
			ium dense, fine to me	dium grained, dark brown,		
_	K. 7. 4	moist		•		-
_ 0.8	<u> </u>	04110-1-01-1-1	(OI)		4	-
-		SANDY CLAY	(CI)	10/-		-
-		stiπ, medium	plasticity, brown, W>	νν ρ		-
-					1 -	
-			•			-
2.0			•			
_~		•				
_				•		
_			•			
_						
_						_
						_
						-
_		becoming mo	oist to wet at 3.5m	•		-
						-
4.0				•		-
-			4			-
_						· -
-				•		-
						-
_						-
- '						
_						
_					1]
6.0						
-					1	
_					1	-
				•	1	-
_						-
_						-
-						-
-				,	1	-
-						-
 8.0				•		-
	uro 10 fer -	umman, of description	e terms			
		tummary of descriptive		o toot rooulto		
		on visual & tactile as	ssessment unless there are	e (est results.		
tests refe	r to					
samples	refer to					
groundwa	ater	in at 6.5m				

BLACK	GEOTEC	H' AL PTY LT	D	project		
job no		J -3	date 15-25.07.02			
drilling m	nethod		logged by	Ex-Pioneer Quarry Site		
			N Schofield	Talbot Avenue	•	
Pioneer	400 powe	rauger	checked by	Oakleigh		
			G Black			
location:	south of I	ake, refer figure 1		level RL 56.77 m		
BORE	HOLE N	o 6	sheet 2 of 2	datum AHD		
depth			J	Teater AID	T	
metres			material desc	cription	tests	sample
-	11/	SILTY SAND (SM)		10010	Sample
. - ` .	$\int_{\mathbb{R}^{n}} f(x) dx$	medium dens	se to dense, fine to co	oarse grained, grey, wet		_
-	Y < A			3 13 71		-
-	1.14					
-				•		
-	$Y \neq A$					_
-	12. 17					_
-					1	
10.0	Y/A					_
10.1						
L	l	End Bore 6 at	10.1m			-
_					Ì	
_				• •	,	-
-	1	Note: Materia	il logged as fill. Pion	eer advise that the area	,	-
-	•	has bee	n filled.			-
-	1 1					
-						
12,0				•		_
-12.0						
-			Standpipe De	A-11-	1	-
_		Class 18 50mm	n diameter PVC Pipe	talls:		_
		0.4mm machin	e cut screen, thread	ed joint		-
		bentonite pelle	ts 5.1-5.6m	ed John	1	- .
		sand	5.6-10.1m	. [1	-
_		screen	6.1-10.1m	ļ] [-
-					1	-
-	İ			,] [
14.0						
ļ- , ļ						_
-						_
- ·						_
[-
_						-
_	1		*	*		-[
-			•			-
-						-
16.0						
Refer to figur	re 1A for sur	nmary of descriptive t	terms.			
Descriptions	are based o	n visual & tactile asse	essment unless there are	test results.		
tests refer						
samples re	efer to					
,	-				•	
groundwat	er ir	n at 6.5m				
J. 50,741141		, at 5.5111		•		-

5.

BLACK GEO	<i>TECHNICAL PTY</i>		project				BLACK GEO
job no	V500-3	date 15-25.07					job no
drilling method		logged by N Schofield	Ex-Pioneer Quarry Site Talbot Avenue				drilling metho
Dingo K2-9 dr	ill ria	checked by	Oakleigh				Dingo K2-9 d
Diligo 142 5 di	Ig	G Black	outdoigh.				Dirigo (2-9 d
location: west	of lake, refer figur	re 1	level RL 58.33 m				location: wes
BOREHOL	E No 7	sheet 1 of 2	datum AHD				BOREHOL
depth					ļ		depth
metres .	/ PILTY CL /	material de AYEY SAND (SC)	scription	tests	sample		metres
- 0.2			medium grained, dark brow	/n. /	-	*	- /
	/\ moist	•	J	· /	,]		
- / /		orange at 0.15m		/	-		- 1/2
- \(\) .	SILTY SAN		arainad noto braven maint		-	•	- 12
-	medium	jense, line to medium	grained, pale brown, moist		-		- 1/
1.5	4						
	SANDY CL			·	. _		
_2.0	stiff, med	ium plasticity, orange/l	orown, W>Wp		_		_10.0
-	•			1	-		- 10.1
-					-	•	-
					1 -		
3.0					_		_
- 1/	CLAYEY S	SAND (SC)			-		-
- P)		dense, finé to coarse g g grey at 3.3m	rained, orange, moist				-
	A	g grey at 0.5m			_		-
4.0	(·.)		•				12.0
	/1				_		_
-	· /				_		-
F 17	/l				-		-
F 17	4				<u> </u>		-
	/ 1	·					
L 1/		_	*		_		-
- Z	becoming	pale orange at 5.5m	•		-		-
6.0	<i>/</i> .1				_		14.0
							-14.0
E . 17	/	•			_		
L. Y	/		•		_		_
- 1/	74				_		-
F Y	$^{\circ}A$				-		-
F V	/1				_		-
	(. <u>/</u>]						
	71				_		
8.0	<u> </u>						16.0
_	for summary of desc						Refer to figure 1
	based on visual & tact	tile assessment unless there	e are test results.				Descriptions are
tests refer to							tests refer to
samples refer	to						samples refe
			·				
groundwater	in at 7.0m						groundwater
i	•					1	l l

			BLACK C	SEO	INICAL PTY LT)	project		
		2	job no		V500-3	date 15-25,07.02			
		`*	drilling me	ethod		logged by	Ex-Pioneer Quarry Site		
			חייים אים	م طحالا حام		N Schofield checked by	Talbot Avenue		,
			Dingo K2	-9 anın ng		G Black	Oakleigh ·		
			location:	west of la	ke, refer figure 1	G DIACK	level RL 58,33 m		
			BOREH			sheet 2 of 2	datum AHD		
			depth	OLL IV	0.7	Silect Z Of Z	Catum And	1	
s	sample	·	metres		=	material descr	iption ·	tests	sample
	_		_	1.1	CLAYEY SANI	O(SC)			_
	-	*	-	Y/	medium dens	e, fine to coarse grain	ned, pale orange, moist		
	' -		-	1//					-
	_	•	_	Y/Z					-
			_	//					_
	. –		-	K. / /	;				. –
	-		 -	[/ / I			•		-
.			10.0	1/3					-
	_		10.1		<u> </u>			-	_
l	-		-		End Bore 7 a	t 10.1m	·		_
	-		-						
	-	•	-						
.			-				,		
	_		_			•		1	_
	_		_			·		1	_
			- 42.0			Standaine De	hallas		-
			12.0		Class 18 50m	Standpipe De m diameter PVC Pipe	ialis.	-	-
	_				0.4mm machi	ne cut screen, thread	ed joint		
	_		-		bentonite pelle	ets 2.7-3.2m			_
		•	-	i	sand	3.2-9.0m			-
	-		-		screen	3.7-9.71m			-
	_		E .		.				
	_		[_						_
	-		-						-
			14.0					1 1	
			- '					1	-
			_						_
	_		-						
			-						-
			-						_
	_		-						_
	_								_
<u></u>			16.0	i					Alleria.
					ummary of descriptive				
					on visual & tactile as	sessment unless there are	e test results.		
			tests refe	r to					
			samples	refer to					
			groundwa	ater	in at 7.0m				
		ı	ŀ						

BLACK G	EOTEC	HNICAL PTY LTI		project			
job no		V500-3	date 15-25.07.02				
drilling me	ethod		logged by	Ex-Pioneer			
-			N Schofield	Talbot Aven	iue		•
Pioneer 4	00 power	r auger	checked by	Oakleigh			
			G Black				
location: r	north of la	ake, refer figure 1		level RL	59.42 m		
BOREH			sheet 1 of 2	datum -Al	⊣D		
depth	<u> </u>		1 3				
metres			material descr	ription		tests	sample
	XXX	FILL: Silty San	d (SM), loose to med		ine to medium		-
-	$\otimes \times$	grained, black					_
							_
_	KXXX						_
	\mathbb{N}^{2}	metal, large g	gravel (sandstone) at	1m			_
_							
							_
_							
-	XXXX						_
2.0	$\times\!\!\times\!\!\times\!\!$	metal at 2m					l —
_							_
_	$ \lozenge\lozenge$	•					-
_	\mathbb{K}^{\times}						_
_	$\mathbb{K}\!\!\times\!\!\!\times\!$						_
_	$\bigvee\!$					Ī	ļ· –
	KXXX						-
	\bigotimes XX				•		-
_	XXX					1	-
	ĎXX						<u> </u>
4.0						}	_
- .	\times						-
_	$\langle \chi \chi \chi \rangle$					ì	-
-	XXX						-
-	$\times\times\times$	-1-44	l at Em				-
-	KXXX	cloth materia	i at 5iii				
-	$\otimes \times$						-
-	$\otimes \otimes \otimes$					ı	-
-	$\langle \rangle \rangle \rangle \rangle$				*		-
6.0	KXXX						
	<u> </u>						
-							_
_	$\mathbb{R}^{(k)}$		•				_
	$\langle XXX \rangle$					1	
_	\mathbb{K}^{\times}						-
_	\aleph	1					-
	\mathbb{K}^{\times}	1				1	-
· ·	$\langle \rangle \langle \rangle \langle \rangle$	(1			1	-
_	$\otimes \otimes \otimes$	4				1	-
8.0	KXXX					_1	<u> </u>
Refer to figs	ure 1A for s	summary of descriptiv	/e terms.			•	
			ssessment unless there ar	e test results.			
tests refe							
samples	refer to			· · · · · · · · ·			
groundwa	ater	assumed level of	of water at 8.5m due to	o cave in			

BLACK	GEOT	NICAL PTY LT	D	project			
job no		V500-3	date 15-25.07.02				
drilling m	ethod		logged by N Schofield	Ex-Pioneer Quarry Site Talbot Avenue			
Pioneer 4	100 power	auger	checked by	Oakleigh			
	•	•	G Black				
		ike, refer figure 1		level RL 59.42 m			
	IOLE N	o 873	sheet 2 of 2	datum AHD			
depth			material deser	ription	tests	eample	
metres	kxxx	FILL: Silly San	material desc	ription lium dense, fine to medium	tests	sample	
-	$\times\times$	grained, blac	k. moist. metal. large	gravel (sandstone), cloth			
	KXXX	material				_	
_	\mathbb{K}					_	
-				•		-	
_	XXX						
-	$ \langle \rangle \rangle$					-	
	$\mathbb{K}XX$					-	
10.0	\mathbb{K}^{\times}			•		-	
_	XXX						
_	KXXX					_	
- .	\otimes					-	
_	\otimes		•		1	-	
-	KXXX					-	
						-	
_ _ 11.5	XXX				4	-	
_ ,,,,		End Bore 8 a	t 11.5m			-	
12.0						_	
- -		•				_	
·			•			-	
_						-	
-			Standpipe De	stoile:		-	
_		Class 18 50m	Standpipe De im diameter PVC Pip			-	
-			ine cut screen, thread			-	
_		bentonite pell				1 :	
_		sand	7.0-10.0m		1	.	
14.0		screen	7.5 - 11.5m	,		-	
-		L				-	
_	,					-	
Γ.					,	_	
Γ						-	
_							
_] .	
<u> </u> _				•			
16.0	<u></u>						
_		ummary of descriptiv					
		i on visual & tactile a	ssessment unless there ar	e test results.			
tests refe	er to						
samples	refer to					· · · · · ·	
groundw	ater	assumed level c	of water at 8.5m due to	o cave in			

BLACK	GEOTECH	INICAL PTY LT	D	project			
job no		V500-3	date 15-25.07.02		_		
drilling m	ethod		logged by	Ex-Pioneer Quarry Site			
			N Schofield	Talbot Avenue			
Pioneer 4	100 power	auger	checked by	Oakleigh			
			G Black				
location:	east of lak	e, refer figure 1		level RL 60.49 m			
BOREL	OLE No	. 9	sheet 1 of 2	datum AHD			
depth	T. T	, 	3/1002 1 0/ 2	Idutati ATD			
metres			material descr	iption	lte	sts	sample
	1//	SILTY GRAVE	LLY SAND (SM)	·F 4.4.1	112		0,0111,010
_	1/4		coarse grained, brow	n. moist	ļ		_
0.5				·			_
_	$\mathbb{K} \times \mathbb{A}$	SILTY SAND (SM)	ĺ		-	
_	, , 1			ined, dark brown, moist	-		_
	1/4		_				_
_	17 1				ļ		_
_		becoming bro	own at 1.5m		-		
_	1/1				į		_
_ 2.0	11				-		
	1- (- (1	1.			į		
_	1. 7 1/4	becoming ora	ange at 2.4m		İ		
_							_
_	1/4	becoming slig	ghtly clayey, pale brow	/n at 2.8m			_
-	1.71			-+ 0.0			_
-		becoming ora	ange/grey, not clayey a	at 3,2m			_
	$Y \neq 4$						-
-	1 / 1				-		-
- 4.0	1 1 1						-
4.0	$Y \neq A$						_
- ,					ŀ		
-	14.4						-
	V_{i}/A_{i}						-
_	1, , 1	becoming cla	yey, grey at 4.9m				_
-	Y 7 4	J	7-27 52		l i	· 1	-
-	2 / 1						-
_ 5.5	1		* ** ***			-	_
_	$[7 \cdot 7]$	CLAYEY SANI	D (SC)				_
6.0	$Y \neq X$	medium dens	se, fine to coarse grain	ned, grey, moist			
	I/I		•	•			
_	K. 7- J.	•	•				-
					- 1		_
-	V/A						
_	14.71				İ		_
_	$V \neq 1$				ļ	ı	_
_	$I \neq A$				1		_
-	$V \neq 1$				-		_
					- 1		_
8.0	بالتنكسك لل						
_		mmary of descriptiv				•	
Descriptions	s are based	on visual & tactile as	ssessment unless there are	test results.			····
tests refe	r to						
samples i	refer to						
annipies i	icici (U						
groundwa	ater i	n at 10m					

BLACK	SEUIECE	ALPIYLII	<u> </u>	[project		
job no		V-J0-3	date 15-25.07.02			
drilling method logge			logged by	Ex-Pioneer Quarry Site		
			N Schofield	Talbot Avenue		
			checked by	Oakleigh		
, 1011001 -	oo ponci	augei	G Black	Carietan .		
				lavel DI CO 40		
location: east of lake, refer figure 1			level RL 60.49 m			
BOREH	IOLE No	9	sheet 2 of 2	datum AHD		
depth	Т			*		
metres			material descr	ription	tests	sample
	7 7	CLAYEY SANI	O (SC)		1	
_	ZZ1		se, fine to coarse grain	ned arev maist		-
_		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	re, inte te ecurco gran	100, 910), 1110101		-
_	W. 1					-
-	K-/).					-
	1/ /1		•	•		-
-						_
-	1: / /					
-	/ / [•]	_
-						_
10.0	[/ /]					
_	V / ·].					
_				*	1	_
	1. / 1				1	_
_				•	· [_
-						-
-	$V \neq A$	•				-
<u> </u>			•	•		-
-	$V \neq 1$					-
-						-
12.0	V. / 1					-
12.0	1 / 1			Att of the second	1	_
-	11/1/1					-
-	Y /	•		*		-
-	/ /					. –
-						_
13.0	/ /				1	_
-				•		
		End Bore 9 at	t 13m	•		_
_					1 1	_
_						_
14.0				•		
			Standpipe Def	tails:	[
		Class 18 50m	m diameter PVC Pipe			
-			ne cut screen, thread			-
_		bentonite pelle	ets 7.5-8.0m	10		-
-		sand	8.0-10.5m	•		
-	i 1	screen	8.5-12.5m			
-		Sciecii	0.3-12.3111	İ		
-					ļ	
-			•	•	1	-
- 460				•		
16.0	LL				J	
Refer to figure 1A for summary of descriptive terms.						
Descriptions are based on visual & tactile assessment unless there are test results.						
tests refer to						
samples refer to						
samples i	eter to		•			
						
groundwater in at 10m						
ı						

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		NICAL PTY LT	D	project		
job no		V500 - 3	date 15-25.07.02			
drilling m	ethod		logged by	Ex-Pioneer Quarry Site		
1			N Schofield	Talbot Avenue		
Pioneer 4	400 power	auger	checked by	Oakleigh		
			G Black			
		rner, refer figur	e 1	level RL 64.59 m		
	OLE No	10	sheet 1 of 2	datum_AHD		
depth						
metres			material descr	ription	tests	sample
-	11/1	SILTY SAND ('			_
-	1.	medium dens	se, fine grained, brown	n, dry	-	l
-	$Y \neq A$					_
-	1/2/				į	_
-	I < 4	becoming pal	e grey at 1m			_
_	V / 1					_
_	1 ′ ′1					_
	$Y \neq A$			•		
_						_
2.0	r / 4	becoming fine	e to medium grained,.	pale brown at 1.9m		
_	V / X		•			_
						_
<u></u>	11/1				1	_
			•	•	-	_
	$Y \neq A$	with clay, bec	oming dry to moist at	3m	ł	_
-	12		S,			_
<u>-</u>	1.74					_
_	111					_
-	$1 \leq 4$				ŀ	-
4.0	Y/A	•				_
						_
_	1/4					
-	11	hecoming ora	nge brown at 4.5m			-
 -		becoming ora	inge brown at 4.5iii			-
-	1 / /			•		-
	1. 1. 1					_
-	(/ 7					_
-	lz. z 🗼					_
-						
	4. 1. 1			•		
6.0						
-	$Y \neq X$					-
					1	_
_ 6.5		CUTY OLAY	>1\]	-
- .		SILTY CLAY (C		hammer 187 state	1 .	_
-		very stiπ, med	num plasticity, orange	e brown, W≤Wp, with sand		_
-						
		0041/5/11/	77.01.11/(01)			_
- 7.5		GRAVELLY SII	LIY CLAY (CI)		1	· _
				e brown, W≤Wp, gravel fine		_
8.0		grained, alluvi		<u> </u>	L	
Refer to figu	ire 1A for sur	nmary of descriptive	terms.	•		
Descriptions	are based o	n visual & tactile as	sessment unless there are	test results.		
tests refe	r to			,		
samples r	efer to					
groundwa	iter ir	at 10m				,

BLACK C	SEOT	IICAL PTY LTI)	project	····	
job no		√500-3	date 15-25.07.02			
drilling m	ethod		logged by	Ex-Pioneer Quarry Site		
_			N Schofield	Talbot Avenue		
Pioneer 4	00 power	auger	checked by	Oakleigh		
			G Black			
location:	north of co	orner, refer figur	e 1	level RL 64.59 m		
BOREH	OLE N	o 10	sheet 2 of 2	datum AHD		
depth			1	7010	T	
metres			material descr	ription	tests	sample
_		GRAVELLY SI	LTY CLAY (CI)		1.55.0	oupio
_		very stiff, med	dium plasticity, orange	e brown, W≤Wp, gravel fine	1	
_		grained, alluv	ial	· -		_
-				•		
9.0]	
-	12 J	CLAYEY SANI	O (SM)	•		
-		medium dens	e, fine to medium gra	ained, pale brown, moist,		_
- 9.6	<u> </u>	trace fine grai	ned gravel		<u>.</u>	_
		SAND (SP)	- 1- J			_
10.0	1			to coarse grained, pale	i	
-		grey/brown, m				
-		becoming we	t at 10m			-
- ·						-
i -				·	. !	-
 -						
-						_
-						
-					'	-
12.0						-
		· · · · · · · · · · · · · · · · · · ·			-	
_		End Bore 10 a	at 12m]	-
		,		•]	-
	.					-
_	}			•		
_						-
_			Standpipe Det			
_		Class 18 50m	m diameter PVC Pipe	:	!	_
-			ne cut screen, thread	ed joint		_1
14.0		bentonite pelle				
_	ŀ	sand	6.5-10.5m			
-	ľ	screen	8.4-11.4m			_
-		L			-	
-				•		_
-						_
-						_
-				•		
· .						
16.0	}				ļ	-
	re 14 for ou	mman, of danasis.	torms		·	
i		mmary of descriptive		hand and the		
		on visual & tactile as	sessment unless there are	test results.		
tests refer	10					
camples -	ofor to					
samples r	eter to					
groundwa	ter i	n at 10.0m				

BLACK (SEOTEC	HNICAL PTY LT			project]		
ор по		V500-3		5-25.07.02					•	7		
drilling m	ethod		logged by			ieer Quai	ry Site					
Pioneer 4	.00 nowe	r auger	N Schofie checked b		Talbot A Oakleig					1		
1011661 4	oo powe	auger	G Black	, y	Carreig	"	•			-		
ocation: i	north sid	e within landfill, re			level RL	<u> </u>	.18 m				,	
BOREH	IOLE N	lo:11B	sheet	1 of 1	datum	AHD						
depth			' 									
netres	1		ma	terial descr	iption	·····		tests	sample			
-		FILL: SILTY S		fina to mo	di	sinad bla	ale maiat		.	-		
-	XXX	loose to med concrete & re			ululli gra	anieu, bia	CK, IIIOISI			-		
_	KXX	}										
-							. •			_		
-		3							.	-		
-	$\langle \rangle \rangle \rangle$									-		
		}								-		
_2.0										-		
2.1	ČČČ							†		_		
-		FILL: SILTY S. loose to med		fine to me	dium ara	sinod da	k brown			-		
-		moist, with so								-		
	$\times \times$	becoming fin							3.0			
-	$\Diamond \Diamond \Diamond$	grained, blac						13,22,28	D.]		
-]						N=50		-		
•		}	Stan	dpipe Deta	ile.	-			3.45	=		
- 4.0	$\times\!\!\times\!\!\times$	Class 18 50r						!	•	-		
	$\Diamond \Diamond \Diamond$	0.4mm mach							· -			
_		bentonite pe	llets	4.0-4.7m						_		
-		sand		4.7-7.2m				2 4 5 4 5	4.5	=		
-		screen		5.2-7.2m			ľ	2, 1,5,1.5 N=3	D 	_		
•	$\otimes \otimes$	· · · · · · · · · · · · · · · · · · ·								-		
										_		
5,5								+ .	:	- :		
	$ \rangle\rangle\rangle\rangle$	FILL: Refuse,	metal, rubb	er, plastic,	wire, ro	pe wood,	moist			-		
_6.0	$\times \times$								-	-		
• .	\times									_		
•		becoming we	t at 6.5m					•		_		
-	$\otimes \otimes$	}								-		
- _ 7 <i>.</i> 2										-		
	22.22							1				
		End Bore 11	at 7.2m							_		
-	1									-		
8.0	L	<u> </u>								-		
		summary of descriptiv										
		d on visual & tactile a			test resul	lts.	····			-		
ests refe	r to	N = Standard Pe	enetration T	est								
samples	refer to	D = Disturbed S	ample									
groundwa	ater	in at 6.5m										
						 						

.

<u>BLACK G</u>	EOTECH	NICAL PTY LTI		project		
job no		√500 - 3	date 15-25.07.02			
drilling me	ethod		logged by	Ex-Pioneer Quarry Site		
			N Schofield	Taibot Avenue		1
Pioneer 4	00 power	auger	checked by	Oakleigh		
		.	G Black	l		
location: v	vest side v	within landfill, ref		level RL 61.04 m		
BOREH	OLE No	12 12	sheet 1 of 2	datum AHD		
depth						
metres			material descr		tests	sample
-	VZZZ			ium dense, fine to medium		_
	XXX	grained, black	k, moist			_
_	$\langle XXX \rangle$	_				
_				-		
-	$\langle X X X X X \rangle$					-
-	KXXXI					-
-	$\langle \langle \chi \rangle \lambda $					-
-	\otimes	-				-
-	$\otimes \times \times$				1	-
	$\langle x \rangle \langle x \rangle$	hanneles	int to wat at am			-
2.0 ·	$\mathbb{K}\!\!\times\!\!\!\times\!$	pecoming mo	ist to wet at 2m			
	$\langle \langle \chi \chi \chi \rangle$					-
- '	$\otimes \otimes A$			•		-
	$\mathbb{K}\!\!\times\!\!\!\times\!$			•		-
_						
_	KXXXI.					3.0
					3,3,4	D _
_			•		N=7	
_						3.45
_	KXXXI.					
4.0	KXXXI				•	
,.						
-						
-						4.5
-					4,10,13	n -
-					N=23	4.95
-					14-25	^{4,33} -
-						-
-			•			-
-						-
_			•			
6.0					-	6.0
					7,9,7	D
_	\times				N=16	
	XXXI	becoming ref	use, plastic bags, me	tal, cloth at 6.5m		6.45
		_				1
_	[XXX]					_
[[XXXX]				İ	_
Γ				•		1 3
<u> </u>	$\mathbb{K}XXX$, -
[-
8.0	$\mathbb{K} \times \mathbb{K}$					
	1.7.7.7.1				- 	1
		mmary of descriptiv on visual & tactile as	e terms. ssessment unless there ar	e test results.		
tests refe		N = Standard Pe				
samples	refer to	D = Disturbed Sa	ample			
·		·····				
groundwa	ater	in at 5m				

BLACK G	E(]	INICAL PTY LT		project		
job no		V500-3	date 15-25.07.02			i
drilling me	ethod		logged by	Ex-Pioneer Quarry Site		
			N Schofield	Talbot Avenue		1
Pioneer 4	00 power	auger	checked by	Oakleigh		1
			G Black			
		within landfill, re	ter tigure 1	level RL 61.04 m		
BOREH	OLE N	o 12 🕉	sheet 2 of 2	datum AHD		
depth						
metres			material desc		tests	sample
-				ium dense, fine to medium		
-	$\times\!\times\!\times$	grained, blac	K, wet, becoming retu	se, plastic bags, metal,	,	-
-		CiOtti			1 '	-
-	$\Diamond\Diamond\Diamond$					-
ļ-,	$\langle \times \times \times \rangle$					-
_						
	$\mathbb{K}\!\!\times\!\!\!\mathbb{K}$]	_
_	$\times\!\!\times\!\!\times\!\!\times$					
10.0	$\times\!\times\!\times$				1	
_	XXXX					_
_ 10.3	 				1 1	-
-		End Bore 12	at 10.3m		1	-
-			•			-
-	1			•		-
-				•	1	-
-						-
12.0			Standpipe De	tails:		
-			nm diameter PVC Pipe			_
_			ine cut screen, thread	ed joint		_
		bentonite pel				-
-		sand	5.5-10.3m		j	-
-		screen	7.3-10.3m			
-		L				-
-						-
14.0	,			•		
<u> </u> _						_
-						-
-				•	1 .	-
-						-
-						-
-						-
-				*		-
						_
16.0						
Refer to figu	re 1A for s	urnmary of description	ve terms.			
1			ssessment unless there ar	e test results.		
tests refe		N = Standard P				
samples	refer to	D = Disturbed S	ample			
groundwa	ater	in at 5m				

BLACK G	EOTECH	INICAL PTY LTI)	project		
job no		V500-3	date 15-25.07.02			
drilling me	ethod		logged by	Ex-Pioneer Quarry Site		[
			N Schofield	Talbot Avenue		ļ
Pioneer 4	00 power	auger	checked by	Oakleigh		
			G Black			
location: r	orth wes	t corner, refer fig	ure 1	level RL 61.76 m		
BOREH	OLE N	o 13 🖟	sheet 1 of 2	datum AHD		
depth						
metres			material descr	iption	tests	sample
- '	ľXXX	FILL: Silty Clay	(CI-CH), firm, medur	n to high plasticity, dark	1	
- .		brown, W≥W	p ·			_
_	$\mathbb{N} \times \mathbb{N}$					_[
_	\mathbb{R}^{\times}			•	1 1	_
_	$\times\!\times\!\times\!$					-
			•		1	-
						-1
- [$\mathbb{K}XXX$					-
- 1.9	KXXX				1	_
2.0	KXXX				†	_
-	KXX	FILL: Silty Clay	[,] (CH), soft, high plast	ticity, pale brown, W>>Wp		-
-	KXXXI		•			-
_	$\otimes \otimes$				1	-
_	$\otimes \otimes$				1	
_	$\otimes \otimes \otimes$					
_	$\otimes \otimes \otimes$					_
_	$\otimes \otimes \otimes$				1	
_	$\otimes \otimes$					_
_	$\otimes\otimes$					
4.0	$\Diamond \Diamond \lambda$			•		_1
	$\Diamond \Diamond \lambda$					_
_	$\otimes \otimes$					_
	$\langle X X X X X X X X X X X X X X X X X X X$					
_	$\times\!\times\!\!\!\!\times\!$			4		_
_	∞					_
- ,	$\langle X X X X \rangle$					
-	8888	•			ŀ	
-	KXXXI			•	1	
-						_1
6.0	$\mathbb{X} \mathbb{X} \mathbb{X}$					
_	$\mathbb{X} \times \mathbb{X}$					
_	$\mathbb{X}^{\mathbb{X}}$					
_	[XXX]					
_	$\mathbb{K}\!\!\times\!\!\!\times\!\!\!\!\times\!$.]
_	$\mathbb{K} \times \mathbb{K}$					_
-	XXXX				1	_]
-	\mathbb{R}^{\times}	becomina sof	it to firm, grey, with fin	e grained sand at 7.5m	·	
_	$\langle c \rangle \langle c \rangle$			-		_
8.0	KŠŠŠA					
	re 1A for c	ummary of descriptive	e terms			
			sessment unless there are	e test results.		
tests refer						
samples r	efer to				j	
groundwa	iter	none encountere	ed			

LACK G	FOTE	CAL PTY LT)	project		
b no	(/500-3	date 15-25.07.02			İ
rilling met	thod		logged by	Ex-Pioneer Quarry Site Talbot Avenue		
•			N Schofield	Laibot Avenue Oakleigh		}
oneer 40	00 power :	auger	checked by G Black			
cation: n	orth west	corner, refer fig		level RL 61.76 m		
			sheet 2 of 2	datum AHD		
					tests	sample
etres			material desc	nption ab plasticity arey W>>Wb.	tests	
with fine	End Bore 13 Note: hole of	y (CH), soft to firm, hined sand at 10m collapsed near base Standpipe E mm diameter PVC Pi hine cut screen, threa	gh plasticity, grey, W>>Wp, letails: pe ided joint			
14.0 14.0 	figure 1A for	summary of descri	ptive terms. e assessment unless then	e are test results.		_
tests re		CO 011 110401 C 10011				
sample	s refer to				_	
			tored			
ground	iwater	none encoun				

ACK G	FOTECH	NICAL PTY LT	D	project		
o no	LUILUI	V500-3	date 15-25.07	.02		Ì
illing me		·	logged by	Ex-Pioneer Quarry Site		
ming me			N Schofield	Talbot Avenue		
oneer 4	00 power	auger	checked by	Oakleigh		
			G Black			
cation: r	orth east	, refer figure 1		level RL 62.09 m		
	OLE No		sheet 1 of 2	datum AHD		
epth	<u> </u>					
etres			material de	escription	tests	sample
	KXXX	FILL: Silty Cla	ay (CI-CH), firm, me	edium to high plasticity, dark		-
	$\langle \mathcal{K} \rangle \langle \mathcal{M} \rangle$	brown, W≥V	Vp			-
	\otimes	•				, -
	$\otimes \otimes \otimes$					-
	$\langle \mathcal{N} \rangle$				1	-
	$\Diamond \Diamond \Diamond$					-
1.3	$\otimes \otimes$		<u> </u>			-
	$\mathbb{K}\!\!\times\!\!\!\!\times\!$	FILL: Silty Cla	ay (CH), soft, high ṛ	plasticity, pale brown, W>>Wp		-
	KXXXI					_
2.0	$\mathbb{K}\times\mathbb{X}$					-
•	KXXX					-
	$\mathbb{K}XXX$					_
	KXXX					_
	KXXX					1 -
	1XXXX					1 -
	\mathbb{R}^{N}				1	
	\mathbb{R}^{2}				- 1	
					,	
						_
4.0				•		-
	1			•		_
	$1\times\times\times$]				-
	$1\times\times$]				-
	$1 \times \times \times$		•			-
	\mathbb{X}	}			1	-
•						-
	$\mathbb{X}XX$	d				-
	$\parallel XXXX$	3				-
_6.0	+XXX	d		· · · · · · · · · · · · · · · · · · ·	1	-
	$\mathbb{R}^{\times\times}$	₫				
	-18888	4		·		-
-	48 <i>3</i> 8	4				
	-XXX	∢			1	
		· ·				
	$+\Diamond\Diamond\Diamond$	4		•		
	$-$ KXX \Diamond	<\				
-		4				
		4			1	
	<u>8(XXX</u>	<u> </u>				
efer to f	igure 1A for	summary of descri	ptive terms.			
escriptio	ons are base	ed on visual & tactil	e assessment unless th	iere are test results.		
ests re						
		4				
						
sample	s refer to			•		
ground	water	none encoun	tered			

BLACK C	EOTEC	AL PTY LT	<u> </u>	project		
job no		√ ∴U0-3	date 15-25.07.02			
drilling me	ethod		logged by	Ex-Pioneer Quarry Site		
		-	N Schofield	Talbot Avenue		
Pioneer 4	00 power	auger	checked by	Oakleigh .		
			G Black	1		
location: r	north east	, refer figure 1	· · · · · · · · · · · · · · · · · · ·	level RL 62.09 m		
BOREH	OLE NA	118	sheet 2 of 2	datum AHD		
depth	OLL IN) 14 12	Sileet Z Of Z	datum AHD	1	<u> </u>
metres			material desc	ription	tests	sample
ineues	XXXX	Ell I · Silby Cla		iticity, pale brown, W>>Wp	16212	Sample
-		FILE. Only Cia	ly (Cri), soit, nigh plas	acity, pale blown, vv>>vvp		
-		becoming sar	dy at 8.1m		1	-
-		becoming sai	idy at 0. iiii		1	_
-	XXX					_
-	XXX					_
· ·	XXX					-
	RXXXI					-
-	KXXXI					-
10.0	KXXXI					_
	X V V			**************************************		_
· .		End Bore 14	at 10 0m		İ	_
<u>-</u>		Life Doile 14	ut 10.0111			_
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_	1. 1			•		_
12.0			·			
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Γ.					1	
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	l i					
	1			·		
[.			Ctandalas Datall			1 _
_	, ,	Class 19 50	Standpipe Details mm diameter PVC Pip			1 _
_			hine cut screen, threa-		1	_
14.0		bentonite pe		ded joint	1	_
		sand	6.5-10.0m			_
_		screen	7.0-10.0m			_
_		Screen	7.0-10.011			1 -
_		L				_
_						_
_		•			1	-
_						-
_					1	-
-					·	-
Refer to fig	ure 1A for s	ummary of descript	ive terms.			
Description	s are based	on visual & tactile	assessment unless there ar	re test results.		
tests refe						
samples	refer to		• •		· · · · · · · · · · · · · · · · · · ·	
groundwa	ator.	none encounte	red			
19. outlaw	4101	none encounte				

BLACK GEO	TECHNICAL PTY I	_TD	project		
job no	V500-3	date 15-25.07.	02		
drilling metho	d	logged by	Ex-Pioneer Quarry Site		
Diames 460		N Schofield	Talbot Avenue		
Pioneer 400 p	ower auger	checked by	Oakleigh		
location		G Black	_ \		
	east corner, refer	figure 1	level RL 62.02 m		
BOREHOL	E No 15	sheet 1 of 2			
depth		1 Sheet 1 Of 2	datum AHD		
metres		material dea	orinti		
0.2	FILL: Sand (material des	edium grained, grey, dry,	tests	samp
. 7	with cobble	e	edium grained, grey, dry,		
. [1/	SILTY SAND	(SM)		Λ	
. 7	loose to me	dium dense fina to	edium grained, pale brown,	1	
	dry	diam dense, mie lo m	ledium grained, pale brown,		1
. / /	4			1	
1/2	.]			1	Į
- /					
10.7	· 7		,		
2.0	becoming or	ange brown at 2m		1	1
- Y /	·/	ange brown at ZM		1	
2 2				1	
1. 4	4				
k /	<i>A</i> .				1 .
		•			
- V	1 .		•		1 .
ر زا	,				1
- $r <$	4			1]
V 2	A			1	
4.0	becoming ass	av moiet et 4	•		1
- Y /	/ Seconding gre	ey, moist at 4m			
1, 1	1				
- Y /	1				
V /					
1 1	1			1	
V/	7] !	
	14			1	
Y /	hecoming	t at E Em		1 1	
1/2	becoming wet	at 0.0III			
.0	hecomina	int at C		1	
"	becoming mo	ist at 6m .		1 1	•
]. '				1	_
6.5	4	•		1 . 1	
5.5 T 7	CLAVEVOAN	·/^^		+ 1	•
-VI	CLAYEY SAND	(SC)			
-1/2	medium dense	e to dense, medium to	coarse grained, grey,		
1.1] moist				
-100.	becoming wet	at 7m			
-1/.7		•		1	-
. Y / :	d .		ı		
<u> </u>	<u> </u>	·			· -
r to figure 1A for	summary of descriptive	terms.		·	
riptions are base	d on visual & tactile ass	essment unless there are t	est reculte		
s refer to			ear results.		
nion sofes i					
ples refer to					
indwater	in at 7.0m				

BLACK (SEOTECH	AL PTY LTI	<u> </u>	project		
job no		. J-3	date 15-25.07.02			
drilling m			logged by N Schofield	Ex-Pioneer Quarry Site Talbot Avenue		
Pioneer 4	00 power au	ıger	checked by G Black	Oakleigh		
location:	south east c	orner, refer fig	ure 1	level RL 62.02 m		
BOREH	IOLE No		sheet 2 of 2	datum AHD		
depth metres					T	
medes	:7.7.	CLAYEY SANI	material descr	iption	tests	sample
_	V-/1	medium dens	e to dense, medium t	o coarse grained, grey,		-
_	1 / A	wet		so counce grained, grey,		-
-	\mathbb{Z}/\mathbb{Z}					_
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[_						-
10.0						-
_	$V \neq 1$					
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-	77					-
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_ 11.6						
		E. J.D. 46			1	
12.0		End Bore 15 a	it 11.6m			
-						-
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_						-
-			Standpipe Deta	ile.]	
-		lass 18 50mm	diameter PVC Pipe		ĺ	_
-	0	.4mm machine	e cut screen, threader	d joint		_
<u> </u>	b	entonite pellet	s 4.5-5.0m			
14.0	1 1	and	5.0-11.6m			-
_	s	creen	8.6-11.6m			
-	-					
-						_
-						-
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_						-
_						-
- }						.]
16.0					L	
		ary of descriptive				
		risual & tactile ass	essment unless there are	test results.		
tests refer	to	•				
samples re	efer to					
groundwat	er in a	t 7.0m				

mai	19 tracked	G Blook	Pioneer Quarry Site Talbot Avenue Oakleigh	~	
avat.	Jure 1	А Наляк э			
ST Protein		Shoot 1 -64	level not levelied		
th	7	sheet 1 of 1	datum		
res	501.01	material des	scription	tests	
}.	grained d	y Sand (SC), medium	dense, fine to medium	lesis	sample
		ace timber, some clay,			1
1.0	1	71	Joine odobi	1	
	FILL: Soil &	refuse timber brief			1
	20% refuse	e)	brick pieces, steel (approx	7	1
	.]				
	1				
				1 1	
					-
.8				1 1	
.9	FILL: Clay (C	H), very soft, high plas	troite well-	1	
	W>>Wp (sli	mes)	ucity, yellow brown,		
	End Pit 1 at.	20-		1	
	i churitat.	2.9m		}	
	'				-
	140				_
	When the cla	sy slimes were encount	tered, the clay rose		-
	quioni in the	pit to a depth of about clay is so high that it i	·Λ6m Th	1	-
+ +			behaves as a fluid.		_
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				1	-1
re 1A for sum	mary of descriptive to	erms.			
<u>are based on</u> I to	visual & tactile asse	ssment unless there are tes	t results.		1
:					
efer to					
5					
er in a	t 1.7m (isolated	perched ground water)			
	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ro. oco ground water))		

job no			LID	p.ruject		
excava	ation metho	V500	date		. —	
1			logged by	Ploneer Quarry Site		
Komats	su 30 tonne	e tracked	G Black	l albot Avenue		
excava	tor	- indenced	checked by	Oakleigh		
location	n: refer figu	re 1	A Hansen			
	PIT No			level not levelled		
depth	111110	2	sheet 1 of 1	datum		
metres				Tadiani		
oucs	+	Ell L	material d	escription	1	
		FILL: Sandy	Clay/Clayey Sand v	escription with bricks, concrete rubble,	tests	sample
-		steel, timber	r ·	- Tons, conclete rupple,	ł	
-	1.				1 '	-
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-					1	-
•	1					-
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					. 1	-
_2.0					1	-
2.1	1	FILL: Clay (Ch), very soft bigh of	asticity, yellow brown		-
	1	(slimes)	y voic mgn pi	asticity, yellow brown	7	-
	1 1				./\`	-
j		End Pit 2 at 2	.1m		1	-
				4	1	
1	1				ľ	1 -
ł	- 1	When the clay	slimes were once	untered, the clay rose	1	1 -
1	ł	quickly in the r	of to a depth of ob-	out 0.5m. The moisture	1	-
	ŀ	content of the	clay is so both the	out 0.5m. The moisture it behaves as a fluid.	1	-
40	1		viey is so riigh that	it behaves as a fluid.		1 -1
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figure 4 6	for su-				1	-1
- nguit ir	vioi summan	y of descriptive term	75			
mons are I	based on visu	ial & tactile assessr	nent unless there are te	St results		j
efer to						
es refer	to					
fwater	Done	encountered				1
		countered				
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BLACK GEOTECHNICAL

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GEOTECHNICAL PT	TD	project	
V500	date 12.11.01		
ion method	logged by G Black	Pioneer Quarry Site Talbot Avenue	
u 30 tonne tracked	checked by A Hansen	Oakleigh	
refer figure 1		level not levelled	
217 N 2 sheet 1 of 1		datum	

PIT No	3	sheet 1 of 1	datum			
	material description tests sam					
	brown, yellow adour becoming 10 becoming trabecoming date becoming so	lay (CL-CH), stiff, nv brown, W>Wp, trains timber at 0.8r ace timber at 1.7m ark brown at 2m with 0-20% non soil fill be oft below 3m	nedium to high plasticity, ice bricks & timber, some in about 5% non soil fill blow 2.5m			
5	End Pit 3 at Pit collapsin	5.5m g below 2.4m			-	
					-	

i .	
figure 1A fo	or summary of descriptive terms.
tions are ba	sed on visual & tactile assessment unless there are test results
efer to	
es refer to	
dwater	perched groundwater in fill at 2 4m

	OTECH	INICAL PTY I		project		
b no		V500	2,11.01			
xcavation	method		i iiy	Pioneer Country Site		
			- F	Talbot Avenue Oakleigh		
omatsu 30	0 tonne	tracked	t and by	Carleign		
xcavator	for fire	n 1	<u>Anansen</u>	level not leveiled		
cation: re			T			
EST PI	r No	4	slieet 1 of 1	datum		
epth					tests	sample
netres			material des	rown, dark brown with bricks	100.0	1
Ī		FILL: Sandy	timber (25%), trace n	netal and concrete		
į		(25%) and	tilliber (25%), trace in	netal and concrete]	
-	- 1					
ŀ						. [
ŀ						
ŀ	. 1				1	
Ì		becoming a	about 25% non soil fil	l below 1.5m		
Ţ						1
_2.0]			24 - 11		
2.1	<u>. 1913 T</u>		CH), soft, high plastic	city, yellow brown, W>>Wp	1	
1		_(slimes)			-	
1		F157.	40 1m			
		End Pit 4 a	II. Z. 11TI			
						-
		When the	clav slimes were end	ountered, the clay rose		
.		quickly in t	he nit to a depth of al	bout 0.5m. The moisture	1	1
• 1		content of	the clay is so high th	at it behaves as a fluid		
40		Oct.				
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8.0	ļ	1				
	ro 10 for	summary of descr	intive terms.			
meter to figu	ITE IA TOF	automaty of cest.	le assessment unless the	re are test results.		
		on visual & tach	is approprietti ninese tile.			
tests refe	r to					
samples	refer to					
			Angel			
groundwa	ater	none encoun	terea			

Name .						-
	DI ACK G	EOTHE HICAL PTY	[1	project		
	Job no excavation	V50 0	date 12.11.01 logged by	Pioneer Qua-		
			G Black	Talbot Avenu		
ļ		30 tonne tracked	checked by A Hansen			
	excavator location: re	location: refer figure 1		level not levelled		
	TEST PI		sheet 1 of 1	datum		
	depth		material des	scrintion	tests	samp
sample	metres	FILL: Clay	(CL-CH), stiff, medium	to high plasticity, brown,		
-	-	yellow bro	own, W>Wp, trace brick	ks, plastic		

TEST P	TING	6 sheet 1 of 1 datum		1
lepth		material description	tests	sample
netres	 	Fit to Clay (CL-CH), stiff, medium to high plasticity, brown,		
-		yellow brown, W>Wp, trace bricks, plastic	1	1
-		yellow brown, we pro-	Į.	1
-			1.	
-		becoming dark brown with brick & concrete pieces at 1m		
-				1
_				
			}	
_		On the Cloud 2m	l l	1
2.0		some grey Sandy Clay at 2m		1
-				
-		becoming dark brown/grey, trace concrete pieces to 0.5m	1	
-	1 `	at 2.5m		-
-		becoming firm below 3m		
-			}	
_	1		Į.	l
[_				
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4.0	1		i	
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_	1 .		Y	Ì
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-			}	
-			ł	
}-		pit collapsing below 2m when depth at 5.5m		1
-		·	1	
6.0				
<u> </u>			1	
-	1	End Pit 6.0m		-
-		Pit collapsing, concrete or rubble at base		
-	}	Pit collapsing, concrete or radata at a se	Ì	
-			1	
-		·	1	
-			1	1
-				Į.
	1			

Refer to figure 1A for summary of descriptive terms.

Descriptions are based on visual & tactile assessment unless there are test results

tests refer to

samples refer to

large water inflow from 5.75m of south side and from 3m on east side - not regional groundwater groundwater

GEOTECHNICAL PTY LTD project date 12.11.01 V500 Pioneer Quarry Site logged by on method Talbot Avenue G Black Oakleigh 30 tonne tracked checked by A Hansen not levelled level refer figure 1 sheet 1 of 1 datum

IT No	5	sheet 1 of 1	datum		
II NO			scription	tests	sample
	FILL: Clay (CL orange brown	C(I) stiff medium	to high plasticity, brown to high plastic, timbe	r,	
	FILL: Gravel grained (cru	(GP), dense/cemen	ited, medium grained, p	ale	-
		ans — diam dence	; fine to medium graine me timber & concrete p	d, grey. leces	
	some blaci	k ash & concrete pi	eces to 2m diameter at	5m	
5		to medium grained	, yellow brown, wet		
	End Pit 5 a		appeared to be natural		

to figure 1A for summary of descriptive terms.

uptions are based on visual & tactile assessment unless there are test results

. refer to

ples refer to

none encountered :ndwater

OTECH	INICAL PTY L	TD	project		
SILUI	V500	date 12.11.01		-	
on method		logged by	Pioneer Quarry Site		
G Black			Taibot Avenue		
u 30 tonne	tracked	checked by	Oakleigh		
or _		A Hansen			
refer figur	e 1		level not levelled		
PIT No	7	sheet 1 of 1	datum	- ₁	
				1	comple
		material de	escription (http://	tests	sample
	moist		dium grained, dark grey/black,	-	_
	FILL: Clayey	Sand/Sandy Clay (SC/CL-CI), loose to medium	1	-
	dense/stiff,	fine to medium grain	ned/medium to high plasticity,		1 -
	brown, trac	e concrete cobbles	to 0.3m, trace bricks	Í	_
					1
				-	
	Ell L. Cravo	Illy Clay (CL) stiff m	edium plasticity, brown &] _
	grey, some	comples	20		_
1	grey, some	CODDICO			-
*.				1	
					-
1	•				-
	FILL: Clayer	y Sand (SC), loose t	o medium dense, medium	·	
	grained, da	ark grey brown, mois	st to wet, trace concrete		1
).5m, some Sandy C	clay, stiff, high plasticity, yellow		
	brown				1
					}
	}				
1					1
					l
1.					1
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-					
	1				ļ
a l				-	
1	End Pit 7	at 6.8m			
	}			ł	1
	Limit of re	ach of machine			1
figure 1A for	summary of descr	iptive terms	tool rocults		
tions are base	ed on visual & tacti	ite assessment unless the	ere are lest results.		
efer to					
es refer to					
00.0.0.					
dwater	none encoun	itered			

BLACK GE	OTECH	NICAL PTY L	 1	project		
ob no		V500	date . 01			
excavation	method		logged :-,	Pioneer Quarry Site		
			G Black	Taibot Avenue		
(omatsu 3	0 tonne	tracked	checked by	Oakleigh		
xcavator			A Hansen	level not levelled		
ocation: re	fer figur	e 1				-
rest Pl	TNo	8	sheet 1 of 1	datum	Τ	
lepth			material de	scription	tests	sample
netres		FILL: Gravell	v Clay (CL-CH), stiff	medium to high plasticity,		-
.		dark prown	brown, yellow brow	n. Siltstone gravel to	1	-
		150mm, so	me concrete gravel			_
.	`					_
]						
_		pieces of co	oncrete to 1m at 1.2r	n	1	_
- }					1	_
-					l	_
		necoming (Clavey Sand/Sandy (Clay, dark grey brown at 2m		_
2.0		Deconning (-	Ì	-
-		1				-
-		[_
_		1		a turn an atration]	
_		some cond	rete & bricks below	3m, very slow penetration		
_						-
			s e apparata halaw 3	5m		-
-		some steel & concrete below 3.5m				
		1				
_40		FILL: Soil &	waste (timber, steel	, wood, concrete pieces,		-
_		brick piece			ļ	-
-		1				
_	1				1.	
_		` 				1
_	1	1				Ì
_	٠,	. [Ì	
 _					1	1
_60		FILL: Clay	(CH), firm to stiff, hig	th plasticity, yellow brown &	1	1
-	1	grey (old :	slimes, see note belo	ow)		
6.5		 				,
_		End Pit 8	at 6.5m			
_	1			I hard to tall if helow the		.
_				level, hard to tell if below the		
_	1	was	ite level		Ì	1
_	1			• •	1	
-		1				
5.0						
Refer to fig	jure 1A foi	summary of desc	ripuve iemis.	ore are test results.		
		ed on visual & tacl	lile assessment unless th	ere are test resons.		
tests ref	er to	•				
samples	refer to	•				
	entor	in at 4.2m				
groundv	vater	ural 4.2m				
1						

ples refer to

indwater

none encountered

ACK GE	OTECHI	NICAL PTY	LTE	project		 :
	<u> </u>	V500	daie 12.11.01			ļ
no cavation			logged by	Pioneer Quart		
cavation	nemou		G Black	Talbot Avenue		1
		an alcod	checked by	Oakleigh		ļ
matsu 30	tonne ti	acked	A Hansen			
cavator			Attailacit	level not level est		
ation: ref	er figure	1				
EST PIT		10	sheet 1 of 1	datum		
	110				tests	sample
pth			material de	scription	lesis	
etres		- Co	dy Clay (CL-CH) firm	medium to high plasticity, red		1
0.1	/					1 7
ľ			LION Lease to madel	m dense, fine to medium		1 -
ļ.		FILL: Sai	na (SP), house to thouse	cs, wire, concrete pieces at	ł	1 -
Ţ.	· ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` `				}	1 -
1.0		0.5m		ained, brown, moist to wet		-
<u> </u>		FILL: Gr	avel (GP), loose, line yi	anieu, bronn,		-
1					1	-
	1					1 -1
ľ]	
2.0	ا) ۱۰۰۰			m dance fine orained pale	η .	1 -1
·`		FILL: Sa	and (SM), loose to medi	um dense, fine grained, pale	1	-
2.4					┪	-1
	 ;	FILL: Sa	andy Clay (CH), soft, hig	Th plasticity, pale grey	1	1 _
2.8				dance fine	ተ	_
_ 2.6		FILL: S	and/Clayey Sand (SP/S)	C), loose to medium dense, fine	1	_
-	1	to coa	rse grained, pale brown	, white, moist	Ì	_
-	· ·	10 000			1	
-	ļ. ·	•				_
_	١	.]				-
_		.			1	1 -
4.0		1			1	-
	1	1				-
-		.]			1	i -
_	1	Ì			l l	-
-		1			ļ	-
- 50						-
- 30	<u> </u>	1				
 -	1	End I	Pit 10 at 5m		ŀ	
-		3		a strong	Ì	' · .
-	1	Note	· Sand/Clayey sand str	atum may be natural	1	\ _
-	1	1 ,,,,,,,			1	
60	1					Ţ
 -	1				ļ	
	1					İ
_		1			İ	1
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[1					\
1	- \	1			1	
)-	(l			1	1
-					1	
- ·	1					• •
_8.0			of descriptive terms		•	
Refer to	ligure 1A 1	or summary	of descriptive terms	there are test results.		
Descript	ions are ba	ased on visua	il & tactile assessment unless			
tests re	efer to					
sample	es refer	to				
1			m (gravel fili), not region			

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GEOTECHNICAL

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SEO FEDERICAL PTY	LTD	project		
V500	date 12 11 01			
in melnod	logged by	Pioneer Quarry Site Talbot Avenue		
30 tonne tracked	checked by	Oakleigh		
·r	A Hansen	t tt levelled		
refer figure 1		level not levelled		
PIT No. 11	sheet 1 of 1	datum		

No	11	sheet 1 of 1	datum		1
		material des	cription	tests	sample
	FILL: Clavey S	and (SC), medium of	lense, medium grained,	1	-
	brown moist,	trace bricks		į	-
	1	nd black at 0.2m		1	
	becoming pat	le brown with some	clay, some cemented		1
	cobbles at 0.5	5m			
	becoming pa	le brown/white at 1 n	1		1
				1	ļ
					1
	hecoming Cl	avey Sand/Sandy C	ay, dark brown with 50%	Ì	-
	bricks & brick	k pieces at 2m		1	
	1	•			
					į
•					Į
	trace timber	at 3m			
٠					1
. • •		ces to 0,5m below 3	1.5m	ļ	-
	concrete bie	262 10 0.3111 00011	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Ì
					į
				-	1
	4				1
	End Pit 11 a	at 4.5m			
		uin- whon nit at	3.5m. Unable to advance	pit	1
	Pit sides co	n due to major pit o	ollapse	`	j
	beyond 4 Si	If ode to major pri a		}	
				ļ	Į.
l					1
}				1	
ļ					ļ
				ì	
				l	}
				1	
				1	
	1				1
1 .	.				

figure 1A for summary of descriptive terms.

ons are based on visual & tactile assessment unless there are lest results.

fer to

is refer to

water in at 3m from side of pit

ACK GEO	TECH	1.71		er je <u>ct</u>		
no			date 12 11 01	Conser Quarry Site		
cavation m	ethod		logged by	Talbot Avenue		
			G Black checked by	Oakleigh		i
matsu 30 t	tonne t	act ad	A Hansen			
cavator	- figure	1	7.7.0.10	level not levelled		
ation: refe			sheet 1 of 1	datum		
EST PIT	No_	12	sneet 1 01 1	Judicini	1	
pth			material des	scription	tests	sample
etres	}	Ell I · Sand (S	P) medium dense,	fine to medium grained, dark		-
1.					į.	
ļ		becoming br	own with concrete of	cobbles & bricks/brick	Ļ	
.	- 1	pieces at 0.3	3m		1	1 -
-					1	1 -1
[-					1	1 -1
1.					1	-
<u> </u>						1 -1
, I				(a) (a)		
_2.0		FILL. Clay (C	H), stiff, high plastic	city, yellow brown, W>Wp	.	1 1
[.					l l	_
					ł	1 -1
. 1			- 4 to firm at 3m			-
. † 1		becoming s	oft to firm at 3m		1	-1
						-
.					- 1	} _
-					Į.	
4.0		•]
		l,				
-		}			l	-
_		1			ļ	-
- [ļ			1	_
- \		1			1	-
-	-					
5.5						١ -
- 5.5		End Pit 12	? at 5.5m		ł	· \
6.0		1	1 to E &m :	then major circular collapse	1	-
<u> </u>	1	Pit side st	ayed open to 5.5m	the major sweet		
-		Clay fill a	ppears to be consol	idated slime		-
_ ·	Į.	Clay till at	рреаль то очень			.]
-		1				
-	Ì				1	1
-	}	i				
-				ν.		1
[
8.0						
	ure 1A fo	r summary of desc	criptive terms			
Description	s are ba	sed on visual & tac	tile assessment unless t	here are test results.		
tests refe	er to					
	refer to)				
samples				·		

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GEOTECHNICAL

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FOTECH	NICAL PTY LT	D	project		
COTECU	V500	dain	Pioneer Quarry One		
n method		logge at the	Talbot Avenue		
	kod	checked by	Oakleigh		ŀ
30 tonne t	racked	A Hansen			
refer figure	1		level not levelled		
IT No	13	sheet 1 of 1	datum		
11 10				tests	sample
\ \		material de:	scription		
	FILL: Silty Sa	nd (SM), medium de	ense, fine to medium grained	`	_
	brown, mois	t rey, trace concrete b	ooulders at 0.3m	1	-
1. 4				1	
	becoming di	ark brown, trace boo	ulders, brick pieces at 1m	1	
1. 1			•		-
					1 -1
				Ì	
	trace timber	r, trace fabric, concr	rete pieces up to 1.2m		
1.	diameter at	2m			_
1					-
					-
				ļ.	
	;	hank wat at	3.5m (pit collapsing)		1 -
1	becoming I	loose, black, wer at	3.3111 (pri 22.11)		-
					-
	1				
					-
					-
}	End Pit 13	at 5.0m		l	-
			ble to advance pit below this		-
ļ	depth	Jonapac at Similaria		Ì	_
	дери.				
	1]	
1)	-
	1				
	1				
	1				
		-t in tooms			
figure 1A to	or summary of desc	tile assessment unless the	here are test results		
	sed on visual & lac	the assessment offices to			
eter to					
es refer t	0				
Juntar	in at 3.5m				
dwaler	in at J.Jin				
i					

omatsu 30 tonne tracked checked by A Hansen refer figure 1			Biack Talbot Avenue necked by Oakleigh		
		level not levelled			
		T	datum		
EST PIT No	14	sheet 1 of 1	loatum		
	į	material d	lescription	tests	sample
2.0 2.0 4.0	black, moi: FILL: Clay (yellow brown) becoming End Pit 14 When traineaved in	and (SM), medium st CH), firm, high plas wn, W>Wp (slimes) very soft, yellow brook at 2m cked excavator pento pit and rose to a	lescription dense, fine to medium grained, ticity, brown, orange brown, own, W>>>Wp at 1.75m etrated past 2m, clay slimes depth of about 0.5m in 5 mins. In dumps spoil on surface	tests	sample
Data sa figura 14	for summary of de	scriptive terms.			
Descriptions are	ased on visual & t	actile assessment unles	s there are test results.		
tests refer to	1				
samples refer	to				

	4			
		project		
V500	date 12 11.01	Pioneer Quarry 12		
n method	logged by G Black	Talbot Avenue		1
30 tonne tracked	checked by	Oakleigh		
30 10/110 =	A Hansen	level not levelled		
efer figure 1				
IT No 15	sheet 1 of 1	datum		
			tests	sample

No	15	sheet 1 of 1		1	
	_	material des	cription	tests	sample
	CILL: Sand & (Clay, brown, orange	brown & black	1	-
	FILL, Salid a	<i>(</i> ,), (), ()		i	
1					
	FILL Sand, lo	ose to medium dens	se, medium grained, grey	l	
·	brown, moist	1		f	
	becoming de	ense/cemented, blac	k, with sandstone gravel at	1	
	1.2m				1
- `	•			1	1
	_	-4.0			j -
	trace wire ro	pe at ZIII			
				l	1
	Ì				\
. ` `	{			1	
	no cementir	ng below 3m			
	110 30			\	ŀ
		:		Į.	
	.]			ļ.	ì
, i	4			(
	4	•			
4.5%	4			1	1
1.	1				
	1				
	1			1	
				1	\
}				ì	l
	-			}	Į.
1	.			1	
			actic metal) and sand		
	FILL Refus	se (paper, timber, pi	astic, metal) and sand		l
				ļ	1
				l	1
	1				
-				1	
	End Pit 1:	5 at 7m			l l
1	End Pil I	3 4() 111		1	}
1				1	

figure 1A for summary of descriptive terms.

Hons are based on visual & tactile assessment unless there are test results.

efer to

es refer to

dwater none encountered

		, man,	project		
ACK GEO	TECHNIC:		project		
	V50:	date 12.11.01	Pioneer Quarry Site		
o no cavation me		logged by	Talbot Avenue		
Cavation in	Elliod	G Black	Laibot Avenac		
	a trackan	checked by	Oakleigh		
	onne tracken	A Hansen	level not levelled		
cavalor			level not levelled		ì
cation refe			datum		
EST PIT	No 15A	sheet 1 of 1	Gotton		sample
pth			- riotion	tests	Sample
	ţ	material des	to madium grained.		-
etres .	FILL: Si	material des ilty Sand (SM), loose, fine	to median grows	Λ	-
U.2 -					1 -
1.	CILLE	in Clay (CL-CH), 500, 10	edium to mgr.		1 -
ŀ	plastic	city, orange brown & grey			-
		•		1	-
· .					1 -1
			to define to	1	-
. 13	FILLS	Silty Sand (SM), dense/ce	mented, title to	Ì	-
- }	medi	Silty Sand (SM), densered um grained, black/dark gi	rey, moist, trace	l	1 -
-	cobb	les			-
2.0					1 1
-					-
_ <u></u>	• •			\	-
_					- 1
<u> </u>				1	-
- -				Ì	-1
1_ 1					_
1_	• •				
3.5		Sandy Clay (CH), very s	tiff, high plasticity,	Ì	
<u> </u>	FILL	: Sandy Clay (CH), very s wn & grey, W>Wp, some	concrete pieces	l	
_4.0	i bio	will be gittey, ** ***			- 1
_				1	-
<u></u>		ce steel & bricks at 4.5m		ì	-
	trac	ce steel & prioris at			} -
5.0		: Sand/Clay Refuse Mix,	10% refuse, becoming	1	1
L	. PILL	% at 5.5m		· \	!
Γ.	50	% at 5.5m			\ \
Ĺ	1				-
	1				
6.0				,	
		in a EA of Em		1	
Γ	E	nd Pit 15A at 6m			1.
-	1 1				1
-				ļ	1
-				1	
-					l
-					(
-	1			1	}.
\ <u>-</u>	1				
_					
8.0		d descriptions torms			
Refer to	figure 1A for summa	ary of descriptive terms	ss there are test results.		
Descript	ions are based on v	ary of describilities terms is a same at unle			
tests re	eter to				
tesis	5151 10				
ļ					
sampl	es refer to				
1		ght inflow at 0.5m from so	outh side of pit		•
	dwater slig	ant inflow at 0.5m from Sc	,		

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		Taranat		_
EOTE A	LPTYLTD	project		
500	date	Pioneer Quarry Site		
n method	logged by	Pioneer Quarry Site		
II Theuren	G Black	Talbot Avenue		
30 tonne tracke	checked by	Oakleigh		
	A Hansen	level not levelled		
refer figure 1		level not levelled		
	sheet 1 of 1	datum		
IT No 16				sample
	material d	escription	tests	Saithie
	L. Clay with wood, plastic, he	essian, concrete	l	-
FILI	L. Clay with wood, piezawi		- 1	-
1			1	-
			1	-
			1	-
			1	
			1	
	•		1	
tomorit e	ANDY CLAY/CLAYEY SAND	(SC/CL-CH)	l	
	est stiffmedium dense, med	fium to high plasticity/medium	1	
	ery stiff/medium dense, med grained, mottled orange brow	n & pale brown, W>Wp	1	
	grained, motices stans			-
- litated			l	
- 精田温1	_			
			1	
	End Pit 16 at 3.0m		\	_
	Lite i it i i i i i i i i i i i i i i i i		\	\ _l
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1	•			·) -
1				
	mmary of descriptive terms.			
to figure 1A for su	on visual & tactile assessment unle	ss there are test results		
riptions are based	on visual & tactue assessment due			
s refer to	•			
	-			
iples refer, to	,			

ACK GEOTEC	V500	12.11.5	Quarry Site		}
cavation metho	d	logged by G Black .	Avenue		
	- amakad	checked by	.ugn		1
matsu 30 tonna	trackeo	A Hansen			
cavator cation: refer figt	ire 1		not levelled		
	17	sheet 1 of 1	datum		
EST PIT No				tests	sample
epth etres	1	material de	escription	testo	
etres	FILL: Silty	Sand (SM), loose, me	dium grained, pale grey	ļ	-
	brown, m	oist	y, with sandstone gravel &		1 -
	becoming	g dark brown/dark gie: o 100mm at 0.4m	y, with spirostone o	1	-
	cobbles	0 100mm at 0 4m		\	
				\]
	4			1] -
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				Ì	1 -
20	.]			1	1 -
_	\rightarrow				
-	4		,		1]
-	$\cdot 1$			ľ	1 _1
- [becomi	ng dense/cemented at	: 3m	-	
- .				\	1 -
_ }					-
_ } .	1	na loose to medium d	ense, pale brown, wet at 3.7	5m	-1
- 1.	becom	ng bose to more	.,	1	
- ^{4.0}				ì	_
- 1	1			1	\ -
-	1				\ -
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_ .				. 1	
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60				ĺ	-
	1) -
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-				l	
70					1
- '				l	.]
	End F	Pit 17 at 7m			\
[-	1,1	ehold refuse at 7m - li	imit of machine	1	
-	Hous	Choid relade of this			
8.0		descriptive terms.			
Refer to figure	A tor summary or	descriptive terms. & tactile assessment unles	s there are test results.		
Descriptions ar	based on visual	a tacino accesa			
tests refer to)				
samples ref	er to				
1	r none er				

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EOTECHNICAL PTY	LTD	project		
V500	toale 12.1101	de comment		
method	logged by	Pioneer Quarry : Talbot Avenue		1
THERIO	G Black	Oakleigh		}
30 tonne tracked	checked by	Dakieigii		
	A Hansen	level not levelled		
efer figure t				
IT No 18	sheet 1 of 1	datum	1	
	material de	cerintion	tests	sample
	material de	nedium to high plasticity,		-
FILL Sar	brown, grey, W>Wp (bu	nd fill)	}	-
orange	Blown, grey, 1- 7		}	
			1	
			1	_
				\ _
			1	-
	Card (CM) longe to r	nedium dense, fine to medium		
FILL Sil	ty Sand (SM), loose to i s, black, moist, trace me	tal plastic	1	_
grained	3, black, moist, trace me		l l	_
	, c		}	_
	r			_
				1 -
1			Į.	_
			1	-
trace	timber at 3.5m] -
ļ.				
				-
	55. 40. at 4m			-
End F	Pit 18 at 4m			-
labl	le to dig deeper on slope	•	Į.	
dilaci	ic 10 4.5		1] .
i i				} .
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1				
	of descriptive terms.			
to figure 1A for summary	of descriptive fermion	there are test results.		
	I & tactile assessment diffes			
refer to				
ples refer to				
			_	
	encountered			

<u>i 145-</u> Javidel H	method	V500	12 11.01 logged by	Promeer Quarry Site		
			G Black	- Oakleigh		
	() tonne t	racked	checked by A Hansen			
xcavator ocation: refer figure 1			174 Hallock	level not levelled		
			sheet 1 of 1	datum		
EST PI	TNO	19	Silect 1 O. 1			sample
pth	1		material de	scription	tests	Sample
etres		FILL::Sand	(SP), medium dense,	fine to medium grained,	pale	
		brown, mo	oist		Ì	-
ł			•			-1
		•	•		į	-
					·	
		1 -	dod do	rk brown/black at 1.6m		-
		pėcoming	dense/cemented, da	TR O.O.T.	1	-
_2 0						
	ļ. ·				Ì	-
						-
	}	becomin	g brown & grey brown	with cemented cobbles	at 3m	_
	ļ	Document	3			
•						-
-		1			1	-
-		1 ~			1	_
_4.0						\
-						-
-						-
_						-
-						
_	1				1	1
_ -	1					
		-				}
_6 o		FILL: Re	fuse (metal, plastic, ti	mber, household waste)	anu	1
[_		sand			l	1
_	1				-	1
-	<u>,</u> [.					1.
- 7.	· ا					
-		End Pi	t 18 at 7m		1	1
_	1				Ì	
_	\	-				
8.0			la agriptiva larms		•	
Refer to	figure 1A f	or summary of d	escriptive terms. tactile assessment unless t	there are test results.		
		ised on visual &	Iduate dosessinen dinedo		•	
tests r	eter to				, , , , , , , , , , , , , , , , , , , 	
sampl	es refer t	0				

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		oroject		
OTECI-	date 12.11.01		-	
	date 12.11.01 logged by	Pioneer Quarry Site		
method	G Black	Talbot Avenue		1
	checked by	Oakleigh		
30 tonne tracker	A Hansen	level not levelled		
efer figure 1		level not levelled		
	sheet 1 of 1	datum		
T No 20			tests	sample
	material de	escription		_
FILL: San	d (SP), loose to mediu	m dense, fine to medium		\ -
grained,	pale brown & brown		1	\
\				_
			1	
			1	_
				_
)	-
			1	-
	e Floor	k, trace timber, plastic, bricks	1	-
becom	ing brown, grey & black	C, Tace IIII	1	-
at 2.2n	n apsing above 2.2m who	en pit depth at 2.5m	Ì	1
pit colli	apsing above 2.211		1	
			l	1
			Į	
			Į.	ì
			į.	-
becor	ning black, wet at 4m			
			1	1
			ļ.	
1			1	
			1	1
5			1	}
End	Pit 20 at 5 5m)	1
		elow 5.5m due to major pit	ł	}
Not	possible to excavate of	SIGN C.C.		
colla	apse			1
\				1
\			l	1
İ	•			1
\ \ \\				1
				1
1			1	
[['	_			

		l
to figere 1A for	summary of descriptive terms. ed on visual & tactile assessment unless there are test results	
refer to		
ples refer to		
indwater	seepage at 4m	

GEOTECH	NICAL PTY L	7t. 12.11.01			
·	V500	logged by	- iny Site		.)
. votion method		G Black	i. · ie		
matsu 30 tonne t	racked	checked by			
metsu 30 torrie i	Jacked	A Hansen	lev not levelled		
ocation: refer figure	:1				
TEST PIT No	21	sheet 1 of 1	datum		
tepth			i-tion	tests	sample
metres		material des	nedium dense, medium		-
	FILL: Sitty S	Sand (SM), 1005e to 11 lack, brown	icaio		
_	grained, b	lack, brown		.	1 1
-				· \	-
-	some san	dstone gravel & cobb	iles at 1111		-1.
	ł			1	
-					-
					-
				-	
	·				
1	·			Ì	1 -
3.0		and the his	ah plasticity prey &		-
- 330	· FILL: San	dy Clay (CH), stiff, hi	gn plasticity, 9. 97	1	
	pale gre	у			
- ' .	1			1	-
4.0	.1			l	-
-4.0	-			Ì	-
				Ì]
-	• .				<u>-</u>
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-					
				and	-
5.5	FILL R	efuse (timber, plastic	bricks, household waste)	and	_
6.0	sand				-
-0.0				Ì	_
	End P	it 21 at 6m		\	
_	nit sid	es collapsing			-
-	picsid	C3 C5 T5 T5		1	-
-					-
F					
_	1				
-	1				
8.0	for summary of	descriptive terms.			
Refer to figure 1/	hased on visual	& tactile assessment unle	ss there are test results		
tests refer to	00300 011 110301				
tesis reier to					
samples refe	r to				
Samples					
1		ncountered			

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BLACK GEOTECHNICAL

BLACK	GEOTE	CHNICAL PTY L	rD	project		
job no		V500-2	date 01.03.02			
excavati	ion meth	od	logged by	Ex-Pioneer Quarry Site		
İ			D Macleod/S Tacey	Talbot Avenue		
Tracked	Excava	tor - 12 tonne	checked by	Oakleigh		
			G Black			
location:	refer fig	ure 1 333090E	5801038N	level not levelled		
TEST	PIT No	23	sheet 1 of 1	datum		· · · · · · · · · · · · · · · · · · ·
depth	T	T	1 0,1000 1 01 1	datam		
metres	İ		material descr	rintion	tests	Sample
	1	FILL: Silty Sai	nd (SM), medium dens	se, fine to medium grained,	10313	sample
_		grey brown,	dry	re, into to modition granica,		0.1
_	1		•			15.1
_	ļ				1	İ
_						1
_		.[1	
0.7	<u></u>					
-		FILL: Sandy C	lay (CL-CI), very stiff,	low to medium plasticity,		1
- 4.0]	orange brown	n, W <wp, dry="" moist<="" td="" to=""><td></td><td></td><td>0.9</td></wp,>			0.9
1.0						D
1.2		,			1	1.0
. 1.4		FILL Sand /SI	M) medium dense fin	e to medium grained, grey,	4	
•	i .	white dry to r	moist, trace brick, grav	e to medium gramed, grey,	1	
		inne, dry to i	noist, trace brick, grav		1	
						1
						1 .
						1
					Į	1
_2.0]	_
			_]	
ļ		End Pit 23 at:	2m		Ì	_
						-
į						-
] -
						-
[-
l						_
3.0						-
						-
						-
						-
	-			ł		
- 1	l			Į		
J						_
1	- 1					_
1						-
.	ļ					_
4.0						<u> </u>
		mmary of descriptive				
		on visual & tactile ass	essment unless there are to	est results.		
sts refer	to					•
mples re	fer to	D = Disturbed San	nple			
oundwate	er i	none encountered				

BLACK G	EOTECH	NICAL PTY LT	D	project		
job no		V500-2	date 01.03.02			
excavatio	n method		logged by	Ex-Pioneer Quarry Site		
			D Macleod/S Tacey	Talbot Avenue		
Tracked E	Excavator	- 12 tonne	checked by	Oakleigh		
	f f	e 1 333087E,	G Black	level not levelled		
location: r						
TEST P	IT No	24	sheet 1 of 1	datum	,	
depth metres			material descr	ription	tests	sample
inetics		FILL: Silty San	d (SM), medium dens	se, fine to medium grained,		D_
-		brown, dry to	moist, trace steel, rul	bble, brick		0.1
						_
_						_
- 1	- : - :					-
_ 0.6		EU 1 . 031 . 0	1 (OM) divers dans	a fine to modium around	4	-
-				se, fine to medium grained,		-
-		black, dry, od	Oui			0.9
_ 1.0						D
_'						1.0
1.2	. 1					_
- ''-		FILL: Sand (SI	M), medium dense, fir	ne to medium grained, grey,	1	_
_	1.1.	moist				
-						-
-						-
-		hi	a brown majet to wat	tat 1 8m		
-		becoming par	e brown, moist to wet	tat i.om		1.9
_ _2.0						D
·· }						2.0
		End Pit 24 at	2m		ļ	_
_					1	_
-						-
-						-
-						-
-						_
-						_
_3.0				•		
_						_
-						_
-						-
-						-
-						-
-						_
-						
4.0					•	
	re 1A for su	mmary of descriptive	e terms.			
			sessment unless there are	e test results.		
tests refer						
samples r	efer to	D = Disturbed Sa	ample			
groundwa	ter	none encountere	ed			

BLACK C	SEOTEC	HNICAL PTY LT	D	project		
job no		V500-2	date 01.03.02			
excavatio	n metho	đ	logged by D Macleod/S Tacey	Ex-Pioneer Quarry Site Talbot Avenue		
Tracked F	Evcavato	r - 12 tonne	checked by	Oakleigh		
Hacked		1 - 12 torne	G Black			
location:	efer figu	re 1 333084E,	5800944N	level not levelled		
TEST P	IT No	25	sheet 1 of 1	datum		
depth	1110		1 0.100		T	
metres			material descr	ription	tests	sample
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	l	FILL: Silty San		se, fine to medium grained,		D _
_		brown, moist	, with medium grained	gravel, trace rubble,		0.1
_		steel, concret				l _
_						_
_						-
_						-
_ 0.7		Ell I - Cib- Cia	(CI-CH), stiff to very	etiff, medium to high	-{	-
-		PILL: Sitty Clay	y brown, W>Wp, odol	r roots		0.9
 1.0		plasticity, gre	y Diowii, vv-vvp, odoc	31, 10013		D -
-1.0						1.0
 _ 1.2						
- ''-		FILL: Sand (SV	V), medium dense, fir	ne to medium grianed, grey,	1	
_	1.	moist	•		1	_
_						_
						-
-						_
_ 1.8		50.1.075.07	(CI-CH), stiff to very	atiff madium to high	4	_
		FILL: Sitty Clay	/, orange brown, W>V	stiii, medidin to nigri		1.9 D
2.0	1	plasticity, grey	7, brange brown, vv-v	ΨP		2.0
2.2	. [
- ·					1	
- - - -		End Pit 25 at	2.2m			
_						
_						
- 1						-
-						-
3.0						-
_3.0	ļ					
_	}					_
_	1					_
_	ŀ					_
_						-
-						-
-	ľ					-
- •					i	-
- 4.0						_
	e 1A for si	ımmary of descriptive	terms.			
			sessment unless there are	test results.		
tests refer	to					
samples re	efer to	D = Disturbed Sa	mple			
groundwat	ter	none encountere	đ			

BLACK (GEOTECH	HNIC PTY LT	D	project		
job no		V500-2	date 01.03.02			
·	on method		logged by D Macleod/S Tacey	Ex-Pioneer Quarry Site Talbot Avenue		
Tracked	Excavator	- 12 tonne	checked by G Black	Oakleigh		
location:	refer figur	e 1 333077E,		level not levelled		
TEST P		26	sheet 1 of 1	datum	···	
depth	 		1	,	T	7
metres			material descr	iption	tests	sample
-				e, fine to medium grained,		D
-	.	black brown,	ary to moist			0.1
-	'-					
0.5						
_				e, fine to medium grained,		_
		grey, moist, o	dour			-
0.9						0.9
1.0		FILL: Sand, bla	ack, with brick, fabric,	steel, concrete, wood -	1	D_
_		refuse				10 _
_						-
-						-
-						
_						_
						-
-		becoming wet	t at 1.8m			1.9
- 2.0						D D
						2.0
2.2						
-		E-4 0:: 00 -4:	2.2			-
~		End Pit 26 at	z.zm			-
-						
_						
-						-
_ 3.0						
3.0						
-						-
- ;						-
-						-
-						
_						
-					;	-
- , ,						-
4.0	Ire 1A for sur	mmary of descriptive	terms			J
_			sessment unless there are	test results		
tests refer		on visual a tacine as	section and there are			
samples r	refer to [) = Disturbed Sa	mple			
groundwa	iter r	none encountere	d			

BLACK C	EOTEC	HNICAL PTY LT	D	project		
job no		V500-2	date 01.03.02			
excavatio	n metho	d	logged by	Ex-Pioneer Quarry Site		
			D Macleod/S Tacey	Talbot Avenue		
Tracked I	Excavato	r - 12 tonne	checked by	Oakleigh		
			G Black			
location: r	refer figu	re 1 333069E,	5800852N	level not levelled		
TEST P	IT No	27	sheet 1 of 1	datum		
depth	Г	·				
metres			material descr	ription	tests	sample
_	-	FILL: Silty San	id (SM), medium dens	se, fine to medium grained,		D _
_		black, moist,	trace gravel 50mm di	ameter		0.1
-						-
-						-
-						_
-						
-		trace concret	e, rags, paper at 0.8n	n		_
[0.9
1.0						D
-						1.0
-		trace steel, pl	lastic at 1.2m			-
-						-
-					İ	
-		becoming sar	nd/refuse (50/50) mix	at 1.6m		
-		Dosoming out	,		1	_
						-
_						1.9
2.0						2.0
-						2.0
-						
2.4						
						_
_		End Pit 27 at	2.4m			-
-						-
-						_
3.0						
						-
_					-	-
_						-
_						-
-						-
-						-
-						-
-						
4.0						
	re 1A for s	ummary of descriptive	e terms.			
			ssessment unless there are	e test results		
tests refe						
samples r	refer to	D = Disturbed Sa	ample			
groundwa	ater	none encountere	ed			

BLACK C	EOTEC	HNIC.L PTY LT	D	project		
job no		V500-2	date 01.03.02			
excavatio	n method	1	logged by	Ex-Pioneer Quarry Site		
			D Macleod/S Tacey			
Tracked B	Excavato	r - 12 tonne	checked by	Oakleigh		
			G Black			
location: r	efer figu	re 1 333143E,	5801031N	level not levelled		
TEST P	IT No	28	sheet 1 of 1	datum		
	11 140	70	311001 1 01 1	datam	T	T
depth			material descr	rintion	tests	sample
metres	 	Ell I · Silh/ San	nd /SM) medium dens	se, fine to medium grained,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	D
		black, moist	ia (GIVI), mediam den	se, into to modium gramos,		0.1
-		Diaok, moist				_
-						
~						_
0.6						_
		FILL: Silty Clay	v (CI-CH), stiff to very	stiff, medium to high	7	_
-		plasticity, gre	y orange brown, mott	led, W≥Wp, some sand		_
_		(compacted of				0.9
1.0		, ,				D
						1.0 _
						-
_						-
						_
_						-
_	i					
_						-
						-
_						1.9
2.0					4	D
_			_			2.0 _
_		End Pit 28 at	2m			-
_						-
 -					İ	-
-						-
-						-
-						_
-						_
3.0						
3.0						
-						_
-					1	-
-						_
[1 -
_						_
<u> </u>	ľ					_
						-
Ĺ					1	-
4.0					<u> </u>	
Refer to figu	re 1A for s	ummary of descriptiv	e terms.			
			ssessment unless there ar	e test results.	····	
tests refe						•
samples	refer to	D = Disturbed Sa	ample			_
groundwa	ater	none encountere	ed			

BI ACK O	FOTEC	HNICAL PTY LTI)	project		
iob no	,_01_0	V500-2	date 01.03.02	1	 	
excavatio	n metho		logged by D Macleod/S Tacey	Ex-Pioneer Quarry Site Talbot Avenue		
Tracked (Excavato	r - 12 tonne	checked by G Black	Oakleigh		
location:	efer figu	re 1 333197E,	5801028N	level not levelled		
TEST P		29	sheet 1 of 1	datum		,
depth				* * .	tanto	aamala
metres		FULL Ciby Con	material description	ription se, fine to medium grained,	tests	sample D
<u> </u> -		brown, dry to	moist	se, file to mediam grames,	· .	0.1
-		Brown, ary to				_
]	-
- 0.5		Fill City Clay	(Cond (CLCH) ctiff t	o very stiff, medium to	1	-
-		high plasticity	, orange brown, W>V	Vp		_
-		riigii piastioity	, orango zromi, iri			_
_						0.9
1.0	1.1.1.					1.0
 -						
-						
-					i	_
_	٠.				1	-
-						-
_ 1.7		Ell I - Silby San	d/Refuse 20% odour	, refuse is paper, plastic,	-	-
-		glass	u/Neiuse 20 //, 0000/	, relace to paper, places,		1.9
2.0		gideo				D_
_						2.0 _
_ 2.2	· ·				-	-
-		End Pit 29 at	2.2m			_
-		Lild Fit 25 at	2.211			_
_						-
 _						-
-						-
3.0						_
						-
<u> </u>						-
-						-
-						_
-						_
_						-
_						-
-						-
_4.0	<u> </u>		- 104774		.l	<u> </u>
Refer to figu	re 1A for s	ummary of descriptive	e (erms.	a tast results		
Descriptions tests refe		on visual & factile as	sessment unless there ar	e test fesults.		
samples	refer to	D = Disturbed Sa	ample			
groundwa	iter	none encountere	ed .			
					· · · · · · · · · · · · · · · · · · ·	

BLACK C	EOTEC	HNIC TY LT	D	project		
job no		V500-2	date 01.03.02			
excavatio		d or - 12 tonne	logged by D Macleod/S Tacey checked by	Ex-Pioneer Quarry Site Talbot Avenue Oakleigh		
Tracked L	_xcavatc	7 - 12 tornic	G Black	o a mongh		
location: r	efer figu	re 1 333257E,	5801010N	level not levelled		
TEST P	IT No	30	sheet 1 of 1	datum		
depth				double o		
metres	ļ	Ell I · Silby San	material descr	ription se, fine to medium grained,	tests	sample
-			e rubbish (paper, wra			0.1
_		1 3 37 37	" ' '			
_ 0.4		<u> </u>			_	-
-		black, dry	d (SM), medium dens	se, fine to medium grained,		-
-		black, dry				
						_
-				•		0.9
1.0						1.0
-						
_	٠,٠.					_
	1	becoming mo	ist, 10% refuse at 1.4	m		_
-						-
-						-
-						
_						1.9
2.0					_	D
-		End Pit 30 at	2m			2.0
-		21101110000	2			
_						_
_						-
-						-
-						
_						_
3.0						-
-						-
_						_
_						_
_						-
-						-
-				•		-
_	ļ					
4.0						L
		ummary of descriptive on visual & tactile as	terms sessment unless there are	test results.		
tests refer						
samples re	efer to	D = Disturbed Sa	mple			
groundwat	ter	none encountere	d			

IOB no	BLACK GEOTECHNICAL PTY LTD				project		
Tracked Excavator - 12 tonne D Macleod/S Tacey Checked by G Black Checked by G Bl						_	
Tracked Excavator - 12 tonne D Macleod/S Tacey Checked by G Black Checked by G Bl	<u> </u>	n metho		logged by			
G Black G Black				D Macleod/S Tacey	Talbot Avenue		
Cacation: refer figure 1 333319E, 5801008N Level not levelled	Tracked I	Excavato	or - 12 tonne	checked by	Oakleigh		
TEST PIT No 31 sheet 1 of 1 datum Comparison of the comparison				G Black			
depth metres	location: r	efer figu	re 1 333319E,	5801008N	level not levelled		
depth metres	TEST D	IT No	31	sheet 1 of 1	Idatum		
metres material description tests sample D		11110	1	Silect 7 of 1	Tada	T .	T
FILL: Silty Clay (CH), stiff, high plasticity, grey, W>Wp End Pit 31 at 2m FILL: Silty Clay (CH), stiff, high plasticity, grey, W>Wp End Pit 31 at 2m Refer to figure 1A for summary of descriptive terms. Pescriptions are based on visual & tacille assessment unless there are test results. Refer to Squre 1A for summary of descriptive terms. Pescriptions are based on visual & tacille assessment unless there are test results. Reserved to Squre 1A for summary of descriptive terms. Pescriptions are based on visual & tacille assessment unless there are test results. Reserved to Squre 1A for summary of Descriptive terms. Pescriptions are based on visual & tacille assessment unless there are test results.				material descr	intion	tests	sample
brown, dry becoming grey black, trace rubble, plastic, steel at 0.2m 1.0 becoming pale grey brown, wet, with bricks, wire at 1m 1.7 FILL: Silty Clay (CH), stiff, high plasticity, grey, W>Wp 2.0 End Pit 31 at 2m 2.0 Beter to figure 1A for summary of descriptive terms. Descriptions are based on visual & tacilie assessment unless there are test results. Tests refer to D = Disturbed Sample	lilenes		Ell I · Silby San	d /SM) medium dens	e fine to medium grained	10010	
becoming grey black, trace rubble, plastic, steel at 0.2m 1.0 becoming pale grey brown, wet, with bricks, wire at 1m 1.7 FILL: Slity Clay (CH), stiff, high plasticity, grey, W>Wp 2.0 End Pit 31 at 2m 2.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to D = Disturbed Sample	-			a (OM), mediam dena	e, the to modalin graines,		
becoming pale grey brown, wet, with bricks, wire at 1m 1.7 FILL: Silty Clay (CH), stiff, high plasticity, grey, W>Wp 2.0 End Pit 31 at 2m 2.0 End Pit 31 at 2m A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Tests refer to D = Disturbed Sample	 -	`	becoming are	w black trace rubble	plastic steel at 0.2m		-
	-		becoming gre	y black, trace rabble,	plastio, 5:55: at 5:211		-
	-						-
	-						_
	-					1	-
							-
	-					1	n 9
FILL: Silty Clay (CH), stiff, high plasticity, grey, W>Wp 1.9 2.0 End Pit 31 at 2m 2.0 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. lests refer to D = Disturbed Sample	10		hecoming nal	e arev brown wet wit	th hricks wire at 1m	. 1	
FILL: Silty Clay (CH), stiff, high plasticity, grey, W>Wp 1.9 2.0 End Pit 31 at 2m 2.0 3.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample		• • • • • •	. Decoming par	- 5.0, 5.0, wee, wit			
FILL: Silty Clay (CH), stiff, high plasticity, grey, W>Wp 1.9 End Pit 31 at 2m End Pit 31 at 2m 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Iteests refer to Descriptions are based on Descriptive terms.	-						
FILL: Silty Clay (CH), stiff, high plasticity, grey, W>Wp 1.9 End Pit 31 at 2m End Pit 31 at 2m 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Iteests refer to Descriptions are based on Descriptive terms.	-						i –
FILL: Silty Clay (CH), stiff, high plasticity, grey, W>Wp 1.9 End Pit 31 at 2m End Pit 31 at 2m 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Iteests refer to Descriptions are based on Descriptive terms.	-						_
FILL: Silty Clay (CH), stiff, high plasticity, grey, W>Wp 1.9 End Pit 31 at 2m End Pit 31 at 2m 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Iteests refer to Descriptions are based on Descriptive terms.	-	•					_
FILL: Silty Clay (CH), stiff, high plasticity, grey, W>Wp 1.9 End Pit 31 at 2m End Pit 31 at 2m 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Iteests refer to Descriptions are based on Descriptive terms.	_		ĺ			[_
FILL: Silty Clay (CH), stiff, high plasticity, grey, W>Wp 1.9 End Pit 31 at 2m End Pit 31 at 2m 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Iteests refer to Descriptions are based on Descriptive terms.	1.7						
End Pit 31 at 2m End Pit 31 at 2m 2.0 End Pit 31 at 2m 2.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Rester to Samples refer to D = Disturbed Sample	_		FILL: Silty Clay	(CH), stiff, high plasti	icity, grey, W>Wp		
End Pit 31 at 2m End Pit 31 at 2m 2.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample	_			, ,,			1.9
End Pit 31 at 2m	2.0						D_
	_						2.0
	_		End Pit 31 at :	2m			_
	_						
	_						_
	-						_
	_						_
	_						_
	-						_
	-						_
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample	3.0						
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample	-						-
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample	-	ļ					-
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample	-						-
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample	-						-
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample	-						-
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample	-	1					-
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample	-	-				,	-
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample	-					,	-
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample	4.0	l				,	_
Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample		a 1A for 5	ummany of descriptive	terms			
samples refer to D = Disturbed Sample					test results.		
	tests refer	to					
groundwater in at 1.7m above clay, oil film in water	samples re	efer to	D = Disturbed Sar	mple			
	groundwat	er	in at 1.7m above	clay, oil film in water			

Iob no	BLACK C	EOTECH	INIC PTY LT	D	project			
D Macleod/S Tacey Talbot Avenue Checked by G Black Coation: refer figure 1 333367E, \$501004N level not levelled TEST PIT No 32 sheet 1 of 1 datum depth metres material description level not medium grained, D FILL: Silty Sand (SM), medium dense, fine to medium grained, D 10 becoming fine to coarse grained gravel, cobbles, moist, trace rubble, steel, brick at 1.5m End Pit 32 at 2m 19 20 End Pit 32 at 2m Additionary beat for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to D = Disturbed Sample				date 01.03.02				
Tracked Excavator - 12 tonne Checked by G Black G	excavatio	n method						
C Black C C C C C C C C C	L			D Macleod/S Tacey				
Iocation: refer figure 1 333367E, 5801004N level not levelled	Tracked E	Excavator	- 12 tonne		Oakleigh			
TEST PIT No 32 sheet 1 of 1 datum depth material description tests sample FILL: Sity Sand (SM), medium dense, fine to medium grained, black, dry 10 0.1 Decoming fine to coarse grained gravel, cobbles, moist, trace rubble, steel, brick at 1.5m End Pit 32 at 2m End Pit 32 at 2m End Pit 32 at 2m 20 End Pit 32 at 2m Descriptions are based on visual & tactile assessment unless there are test results. Eests refer to D = Disturbed Sample	location:	ofor face	0.1 3332675	PROTUDAN	level not levelled			
depth metres material description tests sample								
metres material description tests sample		II No	32	sheet 1 of 1	datum	1		
Filt.: Sity Sand (SM), medium dense, fine to medium grained. D				material descr	iption	tests	sample	
becoming fine to coarse grained gravel, cobbles, moist, trace rubble, steel, brick at 1.5m End Pit 32 at 2m End Pit 32 at 2m Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tacilie assessment unless there are test results. tests refer to D = Disturbed Sample			FILL: Silty San				+	
becoming fine to coarse grained gravel, cobbles, moist, trace rubble, steel, brick at 1.5m 1.9 2.0 End Pit 32 at 2m 2.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to D = Disturbed Sample				. ,			0.1	
becoming fine to coarse grained gravel, cobbles, moist, trace rubble, steel, brick at 1.5m 1.9 2.0 End Pit 32 at 2m 2.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to D = Disturbed Sample	_							
becoming fine to coarse grained gravel, cobbles, moist, trace rubble, steel, brick at 1.5m 1.9 2.0 End Pit 32 at 2m 2.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to D = Disturbed Sample	,					ļ		
becoming fine to coarse grained gravel, cobbles, moist, trace rubble, steel, brick at 1.5m 1.9 2.0 End Pit 32 at 2m 2.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to D = Disturbed Sample	-						_	
becoming fine to coarse grained gravel, cobbles, moist, trace rubble, steel, brick at 1.5m 1.9 2.0 End Pit 32 at 2m 2.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to D = Disturbed Sample	_	1.1.					_	
becoming fine to coarse grained gravel, cobbles, moist, trace rubble, steel, brick at 1.5m 1.9 2.0 End Pit 32 at 2m 2.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to D = Disturbed Sample	-	· · ·					-	
becoming fine to coarse grained gravel, cobbles, moist, trace rubble, steel, brick at 1.5m 1.9 2.0 End Pit 32 at 2m 2.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to D = Disturbed Sample							-	
becoming fine to coarse grained gravel, cobbles, moist, trace rubble, steel, brick at 1.5m 1.9 2.0 End Pit 32 at 2m 2.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. lests refer to D = Disturbed Sample	- 10							
becoming fine to coarse grained gravel, cobbles, moist, trace rubble, steel, brick at 1.5m 1.9 2.0 End Pit 32 at 2m Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Tests refer to D = Disturbed Sample	^{1.0}							
rubble, steel, brick at 1.5m 1.9 2.0 End Pit 32 at 2m 2.0 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample	-						1.0 -	
rubble, steel, brick at 1.5m 1.9 2.0 End Pit 32 at 2m 2.0 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample	-						-	
rubble, steel, brick at 1.5m 1.9 2.0 End Pit 32 at 2m 2.0 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample	-						-	
rubble, steel, brick at 1.5m 1.9 2.0 End Pit 32 at 2m 2.0 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample	_		becoming fine	to coarse grained gra	avel, cobbles, moist, trace		-	
End Pit 32 at 2m End Pit 32 at 2m 3.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Teests refer to D = Disturbed Sample	_	* .			· · · · · · · · · · · · · · · · · · ·			
End Pit 32 at 2m End Pit 32 at 2m 2.0 2.0 End Pit 32 at 2m 2.0 2.0 2.0 End Pit 32 at 2m 2.0 2.0 2.0 2.0 End Pit 32 at 2m 2.0 2.0 2.0 End Pit 32 at 2m 2.0 2.0 2.0 2.0 End Pit 32 at 2m 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2	_					ļ	_	
End Pit 32 at 2m End Pit 32 at 2m 2.0 2.0 End Pit 32 at 2m 2.0 2.0 2.0 End Pit 32 at 2m 2.0 2.0 2.0 2.0 End Pit 32 at 2m 2.0 2.0 2.0 End Pit 32 at 2m 2.0 2.0 2.0 2.0 End Pit 32 at 2m 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2	_							
End Pit 32 at 2m 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2	-							
End Pit 32 at 2m 3.0 4.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. tests refer to D = Disturbed Sample	2.0					1		
	-			_			2.0 _	
	-		End Pit 32 at 2	2m				
	-						-1	
	-						-	
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	-						-	
	-					İ	-	
	_	1						
	3.0							
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. dests refer to Samples refer to D = Disturbed Sample	_	1					_	
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. dests refer to Samples refer to D = Disturbed Sample	_						_	
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. dests refer to Samples refer to D = Disturbed Sample	_						-	
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. dests refer to Samples refer to D = Disturbed Sample	-						_	
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. dests refer to Samples refer to D = Disturbed Sample	-						-	
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. dests refer to Samples refer to D = Disturbed Sample	-						-	
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. dests refer to Samples refer to D = Disturbed Sample	-						-	
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. dests refer to Samples refer to D = Disturbed Sample	-						-	
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. dests refer to Samples refer to D = Disturbed Sample	4.0						-	
Descriptions are based on visual & tactile assessment unless there are test results. rests refer to samples refer to D = Disturbed Sample		e 1A for sur	nmary of descriptive	terms.		1	·	
samples refer to D = Disturbed Sample	_				test results.	,		
groundwater none encountered	samples re	efer to D	= Disturbed Sai	mple				
	groundwat	roundwater none encountered						

BLACK G	EOTECH	INICAL PTY LT	D	project		
ob no		V500-2	date 01.03.02			
xcavatio	n method		logged by D Macleod/S Tacey	Ex-Pioneer Quarry Site Talbot Avenue		
racked E	Excavator	- 12 tonne	checked by G Black	Oakleigh		
ocation: 5	efer figur	- 1 333415F	5800977N	level not levelled		
		33	sheet 1 of 1	datum		
EST P	II NO		Silect 1 of 1	- Contraction of the Contraction		
lepth netres			material desc	ription	tests	sample
160.63		FILL: Silty Sar	nd/Sandy Gravel (SM/	GP)), medium dense, fine	Ì	D
		to coarse gra	ained, pale brown, dry			0.1
0.3					_	
		FILL: Silty Cla	y (CH), stiff, high plas	ticity, grey, W>Wp	-	
		•				
						0.9
1.0						D
_1.0					1 .	1.0
	•					
						1
	.					
						1.9
_2.0						D
Z.U						2.0
-		End Pit 33 a	t 2m			
-						
-						
-						
3.0						-
_3.0						
-						
•						
-						
_						
-						
-						
-						
4.0	<u></u>					
Refer to fig	ure 1A for s	ummary of descript	ive terms.	us tost reculte		
Description	s are based	on visual & tactile	assessment unless there a	ire test results.		
tests refe	er to					
samples	refer to	D = Disturbed S	Sample			

LACK G	EOTECH	NICAL PTY LT	D	project		
ob no		V500-2	date 01.03.02			
vcavatio	n method		logged by	Ex-Pioneer Quarry Site		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			D Macleod/S Tacey	Talbot Avenue		
racked F	xcavator	- 12 tonne	checked by	Oakleigh		
, acked L			G Black			
ocation: r	efer figure	≥ 1 333400E.	5800956N	level not levelled		
		34	sheet 1 of 1	datum		*
TEST P	II NO	34	Sileer Ol	COLOTT	T	
depth			material desc	rintion	tests	sample
netres	L	FULL CILL Cor	d /SM) medium den	se, fine to medium grained,	<u> </u>	D
		FILL: Silly Sai	na (Sivi), mediam den.	se, mie te mediam grama-i		0.1
		grey brown, i	110151			
						_
					İ	_
						_
						_
						-
-						0.9
						D
_1.0						1.0 _
•						-
•	.					· -
-					1	-
1.5						-
. 1.5	<u> </u>	FILL: Silty Cla	y (CH), stiff, high plas	ticity, grey, W>Wp	-	-
-		. 122. 011.)	, (// - / /			-
-						-
-						1.9
2.0					_	D
						2.0
•		End Pit 34 a	t 2m			-
-						-
						-
-						-
_	1 1					-
_						-
_	!				1	,
3.0						_
					1	·
_						
-				•		
						
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_	1					
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_	1			·		
-						
4.0		<u></u>				
Refer to fig	ure 1A for s	ummary of descript	ive terms.			
Description	s are based	on visual & tactile	assessment unless there a	re test results.		
tests refe						
-amples	rofor to	D = Disturbed S	Sample			
samples	reler to	D - Disturbed (

	-0	DUCAL DEVIT		project		
	FOTECH	INICAL PTY LT V500-2	date 01.03.02			
job no excavatio			logged by D Macleod/S Tacey	Ex-Pioneer Quarry Site Talbot Avenue		
Tracked E	Excavator	- 12 tonne	checked by	Oakleigh		
			G Black 5800958N	level not levelled		
location: r			I .	datum		
TEST P	IT No	35	sheet 1 of 1	datum	T	
depth			material desc	ription	tests	sample
metres		Ell I · Silty Sar	nd (SM), medium den	se, fine to medium grained,		D
-		grey, dry	10 (011)			0.1 _
-		3111			ł	_
_					!	-
_		trace steel, r	trace steel, rubble at 0.5m			
-	· · · · ·					_
		hecoming sa	becoming sand, grey, moist, trace rubble at 0.8m			-
-		Deconning of	becoming said, groy, meaning			0.9 D
1.0			•			1.0
						1
_						
_						
-						-
1.6		FILL: Sand/R	efuse, black, wet, refu	use is paper, plastic, grass,		-
-		metal			1	1.9
_						D
2.0		200	(CLCLI) atiff to year	y stiff, medium to high	-	2.0
- 2.2		plasticity, gr	ey, W>Wp	y still, median to mg.		-
_		End Pit 35 a	s+ 2 2m			
-		End Pit 33 a	1(2.211)			.
-	ļ					
_	1					
_						_
3.0						
-		1				
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[_						
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-						
- 4.0	ŀ					
	gure 1A for	summary of descrip	tive terms.			
Description	ns are base	ed on visual & tactile	assessment unless there	are test results.		
tests ref						
samples	s refer to	D = Disturbed	Sample			
		none encounte				
groundy						

BLACK C	SEOTEC	HNIC, Y LTI	D	project		
ob no		V500-2	date 01.03.02			
excavatio	n method	i	logged by	Ex-Pioneer Quarry Site		
Tracked (Excavato	r - 12 tonne	D Macleod/S Tacey checked by	Talbot Avenue Oakleigh		
			G Black	1		
ocation: ı	refer figur	re 1 333301E,	5800963N T	level not levelled		
TEST P	IT No	36	sheet 1 of 1	datum	·	
depth						
metres		FILL: Cilb: Con	material desc	ription se, fine to medium grained,	tests	sample D
-		black, moist	a (SW), mediam den	se, and to mediam granied,		0 1
0.3						
_		FILL: Sand, m	edium dense, fine to	medium grained, grey, moist		
-						.
-						
-	'-	30% refuse. 7	70% sand at 0.8m. re	fuse is paper, plastic.		
•		30% refuse, 70% sand at 0.8m, refuse is paper, plastic, metal, glass				0.9
1.0						D_
				,	1	1.0
						-
-						
•						
•						
		becoming Sa	ndy Gravel, wet at 1.6	Bm		
-						1.9 D
2.0					1	2.0
-		End Pit 36 at	2m			
_						-
-						-
-						-
-						-
-					1	
-						
_3.0					1	-
-						-
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•						
-						
-						
-				•		
-						
4.0			o torms		<u> </u>	
		ummary of descriptive	e terms. ssessment unless there ar	e test results.		•
Descriptions tests refe		i on visual & tactile as	sacasment unless there at	c test results.		
lesis rele	1 10				~~~ · · · · · · · · · · · · · · · · · ·	
samples i	refer to	D = Disturbed Sa	ample			
groundwa	ater	in at 1.8m				
,						

BLACK GEOTECHNICAL PTY LTD			project			
job no		V500-2	date 01.03.02			
excavatio	n metho	d	logged by	Ex-Pioneer Quarry Site		
			D Macleod/S Tacey	Talbot Avenue		
Tracked 8	Excavato	or - 12 tonne	checked by	Oakleigh		
			G Black			
location: r	efer figu	re 1 333252E,	5800967N	level not levelled	···•	
TEST P	IT No	37	sheet 1 of 1	datum		
depth			1			Y
metres			material descr	ription	tests	sample
_		FILL: Gravelly		um dense, fine to coarse		D_
_		grained, grey	brown, dry		1	0.1
_]	_
_					i	_
_						_
-	٠٠					_
_						
-						_
- ,					1	0.9 <u> </u>
1.0						1.0
-		_				-
-						-
-						-
_						_
_						
_						
1.8						_
-	ł	FILL: Sand/Re	fuse 20%, refuse is pa	aper, plastic, glass, metal		1.9
_2.0	-			······································		D
-		End Dit 27 of	n			2.0 _
-		End Pit 37 at	2111			-
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-	- 1					_
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_	1				i l	_
_3.0	i				ļ	
-					İ	-
-	l					-
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4.0	1					_
	e 1A for su	mmary of descriptive	terms.			
_		-	sessment unless there are	test results.	•	
ests refer						
samples re	efer to	D = Disturbed Sa	mple			
groundwate	er i	in at 2m		7,41 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -		

BLACK (GEOTEC	HNIC, YTY LTI	D	project		
job no		V500-2	date 01.03.02			
excavation Tracked I		d r - 12 tonne	logged by D Macleod/S Tacey checked by	Ex-Pioneer Quarry Site Talbot Avenue Oakleigh		
			G Black			
location:	refer figui	re 1 333197E,	5800976N	level not levelled		
TEST P	IT No	38	sheet 1 of 1	datum		
depth						
metres		FILL: Silb, San	material descr	ription se, fine to medium grained,	tests	sample
-		grey, dry	a (Sivi), mediam dens	se, title to medium grameu,		0.1
			ck, dry to moist at 0.2	2m		
		_			1	_
-						_
-						-
0.8						_
_), medium dense, fin	e to coarse grained, grey,	1	0.9
1.0	1	moist				
-						1.0
-	, '					-
-						_
_						
_						_
-						_
-						-
2.0						1.9 D
					1	2.0
_		End Pit 38 at 2	2m			_
-						_
-						-
-						-
_						
_	- 1					
						-
_3.0						-
-	-					-
_						-
_						-
_	1					-
-						-
-						-
- [-
_4.0	Ĥ					
Refer to figur	e 1A for su	mmary of descriptive	terms,			
			essment unless there are	test results.		
tests refer						
samples re	efer to [) = Disturbed Sar	nple			
groundwat	er r	none encountered		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		

BLACK (SEOTEC	HNICAL PTY LT	D	project		
job no		V500-2	date 01.03.02			
	n method	I	logged by	Ex-Pioneer Quarry Site		
			D Macleod/S Tacey	Talbot Avenue		
Tracked	Excavator	- 12 tonne	checked by	Oakleigh		
			G Black			
location:	refer figur	e 1 333141E,	5800983N	level not levelled		
TEST P	IT No	39	sheet 1 of 1	datum		
depth	1		1 0.1001 1 07	13-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3-	T T	1
metres			material descr	ription	tests	sample
	1	FILL: Silty San	d (SM), medium dens	se, fine to medium grained,		D
_		grey brown, d				0.1
			•			
						l _
<u> </u>						
_						_
-						-
_	.	becoming bla	ck, dry to moist, with	fabric, steel, rubble at 0.8m	-	_
_						0.9
_1.0	* . *					_ <u>D</u>
						1.0
-						_
-					i	-
-					1	-
-						-
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-						
						1.9 D
2.0					-	2,0
-	' I	End Pit 39 at 3	2m			-
-		Lila i it 55 at .	2111		1	_
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3.0						
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-						-
- ,	1					-
4.0						<u> </u>
		nmary of descriptive				
		on visual & tactile ass	sessment unless there are	test results.	······································	····
tests refer	to					
samples re	efer to D) = Disturbed Sar	mple			
•						
groundwat	ter n	one encountered	<u> </u>			
3.00.1044		.cc choodingle	-			
						

BLACK O	SEOTEC	HNIC PTY LT	D	project		
job no		V500-2	date 01.03.02			
excavatio	n metho		logged by	Ex-Pioneer Quarry Site		
			D Macleod/S Tacey	Talbot Avenue		
Tracked 1	Excavato	ir - 12 tonne	checked by	Oakleigh		
			G Black			
location:	refer figu	re 1 333134E,	5800940N	level not levelled		
TEST P	IT No	40	sheet 1 of 1	datum		
depth						
metres			material descr		tests	sample
_				se, fine to medium grained,	Í	D
-		grey, black, d	ry			0.1 _
-						-
-						-
_						_
_						
		trace sandstone cobbles 100mm diameter at 0.8m				_
_						0.9
1.0	* . * . * .					D
-	1.1					1.0
						_
-						-
-						-
-						-
-						-
-		refuse (plastic	c, steel, fabric) 30% a	t 1.8m		_
		(1-1-2-1)	, , , , ,		}	1.9
2.0					1	D_
_						2.0
-		End Pit 40 at	2m			_
-						-
-						-
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-						_
-						_
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3.0						
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-						_
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	ļ					_
4.0						
Refer to figu	re 1A for s	ummary of descriptive	terms.			
			sessment unless there are	test results.		
tests refer						
samples re	efer to	D = Disturbed Sa	mple			
groundwa	ter	none encountere	d			
1						

BLACK (LACK GEOTECHNICAL PTY LTD			project		-
job no		V500-2	date 01.03.02		-	
excavatio	n metho	đ	logged by	Ex-Pioneer Quarry Site		
	-	40.1	D Macleod/S Tacey	Talbot Avenue		
i racked i	Excavato	or - 12 tonne	checked by G Black	Oakleigh		
location:	refer fiau	re 1 333188E,		level not levelled		
TEST P		41	sheet 1 of 1	datum		
depth	HINO		Sileet 1 Of 1	Juatom	Т	T
metres	İ		material descr	ription	tests	sample
_		FILL: Sand (SV		ne to medium grained,	1	D
_		grey, dry			1	0.1
						-
_ 0.4		FILL: Silby San	d (SM) medium dens	e fine to medium grained	-	-
-			FILL: Silty Sand (SM), medium dense, fine to medium grained, black, moist, trace sandstone cobbles to 100mm diameter			
_		Biosit, motor,				
-						0.9
1.0		refuse 10% at	: 1m			D_
-					1	1.0 _
i						
						_
-					1	
-						_
- [1.9
2.0	.					D
				· · · · · · · · · · · · · · · · · · ·	1	2.0
		End Pit 41 at 2	2m			_
- 1						-
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	a 1A for su	mmary of descriptive	terms			
			essment unless there are	test results		
ests refer		on visual a facilie 855	COSTRETE GINGSS THERE AIC			
amples re	fer to [D = Disturbed Sar	nple			
roundwate	er r	none encountered				

				,			
	GEOTE	CHNICAL PTY LT		project			
job no		V500-2	date 01.03.02				
excavation	on metho	od	logged by	Ex-Pioneer Quarry Site			
			D Macleod/S Tacey	Talbot Avenue			
Tracked	Excavato	or - 12 tonne	checked by	Oakleigh			
			G Black				
location:	refer figu	ire 1 333242E,		level not levelled		-	
TEST F	II NO	42	sheet 1 of 1	datum			
depth							
metres		ļ	material descr	ription	tests	sa	mple
_				low to medium plasticity,			D
_		orange brown	i, W≤Wp, trace rubble	2		0.1	
_					1	1	
_	, ,					ì	
0.5						ł	
_		FILL: Silty Sand	7				
_		black, brown,	moist		1		_
_							-
_	l ·					0.9	-
_1.0							D
_	٠.					1.0	
_							-
					1 .		-
-	1		becoming grey, trace paper, plastic at 1.5m				
-		becoming are					
•) i waaa babari biaasia	- GC 1.5111			-
-						İ	-
1.8							-
. ,		FILL: Sandy Cla	av (CL) stiff medium	plasticity, grey, W>Wp	1	1.0	-
_2.0		i izz. Odilay Oli	29 (OE), 3011, IIICG10111	plasticity, grey, vv-vvp		1.9	D
			· · · · · · · · · · · · · · · · · · ·		-	2.0	
		End Pit 42 at 2	2m		i	2.0	-
		Lilu i it 42 at 2	2111				-
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_3.0							_
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4.0	i		-		L		
efer to figur	e 1A for su	ımmary of descriptive	terms				
escriptions	are based	on visual & tactile ass	essment unless there are t	test results.			
ests refer				7 2 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3 7 3			
-2,0 ,0101							
amples re	eter to	D = Disturbed San	nple				
roundwat	er i	none encountered					

BLACK C	SEOTEC	HNICAL PTY LT	D	project			
job no		V500-2	date 01.03.02				
excavatio	n metho	d	logged by	Ex-Pioneer Quarry Site			
			D Macleod/S Tacey	Talbot Avenue			
Tracked 8	Excavato	or - 12 tonne	checked by	Oakleigh	•		
			G Black	level not levelled			
location: r	refer figu	re 1 333291E, 5	1800918N				
TEST P	IT No	43	sheet 1 of 1	datum			
depth					1		
metres			material descr	iption	tests	sam	
-			/v), medium dense, fil	ne to medium grained,		0.1	D
-		brown, dry				0.1	-
-		hecoming are	v dry to moist with o	lastic, steel, metal drum,	1		
-		bricks, rubble	at 0.4m	icono, otoon, metar erem,		1	-
_							_
						1	-
_						1	_
						0.9	
1.0							
-						1.0	-
-						i	-
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_							_
_							_
_ 1.8					_		_
-				lense/slightly cemented,	}	1.9 [_ -
2.0		fine grained, g	irey		1	2.0	
-		End Pit 43 at 2	2m			1	_
-		2.10 1 11 12 21				ĺ	_
_							_
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3.0							-
_3.0							
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4.0							-
	e 1A for si	ımmary of descriptive	terms.				_
			essment unless there are	test results.			
tests refer							
samples re	efer to	D = Disturbed Sar	mple			• •	
groundwat	er	none encountered	I				

				T		
	SEOTEC	HNICAL PTY LT	date 01.03.02	project		
job no excavatio	n method	V500-2	logged by	Ex-Pioneer Quarry Site		
Excavatio	iii iiietiiot	J	D Macleod/S Tacey	Talbot Avenue		
Tracked !	Excavato	r - 12 tonne	checked by	Oakleigh		
Tracked .	LXOUVUIO	, , , , , , , , , , , , , , , , , , , ,	G Black			
location:	refer figu	re 1 333340E,		level not levelled		
TEST P		44	sheet 1 of 1	datum		
depth	11 140		311001 1 01 1	Juditarii	<u> </u>	1
metres	1		material descr	noitor	tests	sample
		FILL: Sandy C	lay (CL-CI), stiff, low t	o medium plasticity, orange		D
		brown, W <w< td=""><td></td><td>. ,,</td><td></td><td>0.1</td></w<>		. ,,		0.1
_						_
_						-
-						-
0.6		FILL: Cond (C)	A/) modium donco fir	ne to medium grained, grey,	-	
-	· .		i, plastic bottles, steel			_
-		dry, with stee	i, piastio bottles, steel	onosto, rabbio		0.9
1.0						D D
						1.0
						_
_						_
-						-
-						-
-						-
-	* *					-
-						1.9 _
2.0						D D
_2.0						2.0
-		End Pit 44 at	2m			_
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_						-
_						-
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3.0						
_0.0						_
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4.0						
	re 1A for si	ummary of descriptive	terms.			
			sessment unless there are	test results.		
tests refer						
samples r	efer to	D = Disturbed Sa	mple			
groundwa	ter	none encountere	d			

BLACK O	CK GEOTECHNICAL PTY LTD)	project		
job no		V500-2	date 01.03.02		-	
excavatio	n metho	d	logged by	Ex-Pioneer Quarry Site		
			D Macleod/S Tacey	Talbot Avenue		
Tracked I	Excavato	r - 12 tonne	checked by	Oakleigh		
1		*	G Black			
location: r	efer figu	re 1 333393E,	5800901N	level not levelled		
TEST P		45	sheet 1 of 1	datum		
depth	IIIO	7-3	Silect Oi i	Jactani	T	Т
metres			material descr	intion	tests	sample
metres		FILL: Silty Clay	(CL-CI) very stiff lo	w to medium plasticity,	1.00.0	D
-	ļ	orange brown		, , , , , , , , , , , , , , , , , , , ,		0.1
-		o.ago s.o	.,			_
-						i -
					1	_
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L						
	٠					0.9
1.0						<u> </u>
_	* . * .			ne to medium grained, grey,		1:0
		dry, with brick	s, sandstone rubble			` -
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i- I					İ	_
-		•				-
_ 1.6		511.1 O''. O'.	(OLD stiff bish sheet	aih. 250. 10/210/2	ł	-
-		FILL: Silty Clay	(CH), stiff, high plasti	icity, grey, vv>vvp		-
-						1.9
- ຸ					İ	D D
2.0						2.0
-						_
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2.5						
- I						
_		End Pit 45 at 2	2.5m			_
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3.0	l					
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4.0						-
			h			
		mmary of descriptive				
		on visual & tactile ass	essment unless there are	test results.		
tests refer	to					
samples re	efer to	D = Disturbed Sai	nple			
groundwat	er	none encountered				

BLACK	FOTEC	HNICAL PTY LT	 D	project		
job no		V500-2	date 01.03.02			
excavatio			logged by D Macleod/S Tacey checked by	Ex-Pioneer Quarry Site Talbot Avenue Oakleigh		
			G Black			
location; r		re 1 333383E,	5800859N	level not levelled		
TEST P	IT No	46	sheet 1 of 1	datum		,
depth metres			motorial dage	rintian	tests	sample
metres		FILL: Mixed Co	material descr obbles & Sand, with b	ricks, bedsprings, steel,	lesis	sample D
_			cks, concrete blocks	none, beaepringe, eteci,		0.1
_						_
-						_
-] -
-						-
_		odour at 0.8m	1			_
-						0.9
1.0						D
-					-	
_		becoming wel	, more odour at 1.3m	İ		_
_						_
-						_
-						-
-						
_						1.9
2.0					_	D
-		End Pit 46 at 2	n .			20
-	İ	Liiu Fit 40 at .	2111			-
_						_
-						_
-						-
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_						_
3.0						
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-						-
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4.0					<u> </u>	
_		mmary of descriptive on visual & tactile ass	terms. sessment unless there are	test results.		
tests refer						
samples re	efer to 1	D = Disturbed Sa	mple			
groundwat	er i	n at 1.3m (odour	in water)	**************************************		

BLACK C	SEOTECI	HNICAL PTY LT	D	project		
job no		V500-2	date 01.03.02			
excavatio	n method	1	logged by	Ex-Pioneer Quarry Site		
			D Macleod/S Tacey	Talbot Avenue		
Tracked 8	Excavator	r - 12 tonne	checked by	Oakleigh		
ļ			G Black			
location: r	efer figur	e 1 333331E.	5800866N	level not levelled		
TEST P		47	sheet 1 of 1	datum		
	IINO	41	Silect 1 of 1	Judatani	T	Τ
depth			material descr	rintion	tests	sample
metres		Ell I · Silby San	d /SM) medium dens	se, fine to coarse grained,		D
-		grey brown, o		ye, mis to source grames,	1	0.1
	1	grey provin, c	,, ,			_
-	• •	with wood hr	ick, concrete, wire at	0.4m		
-		11111 11000, 51	1011, 001101012, 11112			1
_						
_						
-	·			•	1	
becoming fine to medium grained, black, moist at 0.9m						0.9
1.0						D
						1.0
_		.40				1 _
-						_
-					1	_
_ 1.5	. 1					_
		FILL: Silty Clay	(CH), firm to stiff, hig	h plasticity, grey, W>Wp		-
_						-
_						-
_		•				1.9
2.0					4	D
-						2.0
_		End Pit 47 at	2m			_
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- 1						-
- 1	ŀ					-
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4.0					<u> </u>	
Refer to figur	re 1A for su	mmary of descriptive	terms.			
			sessment unless there are	test results.		
tests refer						
10313 10161						
samples r	efer to	D = Disturbed Sa	mple		1111-111-1	
						•
groundwa	ter i	none encountere	d			-

			<u> </u>	· · ·		
	SECTEC	HNICAL PTY LT	D 04 02 00	project		
job no		V500-2	date 01.03.02	5 Diana O 6iba		
excavatio	n method	1	logged by	Ex-Pioneer Quarry Site		
		40.1	D Macleod/S Tacey			
Tracked B	xcavato	r - 12 tonne	checked by	Oakleigh		
			G Black			
location: r	refer figur	re 1 333281E.	5800872N	level not levelled		
TEST P	IT No	48	sheet 1 of 1	datum		
depth						
metres	i		material descr	ription	tests	sample
_		FILL: Silty Clay	(CL-CI), very stiff to	hard, low to medium		D
_		plasticity, ora	nge brown, W≤Wp, w	vith bricks, gravel, rubble,		0.1 _
-		concrete			1	-
_						-
-						-
0.6			. (011)	6	-	-
-				se, fine to medium grained,		-
-		grey, moist, t	race rubble			0.9
		boooming bro	own, less rubble at 1m	,		D.9
1.0		becoming bit	wii, iess iubbie at iii	1		1.0
_						
	· . ·					-
-						_
1.5						_
- 1.5		FILL: Mixed CI	avey Silt/Sand (ML/S)	W), medium dense, fine to	1	_
-			ned, grey, moist to we			_
		becoming we				_
_	,	5				1.9
2.0						D
_						2.0 _
.		End Pit 48 at	2m			_
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- 1						_
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-						-
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3.0						
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4.0						
	re 1A for si	ummary of descriptive	e terms.		_	
-			sessment unless there are	e test results.		
tests refer						
.c.3(3 E+E	.0					
samples r	efer to	D = Disturbed Sa	ample			
groundwa	ter	none encountere	d			

BLACK GEOTECHNICAL PTY LTD		D	project			
job no		V500-2	date 01.03.02			
excavatio	n method		logged by	Ex-Pioneer Quarry Site		
1			D Macleod/S Tacey	Talbot Avenue		i
Tracked F	Excavato	r - 12 tonne	checked by	Oakleigh		
THE ORDER			G Black			
location: r	efer figur	e 1 333240E	5800886N	level not levelled		
TEST P	IT No	49	sheet 1 of 1	datum	·	·
depth					1.	i l
metres			material descr		tests	sample
<u> </u>				to coarse grained, grey,		
_		dry, with rubb	ole			0.1 _
_						_
_ 0.4						! -1
_				ium dense, fine to medium		_
 _		grained, grey	brown, moist		j	
-	٠.					-
-						-
-					1	0.9
1.0					!	D
-						1.0 –
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i- I						-
-						_
_ 1.5	· ·		55 (F h		
-), loose to medium d	ense, fine to coarse		-
-		grained, grey	, wet			
-					İ	_
-						1.9 D
_2.0						2.0
- 2.2						-
- 1	Į.	End Pit 49 at	2 2m			-
-	ł	CHU FIL 43 at	2,2111			-
- !	1	Note: test nit	adjacent to small (20)	m diameter) water filled		-
-		depres	•	m diameter) water med		-
-		uepics.	31011.			-
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3.0						-
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_4.0						
	e 1A for sur	mmary of descriptive	terms.			
_			sessment unless there are	test results.		
tests refer		A, FISURI & LACUIE AS:	Secondary Street Bre			
lesis reier	10					
samples re	efer to [) = Disturbed Sa	mple			
groundwat	roundwater none encountered					

BLACK C	EOTEC	HNICAL PTY LT	D	project			
job no		V500-2	date 01.03.02				
excavatio	n method	d	logged by	Ex-Pioneer Quarry Site			
			D Macleod/S Tacey	Talbot Avenue			
Tracked 6	Excavato	r - 12 tonne	checked by	Oakleigh			
			G Black				
location: r	efer figu	re 1 333184E,	5800890N	level not levelled			
TEST P	IT No	50	sheet 1 of 1	datum			
depth				d-11			
metres		FILL: Sand (S)	material descri	dense, fine to medium	tests	San	nple D
-		grained, grey		derise, fine to mediam		0.1	<u> </u>
i-		gramos, groy	, ,				
_							
 -		1	-1		1		
 -		becoming bia	ck, dry to moist, trace	e rubble at 0.7m		}	
-						0.9	•
1.0							D
						1.0	
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-					1		-
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-	'						-
-		hecoming me	dium dense, grey, mo	nist to wet at 1.7m			-
-		becoming me	diam democ, g.e., me				-
						1.9	
2.0					_		D
_			_			2.0	-
-		End Pit 50 at	2m				
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3.0							
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·	re 1A for s	ımmary of descriptive	terms				
			sessment unless there are	test results			
		on visual & lactile as	sessment uniess there die	, 100, 100010,			
tests refer	Į.						
samples re	efer to	D = Disturbed Sa	mple				
groundwa	ter	none encountere	đ				

BLACK GEOTECHNICAL PTY LTD project						
job no		V500-2	date 01.03.02			
excavatio	n metho	d	logged by	Ex-Pioneer Quarry Site		
			D Macleod/S Tacey			
Tracked I	Excavato	or - 12 tonne	checked by	Oakleigh		
			G Black			
location:	refer figu	re 1 333133E,	5800899N	level not levelled		
TEST P	iT No	51	sheet 1 of 1	datum		
depth	T	T				
metres			material descr	ription	tests	sample
_		FILL: Silty San	d (SM), loose to med	ium dense, fine to medium		D_
_	·.	grained, grey	, dry			0.1 _
_						_
_ 0.4		FII. 0 II	Cand (C)A() modium	dense, fine to medium	-	
-			k, moist, trace refuse	delise, line to medium		-
-		grained, black	K, Moist, trace reluse		1	_
-						
-						0.9
 1.0						D_
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-						1.9 _
_ 2.0					ļ	D
_2.0					1	2.0
-		End Pit 51 at	2m			_
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4.0	en 10 for -	umman of description	terms		·	
		ummary of descriptive	sessment unless there are	test results.		
tests refer		OII VISUAL OL LACTILE AS	SCOSINER WINESS WISTO STO			101 4 00 0
samples r	efer to	D = Disturbed Sa	mple			
groundwa	ter	none encountere	d			

	GEOTE	CHNICAL PTY LT		project		
job no		V500-2	date 01.03.02			
excavation	on metho	od	logged by D Macleod/S Tacey	Ex-Pioneer Quarry Site Talbot Avenue		
Tracked	Excavato	or - 12 tonne	checked by G Black	Oakleigh		
location:	refer fiau	re 1 333124E,		level not levelled		
TEST P		52	sheet 1 of 1	datum		
depth				A		
metres			material descr	ription	tests	sample
_				medium dense, fine to		D
-		coarse graine	d, brown, dry to mois	t		0.1
-						
_ 0.5					1	
- 0.5		FILL: Silty San	d (SM) medium dens	e, fine to medium grained,	\dashv	
_		black, moist, t		e, inte to mediam granted,		
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_						0.9
1.0						D
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_ [1.9
2.0						D
-		E 15750 16				2.0
- !		End Pit 52 at 2	žm			.
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	e 1A for su	ımmary of descriptive I	terms.		1	
			essment unless there are t	test results.		
ests refer						
samples re	fer to 1	D = Disturbed San	nple			
roundwate	er r	none encountered				

BLACK GEOTECHNICAL PTY LTD project			project				
job no		V500-2	date 01.03.02				
excavat	ion met	hod	logged by	Ex-Pioneer Quarry Site			
			D Macleod/S Tacey	Talbot Avenue			
Tracked	Excava	ator - 12 tonne	checked by	Oakleigh			
			G Black	g			
location:	: refer fi	gure 1 333174E	, 5800840N	level not levelled			
TEST							
	PIINO	53	sheet 1 of 1	datum			
depth	ļ						
metres		FUL 031 0	material descr	iption	tests	sa	mple
-	1 .			ium dense, fine to medium	1		D
-	1	grained, blac	ck, moist			0.1	
-							_
<u> -</u>	1 .	1			i		_
-	1	· .				ł	_
_ 0.6	<u> </u>	Fu / Ol			1	1	_
-	1			nse, fine to medium grained,		1	_
-	1	black, moist	to wet				_
- 10		-				0.9	
_1.0		- FILL Cond (C)	A() I A I				D
1.2	FILL: Sand (SW), loose to medium dense, fine to medium					1.0	_
. 1.2	-	grained, grey	, wet	<u> </u>			_
-		block brown	a (Sivi), medium dense	e, fine to medium grained,			_
-		black, brown,	moist, with sandstone		· i		_
-	·						_
-							_
-		1					_
-							_
2.0	. .	1			ļ	1.9	
2.0	ļ	 					D_
•		End Pit 53 at :	n_		ľ	2.0	_
.		Lilu Fit 33 at .	2111		1		~
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	1A for s	ummary of descriptive t	Arms				
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mples ref	fer to	D = Disturbed Sam	ple				
oundwate	er i	none encountered					\dashv
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BLACK	GEOTEC	HNICAL PTY LT	D	project		
job no		V500-2	date 01.03.02	1		
excavati	on metho	d	logged by	Ex-Pioneer Quarry Site		
			D Macleod/S Tacey	Talbot Avenue		
Tracked	Excavato	r - 12 tonne	checked by	Oakleigh		
		· · · · · · · · · · · · · · · · · · ·	G Black			
ocation:	refer figu	re 1 333229E,	5800833N	ievei not levelled		
	PIT No	54	sheet 1 of 1	datum		
lepth netres	1 1					
ietres	+	Ell I · Cilty Con	material descr	iption	tests	sample
		grained brow	a (Sivi), loose to meal In, dry to moist	ium dense, fine to medium	ł	D
		granicu, biow	ii, dry to moist			0.1
	1					
						1
0.6						ĺ
		FILL: Gravelly	Silty Sand (SM), medi	um dense, fine to coarse	1	
	.	grained, dark	brown, moist to wet, v	with cobbles to 200mm		1 .
	.	diameter				0.9
1.0					1	D
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		becoming med	dium to coarse grained	d, grey brown, moist at		
Ì		1.5m				
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.0						1.9
}				· · · · · · · · · · · · · · · · · · ·	4	D
ĺ		End Pit 54 at 2	m			2.0
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		mary of descriptive te				ļ
criptions a s refer t		visual & tactile asse	ssment unless there are te	st results.		
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nples ref	erto D	= Disturbed Sam	ple			
ındwate	г по	ne encountered				

BLACK	GEOTEC	HNICAL PTY LT	D	project		
job no		V500-2	date 01.03.02			
excavati	on metho	d	logged by	Ex-Pioneer Quarry Site		
			D Macleod/S Tacey	Talbot Avenue		
Tracked	Excavato	r - 12 tonne	checked by	Oakleigh		
			G Black			
location:	refer figu	re 1 333277E,	5800826N	level not levelled		
TEST F	PIT No	55	sheet 1 of 1	datum		
depth	1	r	_ check i o. i	datam	T	
metres	l .		material descr	intion	tests	aamala
		FILL: Silty San		e, fine to coarse grained,	lesis	sample D
				rete pieces, steel, wire,		0.1
				2m diameter, protuding		
_	• •	into pit)	. , , ,	, , , , , , , , , , , , , , , , , , ,		
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_	1	End Pit 55 at 2	m		ļ	_
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		mary of descriptive te				. 1
		visual & tactile asse	ssment unless there are te	st results.		
ests refer t	0					
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samples ref	er to D	= Disturbed Sam	ple			
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roundwate	r no	one encountered	www.n			
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DI ACK	050750					
job no	GEUTEC	HNIC, PTY LT V500-2		project	·	
	on metho		date 01.03.02 logged by	Ex Biopoor Outers Off		
CACAVALI	OH HIELIO	u	D Macleod/S Tacey	Ex-Pioneer Quarry Site		
Tracked	Excavato	r - 12 tonne	checked by	Talbot Avenue Oakleigh		
.,	2,102,1010	· · · · · · · · · · · · · · · · · · ·	G Black	Carleigii		
location:	refer figu	re 1 333326E.	5800821N	level not levelled		
TEST F		56				
depth	11 110	30	sheet 1 of 1	datum		
metres			material descr	rintion	tests	asmala
_	†	FILL: Silty San	d (SM), loose to medi	ium dense, fine to medium	iesis	sample
_	1.	grained, grey	brown, moist	is in section, this to medium		0.1
						0.1
_						
-		becoming me	dium dense, brown, r	noist to wet at 0.5m		
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_ 1.0	· · . · [0.9
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•						1.0
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1.5						-
		FILL: Sandy Cla	ay (CL-CI), very stiff, i	ow to medium plasticity,	1	
		orange brown,	W≤Wp	. ,,	1	•
1.9	<u> </u>					1.9
_2.0		FILL: Silty Clay	(CH), firm to stiff, high	n plasticity, grey, W>Wp		D
		End Pit 56 at 2				2.0
	İ	Enu Fit 56 at 2	ип			-
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4.0						
fer to figure	e 1A for sum	nmary of descriptive to	erms.	-		
scriptions a	are based or	n visual & tactile asse	ssment unless there are te	est results.		
sts refer t					·	
mples re	fer to D	= Disturbed Sam	ple			
oundwate	er no	one encountered				
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BLACK GEOTECHNICAL PTY LTD				project			
job no		V500-2	date 01.03.02				
excavation method			logged by	Ex-Pioneer Quarry Site			
			D Macleod/S Tacey	Talbot Avenue			
Tracked	Excavat	or - 12 tonne	checked by	Oakleigh			
			G Black				
location:	refer figu	ure 1 333369E,	5800816N	level not levelled			
TEST PIT No 57			sheet 1 of 1	datum			
depth	1 110	1	Sheet 1 or 1	Judicini	T		
metres	ĺ		material descr	intion	tests	sample	
	 	FILL: Silly San		se, fine to medium grained,	10313	D	
-				el, bricks, rubble, steel,		0.1	
_		wheels, concr		si, silane, reservi, etcol,		"-	
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_	·					0.9	
1.0					1	D	
_ 1.1					_	1.0 _	
_				low to medium plasticity,		_	
_		grey brown, W	√≈Wp			_	
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	a 1A for su	immary of descriptive t	terms.	***************************************			
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escriptions are based on visual & tactile assessment unless there are test results.							
ests refer to							
amples refer to D = Disturbed Sample							
roundwate	er i	none encountered					

		And S					
BLACK GEOTECHNICAL I'Y LTD project							
job no		V500-2	date 01.03.02				
excavation	on metho	od	logged by	Ex-Pioneer Quarry Site			
_	_		D Macleod/S Tacey	Talbot Avenue			
Tracked	∟xcavat	or - 12 tonne	checked by	Oakleigh			
lo optio = :	sofor E =	1 222200	G Black	lovel	· · · · · · · · · · · · · · · · · · ·		
location:			5800750N	level not levelled			
TEST F	PIT No	58	sheet 1 of 1	datum			
depth					1		
metres	ļ	EU 1 . Cit. CI-	material descri	ription	tests	sample	
-		brown, W≥W		m to high plasticity, orange		D -	
-		Diowii, WZW	P			0.1 _	
0.4						-	
		FILL: Gravelly	Silty Clay (CI), very st	tiff, medium plasticity,	7	_	
_			p, with bricks, rubble				
_		1					
-	1 .					_	
-						0.9	
1.0						D	
-						1.0 _	
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1.7						_	
_		FILL: Silty San	d (SM), loose to medi	um dense, fine to medium	1	I	
_	-	grained, grey,		1.9			
2.0						D	
-		5.45.55		2.0 _			
-		End Pit 58 at	2m			-	
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	e 1A for st	ummary of descriptive	terms.		•		
Refer to figure 1A for summary of descriptive terms.							
Descriptions are based on visual & tactile assessment unless there are test results.							
tests refer to							
samples refer to D = Disturbed Sample							
groundwat	er	none encountered	j	· · · · · · · · · · · · · · · · · · ·			

	GEOTE	HNICAL PTY L	.TD	project		
job no		V500-2	date 01.03.02			
excavat	ion metho	od	logged by	Ex-Pioneer Quarry Site		
			D Macleod/S Tacey	Talbot Avenue		
Tracked	Excavato	or - 12 tonne	checked by	Oakleigh		
i .			G Black			
location:	refer figu	re 1 333359E	, 5800718N	level not levelled		
TEST						
	PII NO	59	sheet 1 of 1	datum		
depth						
metres		ļ	material descr	ription	tests	sample
_	1	FILL: Gravell	y Silty Clay (CL-CI), ve	ry stiff, low to medium		D
-	1	plasticity, or	ange brown, W <wp< td=""><td></td><td>į</td><td>0.1</td></wp<>		į	0.1
-	1					
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-	1					1
_	1					1
_ 0.7					_	1
_		FILL: Silty Cla	ay (CH), stiff, high plast	icity, grey, W>Wp, with	7	
_	1	bricks & rub	ble		İ	0.9
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		End Pit 59 at	2m			2.0
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		nmary of descriptive				Ì
		n visual & tactile ass	essment unless there are te	est results,		
sts refer t	to					
mples re	fer to D	= Disturbed Sar	mple			
oundwate	er no	one encountered	1	-		

End Pit 60 at 2m Ex-Ploneer Quarry Site Ex-Ploneer Quarry Site D Macleod/S Tacey Taibut Avenue Cakleigh Cak	BLACK	GEOTEC	HNIC ZTYLT	D		project		
Tracked Excavator - 12 tonne					01.03.02	p. 0 0 0 0		
Tracked Excavator - 12 tonne Checked by Gellack Gellac	excavation					Ex-Pioneer Quarry Site		
Galack Care								
Section Section 1 333313E, 5800727N level not levelled	Tracked	Tracked Excavator - 12 tonne			by	Oakleigh		
TEST PIT No 60 sheet 1 of 1 datum	location:	location: refer figure 1 2222125			<u> </u>	lovol not lovelled		· · · · · · · · · · · · · · · · · · ·
Title Titl								·-··
metres Fill.L: Mixed Sand/Refuse (30/02%) sand is medium dense, fine to medium grained, grey brown, dry to moist, refuse is bricks, rubble, wood, steel, concrete 01 01 0.9		TINO	00	sheet	1 01 1	datum		
FILL: Mixed Sand/Refuse (30/20%), sand is medium dense, fine to medium grained, grey brown, dry to moist, refuse is bricks, rubble, wood, steel, concrete 1.0 2.0 2.0 End Pit 60 at 2m End Pit 60 at 2m 2.0 Ageer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. 1.0 2.1 2.0 2.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3		ļ		m	aterial descr	intion	tasts	comple
fine to medium grained, grey brown, dry to moist, refuse is bricks, rubble, wood, steel, concrete 2.9 2.0 2.0 End Pit 60 at 2m 2.0 End pit 60 at 2m 2.0 Refer to figure 1A for summary of descriptive terms. Peacrophons are based on visual & tactile assessment unless there are test results. 2.0 End pit both summary of descriptive terms. 2.1 2.2 2.2 2.3 2.4 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5			FILL: Mixed Sa	nd/Refus	e (30/20%),	sand is medium dense	16363	
bricks, rubble, wood, steel, concrete	-		fine to mediur	n grained	i, grey brown	n, dry to moist, refuse is	1	<u> </u>
sand becoming black, odourous at 1.5m 1.9 2.0 End Pit 60 at 2m 2.0 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Pests refer to D = Disturbed Sample	-		bricks, rubble	, wood, si	teel, concret	e		
sand becoming black, odourous at 1.5m 1.9 2.0 End Pit 60 at 2m 2.0 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Pests refer to D = Disturbed Sample	-	.						_
sand becoming black, odourous at 1.5m 1.9 2.0 End Pit 60 at 2m 2.0 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Pests refer to D = Disturbed Sample	-							_
sand becoming black, odourous at 1.5m 1.9 2.0 End Pit 60 at 2m 2.0 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Pests refer to D = Disturbed Sample	_							-
sand becoming black, odourous at 1.5m 1.9 2.0 End Pit 60 at 2m 2.0 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Pests refer to D = Disturbed Sample								_
sand becoming black, odourous at 1.5m 1.9 2.0 End Pit 60 at 2m 2.0 3.0 A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Pests refer to D = Disturbed Sample	_							0.9
sand becoming black, odourous at 1.5m Ing End Pit 60 at 2m End Pit 60 at 2m 3.0 A.0 Alo lique 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to D = Disturbed Sample	1.0							
End Pit 60 at 2m End Pit 60 at 2m 2.0 An an an an an an an an an an an an an an	-							1.0
End Pit 60 at 2m End Pit 60 at 2m 2.0 An an an an an an an an an an an an an an	-						İ	_
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End Pit 60 at 2m End Pit 60 at 2m 2.0 An an an an an an an an an an an an an an	_		sand becomin	a black, d	dourous at	1.5m		-
End Pit 60 at 2m End Pit 60 at 2m	<u> </u>							_
End Pit 60 at 2m End Pit 60 at 2m Solution 1	_							_
End Pit 60 at 2m End Pit 60 at 2m	- 1						i	_
End Pit 60 at 2m End Pit 60 at 2m A.0 Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to Samples refer to D = Disturbed Sample	- , ,	,						
End Pit 60 at 2m	2.0							
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Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to samples refer to D = Disturbed Sample	3.0							-
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to samples refer to D = Disturbed Sample	-							
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to samples refer to D = Disturbed Sample	-							_
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to samples refer to D = Disturbed Sample	-	ĺ						-
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to samples refer to D = Disturbed Sample	_	-						-
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to samples refer to D = Disturbed Sample	_							-
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to samples refer to D = Disturbed Sample	_							-
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to samples refer to D = Disturbed Sample	-							
Refer to figure 1A for summary of descriptive terms. Descriptions are based on visual & tactile assessment unless there are test results. Lests refer to samples refer to D = Disturbed Sample								-
Descriptions are based on visual & tactile assessment unless there are test results. tests refer to samples refer to D = Disturbed Sample								J
samples refer to D = Disturbed Sample .								
samples refer to D = Disturbed Sample .		•	n visual & tactile asse	ssment uni	ess there are to	est results.		•
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groundwater none encountered	anihies le	iei io D	- Distriber 98III	ipie				
ground and a more embourhered	roundwate	er ne	one encountered	··· ··· ···				
	, Junuwali		one encountered					

BLACK	GEOTE	CHNICAL PTY	LTD	project		
job no		V500-2	date 01.03.02			
excavati	on metho	od	logged by	Ex-Pioneer Quarry Site		
İ			D Macleod/S Tacey	/ Talbot Avenue		
Tracked	Excavat	or - 12 tonne	checked by	Oakleigh		
			G Black			
iocation:	refer figu	ıre 1 333311	E, 5800766N	level not levelled		
TEST F		61				~~
	11 140	1 01	sheet 1 of 1	datum		
depth metres	1				1	1
menes	\	FILL Carrie	material desc	cription	tests	sample
-		FILL: Grave	lly Silty Clay (CI), very s Wp, with rubble, some	stiff, medium plasticity,		D
-	· ·	brown, vv	vvp, with rubble, some	Dricks		0.1
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scriptions a	re based o	n visual & tactile as	ssessment unless there are	test results.		
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oundwate	er n	one encountere	d		······································	

BLACK	GEOTE	CHNIC PTYLT	D	project	·	
job no		V500-2	date 01.03.02			
excavati	on metho	od	logged by	Ex-Pioneer Quarry Site		
		40.1	D Macleod/S Tacey	Talbot Avenue		
таскеа	Excavato	or - 12 tonne	checked by	Oakleigh		
location:	refer figu	re 1 333265E	G Black 5800736N	level not levelled		
TEST F		62				
depth	11 110	1 02	sheet 1 of 1	datum	-,	
metres	1		material descr	intion	tosts	
_		FILL: Gravelly	Silty Clay (Cl), very st	iff, medium plasticity	tests	sample D
_		brown, W <w< td=""><td>p, with rubble, brick</td><td>, and the second of</td><td></td><td>0.1</td></w<>	p, with rubble, brick	, and the second of		0.1
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1.0					_	D_
-		FILL: Silty Clay	(CH), stiff, high plasti	city, grey, W>Wp		1.0
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		End Pit 62 at 2	!m		[-
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		nmary of descriptive to				
sts refer t		in visual & tactile asse	ssment unless there are te	est results.		
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mples re	fer to D	= Disturbed Sam	ple			
oundwate	er n	one encountered				

BLACK	GEOTEC	HNICAL PTY LT		project		
job no		√500-2	date 01.03.02			
excavation	on method	d	logged by	Ex-Pioneer Quarry Site		
			D Macleod/S Tacey	Talbot Avenue		
		r - 12 tonne	checked by G Black	Oakleigh		
location:	refer figu	re 1 333220E,	5800732N	level not levelled		
TEST F	PIT No	63	sheet 1 of 1	datum		
depth			1	L	T	T
metres	i .		material descr	ription	tests	sample
_			d (SM), medium dens	se, fine to coarse grained,		D
_		brown, dry, w	ith building rubble, bri	cks, cobbles, steel		0.1
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_		medium grain	ed, grey, dry to moist			-
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2.0					┦	2.0
-		End Pit 63 at 2	2m			
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		mmary of descriptive	essment unless there are	test results		
ests refer		in visual & tactile ass	essitient unless there are	test results.		
cata tetel						
samples re	efer to D) = Disturbed Sar	nple			
groundwat	er n	one encountered				

BLACK	GEOTEC	HNIC ZTYL	.TD	project							
job no		V500-2	date 01.03.02	17.0,500							
excavation	on metho	d	logged by D Macleod/S Tacey	Ex-Pioneer Quarry Site Talbot Avenue							
		r - 12 tonne	checked by G Black	Oakleigh							
location:	refer figu	re 1 333223E	, 5800788N	level not levelled							
TEST F	PIT No	64	sheet 1 of 1	datum							
depth											
metres		FILL City C	material desc	ription	tests	sample					
-		grained na	and (SM), loose to med le brown, dry to moist	lium dense, fine to medium		D_					
-		grained, par	le blown, dry to moist			0.1 _					
-						-					
_		becoming m	nedium dense, fine to d	oarse grained, black,							
		moist, trace	gravel, rubble at 0.5m								
-						_					
_					1	_					
- 40						0.9					
1.0						D_					
-						1.0					
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 2.0				medium to high plasticity,		1.9					
2.0		grey orange	brown, W>Wp, with gr	avei	-{	2.0					
-		End Pit 64 at	t 2m			2.0 -					
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	e 1A for sur	nmary of descriptiv	e terms.								
-		-	ssessment unless there are	test results.							
ests refer			The state of the s								
amples re	efer to D) = Disturbed Sa	ample								
roundwate	er n	one encountere	ed								

BLACK GEOTE	CHNIO TY L				
	V500-2	date 01.03.02	project		
excavation methor Tracked Excavator		logged by D Macleod/S Tacey			
		checked by G Biack	Oakleigh		
location: refer figu	re 1 3332668	, 5800790N	level not levelled		
TEST PIT No	65	sheet 1 of 1	datum		
depth metres		material desc	rintion		T
-	FILL: Silty Sa	and (SM), loose to med	dium dense, fine to medium	tests	sample
-	grained, gre	ey, dry to moist			0.1
0.4					
•	FILL: Gravell	y Silty Sand (SM), loos	e to medium dense, fine to	1	
	medium gra	ined, moist, trace cobb	oles, steel, brick		
_1.0					0.9
_1.0					D
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2.0	End Pit 65 at	2m			1.9
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er to figure 1A for sum		terms. essment unless there are to			
ts refer to	visual & tactile ass	essment unless there are to	est results.		
nples refer to D	= Disturbed Sar	nple	· · · · · · · · · · · · · · · · · · ·		
undwater no	ne encountered				



Borehole no.

2 GB32

Sheet no.

1 of 1

Job no.

1003143

geotechnical engineers 1/21 Howleys Road, Notting Hill, 3168 Ph (03) 9562 7111 Fax (03) 9562 7199

HLA			**********	,, ,		the same of the sa			
TALBOT AVE QUARRY				الالاملامليون.	طعا بيده جودٍ وعربية	rodden på:	(,		-
OAKLEIGH	·	بعد معمد برحويهم		-		121	Not meas	ure	,
EDSON CP2	الاكتناء والمتحاصين والمتحاج والمتحاء والمتحاج والمتحاء والمتح والمتحاء والمتح والمتحاء والمتحاء والمتحاء والمتحاء والمتحاء والمتحاء والمتحاء والمتحاء والمت	~~~	****			The second secon	1401 11000		-
110mm	В	earin	g	·	deg	Datum:	***************************************	T	7
laterial Description	Depth (m)	Graphic log	Water	Moisture condition	Consistency density, index	Structure, additional observations	Notes Samples Tests		Support
CLAY, med plasticity with sands cobbles	1.00			M			bentonite		-
·	2.00						sand	**************************************	
	3.00				And the second s				
more sandy	5.00					Top of scree	en		
	6.00					Bottom of scre	en		-
ninated @ 6,0m	7,00	***							
	TALBOT AVE QUARRY OAKLEIGH EDSON CP2 110mm laterial Description CLAY, med plasticity with sands tobbles	TALBOT AVE QUARRY OAKLEIGH EDSON CP2 110mm Butterial Description CLAY, med plasticity with sands sobbles	TALBOT AVE QUARRY OAKLEIGH EDSON CP2 110mm Bearin Jepth (m) CLAY, med plasticity with sands sobbles	TALBOT AVE QUARRY OAKLEIGH EDSON CP2 110mm Bearing Depth (m) CLAY, med plasticity with sands sobbles	TALBOT AVE QUARRY OAKLEIGH EDSON CP2 110mm Bearing Identical Description CLAY, med plasticity with sands probables 1.00	TALBOT AVE QUARRY OAKLEIGH EDSON CP2 110mm Bearing Depth (m) Depth (m) CLAY, med plasticity with sands sobbles	TALBOT AVE QUARRY TALBOT AVE QUARRY COAKLEIGH EDSON CP2 110mm Bearing Odey Depth (m) Depth	TALBOT AVE QUARRY TALBOT AVE QUARRY OAKLEIGH EDSON CP2 110mm Bearing - deg Datum: - Topolitic (m) Depth (m) Depth (m) Topolitic (m)	TALBOT AVE QUARRY OAKLEICH EDSON CP2 Slope Bearing Depth (m) Depth (m) Depth (m) Depth (n)



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Borehole no.

1 GR23

Sheet no.

1 of 1

Job no. 1003143

Client: HLA	, , , , , , , , , , , , , , , , , , ,	A POST CONTRACT OF THE PARTY OF		en		Date:	19 - 20/1	0/()4
Project: TALBOT AVE QUARRY	- Add Viller Constitution	***************************************	ATVICES NOO	- Land Control of the	****	Logged By:	· DA		
Location: OAKLEIGH		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						ONDU	
Drill model: EDSON CP2	S	lope	and the same	90	deg	RL Surface :	Not meas	ur	ed
Hole diameter: 110mm	2	learir)g	A HOMOTON ANNOUNCE	deg	: Datum	h-	###T/#	economy.
Material Description	Depth (m)	Graphic log	Water		Consistancy density, index	Structure, additional observations	Notes Samples Tests	Method	Support
SILTY SAND (SM), fine to medium sands			,,u,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	M		333555555555555333355555555555555555555	7	Ö	[7]
grey	1.00			draft, de de la company de la company de la company de la company de la company de la company de la company de	And Designation of the Control of th		bentonite		A STATE AND A STATE OF THE PROPERTY OF THE PRO
						Top of screen			
	2.00			W			sand	NOTE: THE PROPERTY OF THE PROP	
	3.00		rg. agric (glassessessessessessessessessessessessesse	ALZHITGONOV ALVANA ALTBIOGONOV		Bottom of screen due to cave in below.	Parkinandiran da	THE CONTRACT OF THE PROPERTY O	
	4.00	and the state of t	And descriptions of the Control of t	Prior (Consultational), and jumple all many pages (Consultational), and consultation (Consultational), and consultation (Consultational), and consultational (C	al (1975) de action des comments de la comment de la comment de la comment de la comment de la comment de la c		Nadarjondrojanovi, and Problemananian management	Cristiques	
	5.00	A CANADA	anna wan indistration (Albander) kana and and and and and and and and and	ad Ottorative zavvatoramene erromanomentalistikka	CAPPANAGA - AGODANGANA - THE TRANSPORT - THE T			A THE CONTRACT OF THE PROPERTY	A CONTRACTOR OF THE PROPERTY O
	6.00	-							
GB 1 Terminated @ 6.0m	- 0.00	 				and the second s			
-	7.00		mestamatan verm arquira ver, del Bill SASSIDO Vermisione del programma	The state of the s	T-A COMPANY TAKES TO SEE STATES TO A SECOND TO		A service of the serv	THE PROPERTY OF THE PROPERTY O	
	8.00								



Borehole no.

3 GB 33

Sheet no.

1 of 1

Job no.

1003143

geotechnical engineers 1/21 Howleys Road, Notting Hill, 3168 Ph (03) 9562 7111 Fax (03) 9562 7199

Client :	HLA	كالمراجعة معدود المعارضة والمراجع والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة وا	<u></u>		و د د د د د د د د د د د د د د د د د د د			19 - 20/10 DA		*****
Project :	TALBOT AVE QUARRY	·····			18-18-18-18-18-18-18-18-18-18-18-18-18-1	·	Logged By:		***************************************	*****
_ocation :	OAKLEIGH		وتعجبون	::::::::::::::::::::::::::::::::::::::			RL Surface :	Vot meast	ireo	 !
Orill model :	EDSON CP2	وذعه فحصمه والمحمد سنديد مستعمر ويهيهم وين	ope		90	TANKS PROPERTY.	Datum :	**		
Hole diameter :	110mm	B ₁	earin	<u>g_</u>	7	deg T	Daun.		T	٦
N	laterial Description	Depth (m)	Graphic log	Water	A	Consistency density, index	Structure, additional observations	Notes Samples Tests	<u> </u>	SUDDOLL
FILL: CLAYE fine to medou		1.00		*	M		ł	bentonite	D	M
	<u>. بۇي</u> :	2.00					, · · ·	sand		
		3,00						e de la composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della composition della comp		
SILTY SAN grey	D (SM), fine to medium sands	5.00			W	1	Top of scree	en		
		6.00					Bottom of scre	en	_	_
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Job no.

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geotechnical engineers 1/21 Howleys Road, Nothing Hill, 3168 Ph (03) 9562 7111 Fax (03) 9562 7199

Client :	HLA			description of the	,		Date:	19 - 20/10)/0	4
Project:	TALBOT AVE QUARRY						Logged By:	DA		
Location :	OAKLEIGH							يد موجود والمعارضة والمعار		
Drill model:	EDSON ÇP2	ទ	lope		90	deg	RL Surface:	Not meas	ire	≀d
Hole diameter :	110mm	В	earin	g	н	deg	Datum :			·
	laterial Description	Depth (m)	Graphic log	Water	2	Consistency density, index	Structure, additional observations	Notes Samples Tests		Support
FILL: CLAYE	Y SILT, low plasticity, with im sands	1.00		÷.	M			bentonite	D	The second secon
		2.00						sand	A TO A LOCAL DESCRIPTION OF A STATE OF THE PARTY OF THE P	
		3.00								
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GR 4 Termin	nated @ 6.0m	6.00					Bottom of scree	n		
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Job no.

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1/21 Howleys Road,	, Notting Hill, 3168
	Fax (03) 9562 7199

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TALBOT AVE QUARRY			earnasta)	ميد جنسرين	The burners of the second of t	LOGGE Dy.	A CONTRACTOR OF THE PARTY OF TH	
OAKLEIGH						RI Surface :	Not measu	red
EDSON CP2			<u> </u>	***	بالمالية والمالية والمالية والمالية والمالية والمالية والمالية والمالية والمالية والمالية والمالية والمالية و			
: 110mm	Be	earm	<u>g</u>	-	deg		Ĭ I	T
Material Description	Depth (m)	Graphic log	Water	Moisture condition	Consistency density, index	Structure, additional observations		
EV 60 T low plasticity, with	h l		×	М				D -
pum sands	1.00 2.00 3.00						bentonite	
						Top of scre	en	
AND (SM), fine to medium sands					w	Bottom of scr	een	
rminated @ 6.0m		\sqcap		T				
	- 7,000							
	TALBOT AVE QUARRY OAKLEIGH EDSON CP2 : 110mm Material Description EY SILT, low plasticity, with ourn sands	TALBOT AVE QUARRY OAKLEIGH EDSON CP2 Sites 110mm Be Material Description Depth (m) EY Siller, low plasticity, with purn sands 1,00 2,00 4,00 AND (SM), fine to medium sands final and sites are sites as a second sec	TALBOT AVE QUARRY OAKLEIGH EDSON CP2 ; 110mm Bearin Material Description Depth (m) EY SILT, low plasticity, with purn sands 1.00	TALBOT AVE QUARRY OAKLEIGH EDSON CP2 : 110mm Bearing Material Description EY SILT, low plasticity, with burn sands	TALBOT AVE QUARRY OAKLEIGH EDSON CP2 : 110mm Bearing Material Description EY SILT, low plasticity, with ourn sands - 1.00 - 2.00 - 3.00 - 4.00 AND (SM), fine to medium sands - 7.00 - 7.00 - 7.00 - 7.00 - 7.00	TALBOT AVE QUARRY OAKLEIGH EDSON CP2 : 110mm Bearing - deg Material Description Depth (m) Depth (m) - 1,00 - 3,00 - 4,00 AND (SM), fine to medium sands - 6,00 Tminated @ 6.0m	TALBOT AVE QUARRY OAKLEIGH EDSON CP2 110mm Bearing Depth (m) (m) Depth (m) (m) (m) (m) (m) (m) (m) (m) (m) (m)	TALBOT AVE QUARRY OAKLEIGH EDSON CP2 110mm Bearing Depth (rn)

Appendix C: Soil Boring, Groundwater Well & LFG Logs

PROD PROD LOCA DRIL SAMI SURI WELI LOGO	JECT N JECT N ATION LING M PLING I FACE E L HEAD	Tele Fax UME AME Tall IETH MET LEV VTO	IOD Solid / HOD Grab ATION C 0 m Stapleton) 8699 2122 3202 Pty Lt , Oakl Auger	d eigh		DATE 19-12-2003 BLANK 0.0m - 1.0m SCREEN 1.0m - 8.0m GRAVEL PACK 0.4m - 8.0m SANITARY SEAL/BENTONITE STABILISED WATER LEVEL GROUND WATER ELEVATION	0.15m	O Am	
PID (ppm)	BLOW	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	LOG	LITHOLOGIC DESCRIPTION	CONTACT	WE	ELL DIAGRAM
- 40.5		32	GB01 0.8		XX XX XX 1 - XX		FILL. Road surface gravel with silt, bricks, large gravel grading into medium grained gravel. SAND, Medium grained natural rounded quartz	1.20		Cement sea Bentonite so 50 mm uPV Blank Casin
		8	GB01	\ <u>\</u>	- 2		sand with minor gravel sandstone. Becoming medium grained, dark brown to orange, organic rich, slightly moist sand. Sandy CLAY. Grey brown, slightly moist, medium grained with minor clay component.	2.50		
			4,0	*	- 4		CLAY. Grey brown, slightly moist. Medium plasticity. Becoming harder and dryer with depth. Cultings coming up as balls.	4.00		=-0.8mm grad sand 50 mm uPV Slotted Scre
,		3	GB01_ 8.0	*	- 7 - 7		Total Depth: 8.00 m	8.00		

HLA 46 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB02 Telephone: (03) 8699 2199 Fax:(03) 8699 2122 PROJECT NUMBER M4008202 DATE 19-12-2003 BLANK 0.0m - 1.0m PROJECT NAME Jandaro Ply Ltd LOCATION Talbot Avenue, Oakleigh SCREEN 1.0m - 8.0m DRILLING METHOD Solid Auger GRAVEL PACK 0.5m - 8.0m SAMPLING METHOD Grab SANITARY SEAL/BENTONITE 0.25m - 0.5m STABILISED WATER LEVEL SURFACE ELEVATION WELL HEAD/TOG 0 m GROUND WATER ELEVATION LOGGED BY P Stapleton COMMENTS GRAPHIC LOG CONTACT BLOW SAMPLE NUMBER ANALYSED PID (ppm) DEPTH (m BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM TOPSOIL. -Cement seal 0.25 SAND. Dark brown to black with organic rich -Bentonite seal -50 mm uPVC Blank Casing content. GB02 13 * 1.0 1.30 SAND. Orange medium grained, moist to wet with occasional fine grained quarz gravel. Grading to brown slightly moist. Becoming medium to course grained sand with increasing depth. 0.8mm graded sand 50 mm uPVC Slotted Screen GB02_ B 5.0 BORING / WELL CONSTRUCTION LOG JANDAROO GPJ HLA_SYD.GDT 02-03-04 5.50 Sandy CLAY, Grey brown, moderate platicity, Moisture decreasing.

Total Depth: 8,00 m

GB02

7

8.00

PRO. LOC/ DRIL SAMI SURI WELI LOGO	JECT N ATION LING N PLING ACE E L HEAL BED BY	IAM Tal METH METH METH METH METH METH METH METH	HOD Solid HOD Gra ATION OC 0 m	Pty L e, Oal I Auge b	td deigh r		DATE 19-12-2003 BLANK 0.0m - 1.0m SCREEN 1.0m - 7.0m GRAVEL PACK 0.5m - 7.0m SANITARY SEAL/BENTONITE 0.3m - 0.5m STABILISED WATER LEVEL GROUND WATER ELEVATION					
PID (ppm)	BLOW	RECOVERY	SAMPLE	ANALYSED	DEPTH (m BGL)	LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM			
		W	GB03_ 2.0	*	- 1		FILL. Medium grained sand, brown, dry, loose with rounded to medium to fine gravel. FILL. Dark brown, medium grianed, slightly moist, occasional gravel and wood inclusions. FILL. Grey brown, sandy clay / clayey sand, moist, minor brick chips.	2.00	Cement s Bentonite 50 mm uP Blank Cas -0.8mm gra sand -60 mm uP Slotted Scr			
		3	GB03	*:	- 5 6 7 7 7		Sandy CLAY. Grey brown, moist with natural appearance. Total Depth: 7,00 m	7.00				

HLA 46 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB04 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4008202 DATE 06-01-2004 PROJECT NAME Jandaro Pty Ltd BLANK 0.0m - 0.5m LOCATION Talbot Avenue, Oakleigh SCREEN 0.5m - 2.5m DRILLING METHOD Solid Auger GRAVEL PACK 0.4m - 2,5m SANITARY SEAL/BENTONITE 0.2m - 0.4m SAMPLING METHOD Grab SURFACE ELEVATION STABILISED WATER LEVEL WELL HEAD/TOC 0 m GROUND WATER ELEVATION LOGGED BY M Charge COMMENTS Two attempts met refusal at 0.8m. CONTACT DEPTH PID (ppm) BLOW SAMPLE NUMBER ANALYSED DEPTH (m BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM FILL. Grass surface. Red brown, sandy fill with Cement seal gravel, minor brick. 50 mm uPVC Blank Casing Bentonite seal 0.5 1.00 FILL. Dark grey, sandy clay, very molst, becoming blacker with increasing depth. GB04_ 1 -0.8mm graded 1.5 QC03 sand 50 mm uPVC Slotted Screen 2.80 FILL Slimes. Grey, fine sandy silt, saturated.

Total Depth; 4.00 m

BORING / WELL CONSTRUCTION LOG JANDAROO, GPJ HLA_SYD, GDT 02-03-04

8.0

PAGE 1 OF 1

Cave in

4,00

HLA 46 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB05 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4008202 PROJECT NAME Jandaro Pty Ltd DATE 06-01-2004 BLANK 0.0m - 0.5m LOCATION Talbot Avenue, Oakleigh DRILLING METHOD Solid Auger SAMPLING METHOD Grab SCREEN 0.5m - 2.5m GRAVEL PACK 0.4m - 2.5m SANITARY SEAL/BENTONITE 0.2m - 0.4m SURFACE ELEVATION STABILISED WATER LEVEL WELL HEAD/TOC 0 m GROUND WATER ELEVATION LOGGED BY M Charge COMMENTS First attempt met refusal at 2.0m. PID (ppm) BLOW COUNTS RECOVERY ANALYSED DEPTH (m BGL) GRAPHIC LOG SAMPLE CONTACT DEPTH LITHOLOGIC DESCRIPTION WELL DIAGRAM FILL. Grass surface. Mid brown sandy gravel, slightly moist firm fill material. Cement seal 50 mm uPVC -Blank Casing Bentonite seal GB05_ 1.0 1.2 1.00 FILL. Dark grey sandy clay, moist, with minor gravel fragments. -0.8mm graded sand 50 mm uPVC Slotted Screen 2.00 FILL Slimes. Grey, fine sandy silt, very soft, very moist / wet saturated material. Cave in GB05_ 1.8 19 米 4.0 4,00 Total Depth: 4.00 m

BORING / WELL CONSTRUCTION LOG JANDAROO.GPJ HLA_SYD.GDT 02-03-04

HLA ∰ Clarendon St Douth Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB06 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4008202 DATE 06-01-2004 BLANK 0.0m - 0.5m PROJECT NAME Jandaro Pty Ltd SCREEN 0.5m - 5.5m LOCATION Talbot Avenue, Oakleigh GRAVEL PACK 0.4m - 5.5m DRILLING METHOD Solid Auger SANITARY SEAL/BENTONITE 0.2m - 0.4m SAMPLING METHOD Grab STABILISED WATER LEVEL SURFACE ELEVATION **GROUND WATER ELEVATION** WELL HEAD/TOC 0 m LOGGED BY M Charge COMMENTS First attempt met refusal at 0.3m CONTACT DEPTH PID (ppm) BLOW SAMPLE NUMBER ANALYSED DEPTH (m BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM FILL. Grass surface. Mixture of gravel and medium Cement seal grained sand, dry, soft. 50 mm uPVC Blank Casing Bentonite seal 0.6 1.50 SAND. Fine grained, soft, dry, minor gravel. GB06_ 12 2.4 2.5 3.00 0.8mm graded sand 60 mm uPVC Slotted Screen SAND. Light brown, coarse to medium grained, 3,8 slightly moist. 2.5 BORING / WELL CONSTRUCTION LOG JANDAROO.GPJ HLA_SYD.GDT 02-03-04 SAND. Pale / medium brown, medium to coarse grained, moist. 2,2 GB06_ 12 *2.8 -Cave in 6 6.0 Very moist. 6.50 Total Depth: 6.50 m

PRO PRO LOC DRII SAM SUR WEL LOG	JL/A JECT NU DJECT NA CATION J LLING ME APLING MI EFACE ELI LL HEAD/I	elephone: (0 ax: (03) 8698 MBER M400 ME Jandarc albot Avenue THOD Solid ETHOD Gra EVATION TOC 0 m M Charge	rne VfC 3205 3) 8699 2199 9 2122 08202 Pfy Ltd e, Oakleigh I Auger b	BLANK U.0m - 1.0m	E_0.25m -	0.5m
PiD (ppm)	BLOW	SAMPLE	ANALYSED DEPTH (m BGL) GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
0.5		GB07_ 1.0	*-123333333	SAND. Red brown / grey, fine to medium grained, very soft, dry. Sandy Ct.AY. Pale grey, medium to coarse grained sand, slightly moist, soft, minor clay.	2.00	- Cement seal - Bentonite seal - 50 mm uPVC Blank Casing - 0.8mm graded sand - 50 mm uPVC Slotted Screen
1.2		GB07	-4-	SAND. Pale brown, medium to coarse grained sand, soft to firm.	4.50	Cave in.

Total Depth: 6.00 m

PAGE 1 OF 1

BORING / WELL CONSTRUCTION LOG JANDAROO.GPJ H.A_SYD.GDT 02-03-04

IHLA 46 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB08 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 DATE <u>07-01-2003</u> BLANK <u>0.0m - 1.0m</u> PROJECT NUMBER M4008202 PROJECT NAME Jandaro Pty Ltd SCREEN 1.0m - 6.0m LOCATION Talbot Avenue, Oakleigh DRILLING METHOD Solid Auger GRAVEL PACK 0.5m - 6.0m SAMPLING METHOD Grab SANITARY SEAL/BENTONITE 0.25m - 0.5m STABILISED WATER LEVEL SURFACE ELEVATION WELL HEAD/TOC 0 m **GROUND WATER ELEVATION** LOGGED BY P Stapleton COMMENTS PID (ppm) SAMPLE NUMBER ANALYSED DEPTH (m BGL) GRAPHIC LOG CONTACT DEPTH BLOW WELL DIAGRAM LITHOLOGIC DESCRIPTION Light brown, fine grained, dry, loose, minor rootlets, Cement seal becoming darker with depth. Bentonite seal -50 mm uPVC Blank Casing GB08_ 19 8.0 0.8mm graded sand 3.50 50 mm uPVC SANDY Clay. Orange brown, medium to course Slotted Screen grained, minor clay. GB08_ 4.00 72 4.0 SANDY Clay. Red brown, medium to coarse grained, slightly moist. BORING / WELL CONSTRUCTION LOG JANDAROO.GPJ HLA_SYD.GDT 02-03-04 5,00 SANDY Clay. Creamy yellow, coarse grained with fine grained quartz gravel, slightly moist becoming wet at the base. GB08_ 63 5.5 Sand at bottom Becoming wet at base.

Total Depth: 6.50 m

GB08_

6.5

32

6.50

HLA 46 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB09 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4008202 DATE 07-01-2004 PROJECT NAME Jandaro Pty Ltd BLANK _0.0m - 1.0m LOCATION Talbot Avenue, Oakleigh SCREEN 1.0m - 6.0m DRILLING METHOD Solid Auger GRAVEL PACK 0.5m - 6.0m SAMPLING METHOD Grab SANITARY SEAL/BENTONITE 0.2m - 0.5m SURFACE ELEVATION STABILISED WATER LEVEL WELL HEAD/TOC 0 m **GROUND WATER ELEVATION** LOGGED BY P Stapleton COMMENTS ANALYSED BLOW SAMPLE NUMBER GRAPHIC LOG PID (ppm) DEPTH (m BGL) CONTACT DEPTH LITHOLOGIC DESCRIPTION WELL DIAGRAM SAND. Brown, fine grained, losse, dry. Cement seal Bentonite seal 50 mm uPVC Blank Casing GB09_ Oragnic rich. 2.00 SAND. Light cream becoming dark brown, well 2,20 graded, dry. SANDY Clay. Brown sand with grey mottled clay, GB09_ well graded, 13 2.5 -0.8mm graded 3.50 50 mm uPVC Sandy CLAY. Brown, low plasticity, slightly moist. Slotted Screen

Sandy CLAY. Orange, medium to coarse grained with fine grained quartz gravel, slightly moist.

Total Depth: 6.00 m

BORING/WELL CONSTRUCTION LOG JANDAROO.GPJ HLA_SYD.GDT 02-03-04

GB09

7

5.00

6,00

HLA 46 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB10 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4008202 DATE 07-01-2004 BLANK <u>0.0m - 1.0m</u> PROJECT NAME Jandaro Pty Ltd SCREEN 1.0m - 5.0m LOCATION Talbot Avenue, Oakleigh GRAVEL PACK 0.5m - 5.0m DRILLING METHOD Solid Auger SANITARY SEAL/BENTONITE 0.2m - 0.5m SAMPLING METHOD Grab STABILISED WATER LEVEL SURFACE ELEVATION **GROUND WATER ELEVATION** WELL HEAD/TOC 0 m LOGGED BY P Stapleton COMMENTS First attempt met refusal at 1,2m. PID (ppm) BLOW ANALYSED SAMPLE DEPTH (m BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM SAND. Light brown, fine grained, loose, dry. Cement seal Bentonite seal -50 mm uPVC Blank Casing GB10_ 19 Dark organic rich. -0.8mm graded sand 3.00 Sandy CLAY. Grey with orange mottling, moderate plasticity, firm. 17 GB10_ 50 mm uPVC 3,0 Slotted Screen BORING / WELL CONSTRUCTION LOG JANDAROO.GPJ HLA_SYD.GDT 02-03-04 4.50 Sandy CLAY. Grey band becoming orange. Slightly 5.00 Sandy CLAY, Orange, low plasticity. Sand at bottom GB10_ 5.5 192 Moist becoming wet (5.5m - 6.0m) Cave in 6,00 Total Depth: 6.00 m

PROJECT NUM PROJECT NUM PROJECT NAM LOCATION Ta DRILLING MET SAMPLING ME SURFACE ELE WELL HEAD/TO LOGGED BY	Clarendon S auth Melbourr elephone: (03) x: (03) 8699; BE Jandaro I elbot Avenue, HOD Solid A THOD Grab VATION C 0 m Stapleton	ne VI0) 8699 2122 8202 Pty Lt , Oakl Auger	9 2199 td leigh		DATE 07-01-2004 BLANK 0.0m - 1.0m SCREEN 1.0m - 6.0m GRAVEL PACK 0.5m - 6.0m SANITARY SEAL/BENTONITE 0.2m - 0.5m STABILISED WATER LEVEL GROUND WATER ELEVATION						
PID (ppm) BLOW COUNTS	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	10G	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM				
	GB11_ 2.5 QC05_ Q7/01/04 QC05T_ Q7/01/04	*	- 1 - 2 - 3 - 3 - 4 - 4 5 - 6		FILL. Silty sand, losse, dry with fragments of construction, wood and demolition material, glass. FILL. Sand with clay balls, dry. FILL. Sand with clay balls, dry. Sandy CLAY. Creamy brown, well graded, moist. Sandy CLAY. Grey brown, medium plasticity, stiff. Alternating bands of sandy clay / clayey sand. Total Depth: 6.00 m	2.00 3.00 4.50	-Cement seal -Bentonite seal -50 mm uPVC Blank Casing -0.8mm graded sand -50 mm uPVC Slotted Screen				

BORING / WELL CONSTRUCTION LOG JANDAROO,GPJ HLA_SYD,GDT 02-03-04

PROD PROD LOCA DRIL SAMI SURI WELL LOGO	JECT N JECT N ATION ATION OF LING M PLING I FACE E L HEAD GED BY	Sout Teley Fax: UMB AME Talb ETH VIETH LEV/	Jandaro F ot Avenue, OD Solid A HOD Grab ATION C 0 m	e VIC 8699 122 202 Pty Lto Oaklo	2199 3 elgh		DATE 07-01-2004 BLANK 0.0m - 1.0m SCREEN 1.0m - 6.5m GRAVEL PACK 0.5m - 6.5m SANITARY SEAL/BENTONITE 0.2m - 0.5m STABILISED WATER LEVEL GROUND WATER ELEVATION				
PID (ppm)	BLOW	RECOVERY	SAMPLE	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM		
03-04		1 <u>7</u>	GB12_ 0.9 GB12_ 1.5	*	- 1		FILL. Black, Silty sand, loose, dry, with fragments of metal, slag / ash, minor sandstone gravel. Grading to fine grained black sand with few inclusions. Clayey SAND. Creamy brown, well graded, slightly moist.	3.00	-Cement seal -Bentonite seal -50 mm uPVC Blank Casing -0.8mm graded sand -50 mm uPVC Slotted Screen		
BORING / WELL CONSTRUCTION LOG JANDAROO.GPJ HLA_SYD.GDT 02-03-04					- 6 -		Grading into clayey SAND from 6.5m. Becoming moist at 7.0m. Total Depth: 7.30 m	7.30	Sand at bottor		

HLA 46 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB13 H = ATelephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4008202 DATE 23-12-2003 PROJECT NAME Jandaro Pty Ltd BLANK 0.0m - 0.7m SCREEN 0.7m - 2.7m LOCATION Talbot Avenue, Oakleigh DRILLING METHOD Solid Auger SAMPLING METHOD Grab GRAVEL PACK 0.5m - 2.7m SANITARY SEAL/BENTONITE 0.2m - 0.5m SURFACE ELEVATION STABILISED WATER LEVEL WELL HEAD/TOC 0 m **GROUND WATER ELEVATION** LOGGED BY P Stapleton COMMENTS First attempt refused at 1.5m. BLOW SAMPLE NUMBER ANALYSED RECOVERY PID (ppm) DEPTH (m BGL) CONTACT DEPTH GRAPHIC LOG LITHOLOGIC DESCRIPTION WELL DIAGRAM FILL. Black, silty sand, dry. Minor demolition and construction fragments. Refusal / EOH at 3.0m. Cement seal 50 mm uPVC GB13_ 20 m Blank Casing 0.5 QC02 Bentonite seal 23/12/03 Grading to black sand, minor silt, limited inclusions no odours. -0.8mm graded sand 50 mm uPVC 29 m GB13_ 1.8 Slotted Screen Band of sandstone gravels at 2.7m, becoming Cave in Drilling becoming hard at 2.9m. 3.00 Total Depth: 3.00 m

HLA #6 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB14 Telephone: (03) 8699 2199 Fac (D3) 8699 2122 PROJECT NUMBER M4008202 DATE 22-12-2003 BLANK 0.0m - 1.0m PROJECT NAME Jandaro Pty Ltd SCREEN 1.0m - 6.5m LOCATION Talbot Avenue, Oakleigh GRAVEL PACK 0.5m - 6.5m DRILLING METHOD Solid Auger SAMPLING METHOD Grab SANITARY SEAL/BENTONITE 0.2m - 0.5m STABILISED WATER LEVEL SURFACE ELEVATION WELL HEAD/TOC 0 m **GROUND WATER ELEVATION** LOGGED BY P Stapleton COMMENTS Hole left open for 2 hours. PID (ppm) ANALYSED BLOW SAMPLE NUMBER GRAPHIC LOG DEPTH (m BGL) WELL DIAGRAM LITHOLOGIC DESCRIPTION FILL. Dark grey, silty sandy gravel, moist, strong anaerobic odour possibly including Hydrocarbons. Cement seal Bentonite seal 50 mm uPVC Blank Casing Fragments of demolition and construction fragments. GB14_ 35 85 1.0 GB14_ .12 108 1.5 QC01 Ж 22/12/03 2.00 GB14_ CLAY. Cream brown, low plasticity, soft, moist. 32 3.5 2.2 GB14 3.00 स * 3.0 3 Silty SAND. White, medium to fine grained. -0.8mm graded sand 50 mm uPVC Slotted Screen 4.20 Sandy CLAY. Orange, low plasticity, soft, slightly moist. BORING / WELL CONSTRUCTION LOG JANDAROO.GPJ HLA SYD.GDT 02-03-04 Moisture increasing with depth. Sand component increasing with depth - becoming course grained. 7.50 Clayey SAND, coarse grained with rounded fine grained quartz gravel. -Sand at bottom Sandler with depth. Moist to wet 8.5m - 9.0m.

Total Depth: 9.00 m

9.00

PROD LOCA DRIL SAMI SURF WELI LOGO	JECT NI JECT NA ATION L LING M PLING M PACE EI JECT BY	Tall ETH MET LEV /TOP	IOD Solid . HOD Grab ATION C 0 m Stapleton	8202 Pty Lt , Oakl Auger	d eigh		DATE 22-12-2003 BLANK 0.0m - 1.0m SCREEN 1.0m - 6.5m GRAVEL PACK 0.5m - 6.5m SANITARY SEAL/BENTONITE 0.2m - 0.5m STABILISED WATER LEVEL GROUND WATER ELEVATION						
PID (ppm)	BLOW	RECOVERY	SAMPLE	ANALYSED	DEPTH (m BGL) GRAPHIC	LITHOL	OGIC DESCRIPTION	CONTACT	WEL	L DIAGRAM			
50		63	GB15_ 1.0			FILL. Dark grey, sil rich, anaerobic.	ty sand, slightly moist, organic			—Cement se —Bentonite s —50 mm uP\ Blank Casi			
130		13	GB15_ 1.7	*	2 -	Possibly VOC odou	r.						
3	1.		GB15_ 2.8		- 3	SAND. Grey cream Becoming dark grey moist.	y, medium grained, loose, dry. v with clay pockets, slightly	2.50		−0.8mm grad sand −50 mm uP\ Slotted Scri			
	7		GB15_ 7.0	*	- 6 7	Såndy CLAY. Brown plasticity, firm slighti Becoming stiffer and		5.50		Const at had			
						Total Depth: 7.70 m		7.70		-Sand at bot			

HLA 46 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB16 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4008202 DATE 22-12-2003 BLANK 0.0m - 1.0m PROJECT NAME Jandaro Ply Ltd LOCATION Talbot Avenue, Oakleigh DRILLING METHOD Solid Auger SCREEN 1.0m - 6.5m GRAVEL PACK 0.4m - 6.5m SANITARY SEAL/BENTONITE 0.15m - 0.4m SAMPLING METHOD Grab SURFACE ELEVATION STABILISED WATER LEVEL **GROUND WATER ELEVATION** WELL HEAD/TOC 0 m LOGGED BY P Stapleton COMMENTS ANALYSED PID (ppm) BLOW COUNTS GRAPHIC LOG CONTACT DEPTH SAMPLE NUMBER DEPTH (m BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM SAND. Dark grey to grey, fine to medium grained, -Coment seal loose, dry, no odour. Bentonite seal 50 mm uPVC Blank Casing GB16_ 2.00 0 2.0 SAND. Creamy brown, loose, with sandstone gravel, no odour. 2,60 Gravelly SAND, Orange brown, loose GB16_ 1 3.30 -0.8mm graded SAND. Brown, medium grained with gravel, dry with minor white clay. 50 mm uPVC Slotted Screen 4.50 Clayey SAND. Orange, compacted aternating bands of sand and clayey SAND. BORING / WELL CONSTRUCTION LOG JANDAROO, GPJ HLA_SYD, GDT 02-03-04 6.00 Sandy CLAY. Orange while, moderate plasticity, stiff, dry. GB16_ 72 6,5

Total Depth: 7.00 m

Sand at bottom

7.00

PRO LOC, DRIL SAM SURI VEL LOG	JECT N ATION LING N PLING FACE E L HEAD GED BY	IAMI Tal NETH METH LEV D/TO	IOD Solid HOD Grat ATION C 0 m Stapleton	Pty Li , Oak Augei	ld leigh	DATE _22-12-2003 BLANK _0.0m - 1.0m SCREEN _1.0m - 5.5m GRAVEL PACK _0.3m - 5.5m SANITARY SEAL/BENTONITE STABILISED WATER LEVEL GROUND WATER ELEVATION	0.15m	- 0.3m
PID (ppm)	BLOW	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL) GRAPHIC	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
						FILL. Dark grey, sand moist, no odour, minor wood fragments. Silly SAND. Dark brown, medium grained, organic	0.50	Cement s Bentonite
			GB17_ 1.5		- 2 - 2 - 3	rich, no odour. Minor clays lens at 1.5m, molst - wet.		Blank Cas
And the second s			GB175.0	***	- 4 5 5	Becoming sandy CLAY at 4m. Sandy CLAY. Grey orange, low plasticity, soft, slightly moist.	4.50	sand 50 mm uP Slotted Sc
					- 6 -	Clayey SAND. Medium to coarse grained, moist becoming wet at 6.4m. Total Depth: 6.50 m	6.30 6.50	——————————————————————————————————————

PROL PROL LOCA DRIL SAM SURI WEL LOG	JECT N JECT N ATION _ LING M PLING I FACE E L HEAD GED BY	AME Talbe ETHO NETH LEVA TOO	Jandaro P of Avenue, 1 DD Solid A HOD Grab ATION 100 m	ty Lto Oaklo uger	d eigh		BLANK 0.0m - 1.0m SCREEN 1.0m - 5.0m GRAVEL PACK 0.4m - 5.0m SANITARY SEAL/BENTONITE STABILISED WATER LEVEL GROUND WATER ELEVATION	0.2m - 0.	4m
(mdd) QIA	BLOW	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
							FILL, Sandy clay.	1,00	Cement seal Bentonite seal 50 mm uPVC Brank Casing
					_ 1 _		SAND. Brown grey, medium grained, loose. Sandy CLAY. Low plasticity, soft, moist.	1.50	
					- 3			3.50	-0.8mm graded sand -50 mm uPVC Slotted Screen
4.4_SYD.GDT 02-03-04				AND THE PROPERTY OF THE PROPER	- 4 -		Clayey SAND. Medium to coarse grained. Sandy CLAY. Orange, low plasticity, moist.	4.00	
BORING / WELL CONSTRUCTION LOG JANDAROO.GPJ HLA_SYD.GDT 02-03-04		79	GB18_ 5.5	*	- 5 -		Moisture increasing Clayey SAND, Coarse grained, moist, EOH 6m. Total Depth: 6.00 m	5.80	
BORING //			***************************************						PAGE 1 OF

HLA 46 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB19 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4008202 DATE <u>06-01-2004</u> BLANK <u>0.0m - 0.5m</u> PROJECT NAME Jandaro Ply Ltd LOCATION Talbot Avenue, Oakleigh DRILLING METHOD Solid Auger SCREEN 0.5m - 6.5m GRAVEL PACK 0.4m - 6.5m SAMPLING METHOD Grab SANITARY SEAL/BENTONITE 0.2m - 0.4m SURFACE ELEVATION STABILISED WATER LEVEL WELL HEAD/TOC Om GROUND WATER ELEVATION LOGGED BY M Charge COMMENTS BLOW ANALYSED GRAPHIC LOG (mdd) Olc SAMPLE DEPTH (m BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM FILL. Surface grass. Read Brown, silty clayey SAND, slightly moist, some organic fragments. Cement seal 50 mm uPVC Blank Casing Bentonite seal 1.00 24.5 CLAY. Grey brown to red brown, slightly moist, no odours. 34.5 GB19_ 19 82.1 2.5 3.00 Sandy CLAY, Soft, slightly moist. 0.8mm graded sand 50 mm uPVC Slotted Screen 4.00 Clayey SAND. Grey, medium grained sand, soft. Increasing moisture with depth. 62 GB19_ 101 13 Clayey SAND. Orange brown, firm, dry, slightly moist. 5.50 5.5 6.50 Clayey SAND. Orange brown, medium to course

grained, moist to very moist.

Total Depth: 7.00 m

BORING / WELL CONSTRUCTION LOG JANDAROO.GPJ HLA_SYD.GDT 02-03-04

Cave in

7.00

PROJ PROJ LOCA DRILI SAMI SURF WELL LOGO	JECT N JECT N ATION LING M PLING I FACE E HEAD	Telep Fax:(UMB) AME Talbo ETHO WETH LEVA //TOO	OD Solid A IOD Grab ATION COm	e VIC 8699 122 202 2ty Lt Oakl	d eigh		DATE 06-01-2004 BLANK 0.0m - 1.0m SCREEN 1.0m - 6.5m GRAVEL PACK 0.6m - 6.5m SANITARY SEAL/BENTONITE 0.35m - 0.6m STABILISED WATER LEVEL GROUND WATER ELEVATION						
PID (ppm)	BLOW	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM				
21.2		₩.	GB20_	*		777	SAND, Brown, fine grained, dry, grass surface.	1,00	Cement seal Bentonite seal 50 mm uPVC Blank Casing				
80.4			GB20_ 2.5	*			Clayey SAND. Orange brown, firm, slightly moist. Sandy CLAY. Sandy clay lenses, slightly moist.	2.50					
22.1	Transpiration and transpiratio				- 5 -		Clayey SAND, moist. Clayey SAND Grey, moist, minor clay. EOH 6.5m	5,00	-0.8mm graded sand 50 mm uPVC Slotted Screen				
WELL COINS INCOMING WANDANDOODS 7 12-2-3		\$7	GB20 6.0	*	6-6-		Total Depth: 6.50 m	6.50					

PRO PRO LOC DRIL SAM SUR WEL LOG	JECT NO JECT NO ATION _ LING ME PLING W FACE EL L HEADO GED BY	Soi Tel Fax JM Tal Tal TET TET TO M	Clarendon 6 Ith Melbour Phone: (03) 8699 BER M400 E Jandaro bot Avenue HOD Grat ATION C 0 m	ne VI) 869: 2122 8202 Ply Li , Oak Auge	9 2199 Id Ieigh		DATE 06-01-2004 BLANK 0.0m - 0.5m SCREEN 0.5m - 2.0m GRAVEL PACK 0.4m - 2.0m SANITARY SEAL/BENTONITE 0.15m - 0.4m STABILISED WATER LEVEL GROUND WATER ELEVATION					
(mdd) QId	BLOW	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM			
3.5 2.5		22.	GB21_ 1.5	***************************************	2 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -		SAND. Black, medium grained, moist, soft, minor gravel fragments. FILL Slimes. Grey, fine sandy slit, very soft, very moist / wet saturated material. Minor sandy gravel fragments.	2.00	Cement seal 50 mm uPVC Blank Casing Bentonite seal 0.8mm graded sand 50 mm uPVC Slotted Screen			
2.2] <u>T</u>		GB21	 * - -	- 7		Material wrapped on auger. Total Depth: 7.50 m	7.50				

BORING / WELL CONSTRUCTION LOG JANDAROO GPJ HLA SYD GDT 02-03-04

PROD PROD LOCA DRILL SAMI SURF WELL LOGO	JECT N JECT N ATION LING M PLING H FACE E L HEAD GED BY	Sout Telep Fax: UMB AME Talb ETHO NETH LEV/ D/TOO	larendon St h Melbourn- phone: (03) (03) 8699 2 ER_M4008 Jandaro F ot Avenue, OD_Solid A HOD_Grab ATION	e VIC 8699 122 202 'ty Lt Oakl	d eigh		DATE 07-01-2004 BLANK 0.0m - 1.0m SCREEN 1.0m - 6.0m GRAVEL PACK 0.6m - 6.0m SANITARY SEAL/BENTONITE 0 STABILISED WATER LEVEL GROUND WATER ELEVATION	1.2m - 0.	Sm
PtD (ppm)	BLOW	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
8.5	The state of the s	艾	GB22_ 0.5	*	- 1		FILL, Dark grey, sand. FILL, Dark brown to black, slight odour. SAND, Creamy grey, medium to coarse grained, loose, moist, no odour.	1.50	-Cement seal -Bentonite seal -50 mm uPVC Blank Casing
אא אט אין בעליביי ויביטיטיי ויבייטיטיי ויביטיטיי ויביטיטיי		<u> </u>	GB22_ 6.8	*	3 - 3 - 5 - 5 - 6 - 6 - 6 - 6 - 6 - 6 - 6 - 6		Alternating bands of clayey SAND, orange, coarse grained with fine rounded quartz gravel. SAND. Orange with slight mottling, medium grained, slightly moist. EOH 6.8m.	5.00	-0.8mm graded sand 50 mm uPVC Slotted Screen

III.A BORING / WELL CONSTRUCTION LOG GB23 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4008202 DATE 07-01-2004 PROJECT NAME Jandaro Pty Ltd BLANK 0.0m - 1.0m SCREEN 1.0m - 3.50m GRAVEL PACK 0.5m - 3.5m LOCATION Talbot Avenue, Oakleigh DRILLING METHOD Solid Auger SAMPLING METHOD Grab SANITARY SEAL/BENTONITE 0.3m - 0.5m SURFACE ELEVATION STABILISED WATER LEVEL WELL HEAD/TOC 0 m GROUND WATER ELEVATION LOGGED BY P Stapleton COMMENTS PID reading erratically - PID measurments estimates only. BLOW COUNTS RECOVERY SAMPLE NUMBER ANALYSED GRAPHIC LOG PID (ppm) CONTACT DEPTH DEPTH (m BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM FILL. Black, medium to coarse grained sand. Cement seal Bentonite seal 0.50 GB23 50 mm uPVC 12 FILL. Mixed oange clay. 0,6 Blank Casing GB23_ 1.5 GB23_ ******* 40 1.9 QC04 1.90 FILL. Silty clay with degraded wood matter, plastic and foam inclusions, soft, moist, slight anaerobic 07/01/04 -0.8mm graded QC04T 07/01/04 odour. sand -50 mm uPVC Slotted Screen 3.00 FILL. Black, silty, soft, moist to wet. Cave in 3.80 Total Depth: 3.80 m

BORING / WELL CONSTRUCTION LOG JANDAROO.GPJ HLA_SYD.GDT 02-03-04

HLA 46 Clarendon St 46 Clarendon St South Melbourne VIC 3205 Telephone: (03) 8699 2199 Fax: (03) 8699 2122

BORING / WELL CONSTRUCTION LOG GB24

PROJ PROJ LOCA DRILL SAMF SURF WELL LOGO	ECT NO TION ING M LING M ACE E HEAD BED BY	JME Tall ETH AET LEV /TO	IOD Solid Au HOD Grab ATION C 0 m Stapleton	02 y Lto pakl ger	d eigh		SCREE GRAVI SANITA STABII GROUI	BLANK 0.0m - 1.0m SCREEN 1.0m - 4.0m GRAVEL PACK 0.5m - 4.0m SANITARY SEAL/BENTONITE 0.3m - 0.5m STABILISED WATER LEVEL GROUND WATER ELEVATION			
PID (ppm)	BLOW	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DE	SCRIPTION	CONTACT	WELL DIAGRAM	
		A REC	GB24_ 1.0	* * * * * * * * * * * * * * * * * * *	- 1	H5	FILL. Black, medium graine fragments of plastic, no odo drilling With slag ash gravel. Hard drilling and becoming Cuttings bringing up pastic on waste at 5.5m. Total Depth: 5.50 m	all graded, loose,. d sand, loose, with ur. (Foundary sands?) one gravels, hard moist at 4.8m and steel, wet. Refusal	.00	-Cave in	

HLA 46 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB25 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4008202 DATE <u>08-01-2004</u> BLANK <u>0.0m - 1.0m</u> PROJECT NAME Jandaro Pty Ltd LOCATION <u>Talbot Avenue</u>, <u>Oakleigh</u> DRILLING METHOD <u>Solid Auger</u> SCREEN 1.0m - 4.0m GRAVEL PACK 0.5m - 4.0m SAMPLING METHOD Grab SANITARY SEAL/BENTONITE 0.2m - 0.5m SURFACE ELEVATION STABILISED WATER LEVEL WELL HEAD/TOC 0 m GROUND WATER ELEVATION LOGGED BY P Stapleton COMMENTS Refusal at 1m on first attempt BLOW COUNTS SAMPLE NUMBER ANALYSED DEPTH (m BGL) GRAPHIC LOG PID (ppm) LITHOLOGIC DESCRIPTION WELL DIAGRAM FILL. Silty sand, concrete bricks, dry. Cement seal Bentonite seal 50 mm uPVC Blank Casing 1.00 FILL. Grey, sandy clay, moist, bricks, organics. GB25_ *** 2.0 QC06_ 08/01/04 QC06T_ 08/01/04 -0.8mm graded sand 50 mm uPVC Slotted Screen 4.00 FILL. Grey black, sandy silt, sandy clay, moist to wet at 4.3 to 4.5. GB25_ @ -Sand at bottom 4.3 4.50 Total Depth: 4.50 m

BORING / WELL CONSTRUCTION LOG JANDAROO.GPJ HLA_SYD.GDT 02-03-04

HLA 146 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB26 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4008202 DATE 08-01-2004 BLANK <u>0.0m - 1.0m</u> SCREEN <u>1.0m - 2.5m</u> PROJECT NAME Jandaro Pty Ltd LOCATION Talbot Avenue, Oakleigh DRILLING METHOD Solid Auger GRAVEL PACK 0.5m - 2.6m SAMPLING METHOD Grab SANITARY SEAL/BENTONITE 0.3m - 0.5m STABILISED WATER LEVEL SURFACE ELEVATION_ GROUND WATER ELEVATION WELL HEAD/TOC 0 m LOGGED BY P Stapleton COMMENTS Refusal at 1.5m on first attempt CONTACT DEPTH PID (ppm) BLOW SAMPLE DEPTH (m BGL) WELL DIAGRAM LITHOLOGIC DESCRIPTION FILL. Dark grey silty sand, bricks, concrete, fabric, slag ash, metal, gravels. Cement seal Bentonite seal -50 mm uPVC Blank Casing GB26_ Ж 1.2 -0.8mm graded sand -50 mm uPVC Slotted Screen 2.00 FILL. Silty sand, black, loose. Sand at bottom 3.00 BORING / WELL CONSTRUCTION LOG JANDAROO.GPJ HLA_SYD.GDT 02-03-04 FILL Silmes. Light brown / grey, fine grained silty sands, becoming finer grained towards 4m, grey, ·Cave In. 4.00 Total Depth: 4.00 m

HLA 46 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB27 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER_M4008202 DATE 08-01-2004 PROJECT NAME Jandaro Pty Ltd BLANK <u>0.0m - 0.5m</u> SCREEN <u>0.5m - 2.5m</u> LOCATION Talbot Avenue, Oakleigh DRILLING METHOD Solid Auger SAMPLING METHOD Grab GRAVEL PACK 0.4m - 2.5m SANITARY SEAL/BENTONITE 0.15m - 0.4m SURFACE ELEVATION STABILISED WATER LEVEL WELL HEAD/TOC _0 m GROUND WATER ELEVATION LOGGED BY P Stapleton COMMENTS BLOW ANALYSED DEPTH (m BGL) GRAPHIC LOG RECOVERY SAMPLE NUMBER PID (ppm) CONTACT DEPTH LITHOLOGIC DESCRIPTION WELL DIAGRAM FILL. Sand, gravel, concrete, brick, loose, dry. -Cement seal :50 mm uPVC Blank Casing Bentonite seal GB27_ 1 0.5 0.50 FILL. Grey brown sand, soft, slightly moist. -0.8mm graded sand 50 mm uPVC Slotted Screen Rounded gravels and wood fragments, GB27_ 2.5 Sand at bottom Becoming moist at 3m. GB27_ 3.3 *3.30 FILL Slimes. Light brown, fine grained silty sands, Cave in 4.00 Total Depth: 4.00 m

BORING / WELL CONSTRUCTION LOG JANDAROO GPJ HLA_SYD,GDT 02-03-04

OCATIO PRILLIN SAMPLI SURFAC VELL H OGGEI	OT NAME ON Tall IG METH NG MET CE ELEV EAD/TO D BY P	oot Avenue, OD Solid A HOD Grab ATION C 0 m	Ply Lt Oakl \uger	d eigh							
PID (ppm)	COUNTS	SAMPLE	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM			
						FILL. Sand, clay, bricks, concrete, light grey silty gravels, dry. FILL. Silty clay with gravels,	0.50	—Cement se —50 mm uPi —Blank Casi Bentonile s			
	<u>\$</u>	GB28_ 1.0	*	- 1 -		Hard drilling through gravels to 3.2m.		= 0.8mm gra sand 50 mm uF Slotted Sc			
				3 -		FILL Slimes fine grained silty sand, wet. Total Depth: 3.30 m	3.20	Sand at b			

PAGE 1 OF 1

HLA 146 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB29 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4008202 DATE 08-01-2004 PROJECT NAME Jandaro Pty Ltd BLANK 0.0m - 0.5m SCREEN 0.5m - 3.0m LOCATION Taibot Avenue, Oakleigh DRILLING METHOD Solid Auger GRAVEL PACK 0.4m - 2.5m SAMPLING METHOD Grab SANITARY SEAL/BENTONITE 0.2m - 0.4m SURFACE ELEVATION STABILISED WATER LEVEL WELL HEAD/TOC 0 m GROUND WATER ELEVATION LOGGED BY P Stapleton COMMENTS No soil samples collected. Refusal at 0.7m on first attempt. BLOW SAMPLE NUMBER ANALYSED GRAPHIC LOG РІО (ррт) DEPTH (m BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM FILL. Concrete, bricks, sand, topsoil, fragments of hardened resin, glass, dry. Steel pins and wood Cement seal -50 mm uPVC Blank Casing Bentonite seaf 1.00 Silty CLAY, With gravels. -0.8mm graded sand 50 mm uPVC Slotted Screen 3.00 FILL Slimes. Grey, fine sandy silt, very soft, very moist / wet saturated material. -Sand at bottom 3.50 Total Depth: 3.50 m

BORING / WELL CONSTRUCTION LOG JANDAROO, GPJ HLA_SYD, GDT 02-03-04

HLA 46 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG GB30 Telephone; (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4008202 DATE 08-01-2004 PROJECT NAME Jandaro Pty Ltd BLANK 0.0m - 0.5m LOCATION Talbot Avenue, Oakleigh SCREEN 0.5m - 2.0m DRILLING METHOD Solid Auger GRAVEL PACK 0.4m - 2.0m SAMPLING METHOD Grab SANITARY SEAL/BENTONITE 0.2m - 0.4m STABILISED WATER LEVEL SURFACE ELEVATION WELL HEAD/TOC 0 m **GROUND WATER ELEVATION** LOGGED BY P Stapleton COMMENTS . CONTACT DEPTH PID (ppm) SAMPLE ANALYSED BLOW DEPTH (m BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM FILL. Black foundary sands, loose with steel Cement seal 50 mm uPVC Blank Casing Bentonite seal -0.8mm graded sand 50 mm uPVC Slotted Screen GB30_ Ж m 2.0 QC07 * 08/01/04 QC07T 08/01/04 ***** 2.20 FILL. Slimes. Grey, brown, smoth clay, wet. -Sand at bottom BORING / WELL CONSTRUCTION LOG JANDAROO.GPJ HLA_SYD.GDT 02-03-04 Cave in 3.00 Total Depth: 3.00 m

PROD PROD LOCA DRIL SAMI SURF WELL LOGO	JECT N JECT N ATION LING N PLING FACE E HEAL JED BY	Telep Fex: IUMB IAME Talb TETHO METH ELEVA DITOC	larendon S h Melbour, phone: (03) 8699 ER M400, Jandaro of Avenue DD Soild HOD Grab	ne VI0 9) 8699 2122 8202 Pty Lt , Oakl Auger	d eigh		DATE 04-02-2004 BLANK 0.0m - 1.0m SCREEN 3.0m - 4.0m GRAVEL PACK 2.9m - 4.0m SANITARY SEAL/BENTONITE 2.7m - 2.9m STABILISED WATER LEVEL GROUND WATER ELEVATION						
PID (ppm)	BLOW COUNTS	RECOVERY	SAMPLE	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM				
					- 1 - 2 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3		CLAY. Brown/yellow. Dry - slightly moist, mod plasticity. Sandy CLAY. Dark grey /brown, wet , medium coarse sand, mod plasticity clay. SAND. Green / grey, moist to wet, medium grained sand. Leachate odour with metal and fill material. Almost auger refusal @ 4m.	3.00	- Cement seal - Cement seal - Bentonite seal - 0.8mm grade sand 50 mm uPVC Stotted Screen				

Total Depth: 4.00 m

PRODE	JECT NI JECT NA ATION _ LING M PLING I FACE E L HEAD GED BY	UMBI Talbi ETHO METH LEVA TOO	Jandaro of Avenue, OD Solid A IOD Grab ATION C O m Holgate	202 Oakli uger	eigh		BLANK 0.0m - 7m	i.5m - 6.	.5m
PtD (ppm)		RECOVERY	SAMPLE NUMBER	ANALYSED		-00g	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		32	BH16_ 0.8-1		-1		FILL. Gravelly sand, loose, grey. SAND. Fine to medium grained, loose, dark grey to black, organic.	1.50	-Cement se
	·	I	BH16_ 3.8-4		- 3 - 1 2 4 - 1 2 3 3 3 3 3 - 3 - 3 -		Clayey SAND. Orange, medlum grained, slightly moist.		–50 mm uP Blank Casi
		57	BH16_ 5.8-6	AND AND AND AND AND AND AND AND AND AND			Sandy CLAY. Grey, medium to course grained sand, low plasticity, moist. Alternating bands of sandy CLAY / clayey SAND.	6.00	—Bentonite
			BH16_ 9-9.1	*	- 9		SAND. Grey, coarse grained, slightly moist. Wet at 9m.	9.00	-0.8mm grasand 50 mm uF Slotted Sc

Total Depth: 13.00 m

PAGE 1 OF 1

PRO PRO LOC. DRIL SAM SURI WEL LOG	JECT N JECT N ATION LING N PLING FACE E L HEAL GED B	Sou Fax IUM IAM Tal METH MET LEV D/TO	Clarendon S oth Melbourr ephone: (03) c: (03) 8699: BER M4000 E Jandaro bot Avenue, HOD Solid / THOD Grab /ATION	ne VIII) 8699 2122 5202 , Oakl	9 2199 eigh		DATE 27-01-2004 BLANK 0.0m - 7m SCREEN 7m - 11.5m GRAVEL PACK 6.5m - 11.5m SANITARY SEAL/BENTONITE 6m - 6.5m STABILISED WATER LEVEL GROUND WATER ELEVATION								
PID (ppm)	BLOW	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	·	ELL DIAGRAM					
			BH17_2.3-2.5 QC11_27/01/04 BH17_5.4-5.5 BH17_6.9-7 BH17_7.1-7.2	* * * * * * * * * * * * * * * * * * * *	-10-10-10-10-10-10-10-10-10-10-10-10-10-		FILL. Silty sand, black, fine to medium grained, slightly moist with minor gravels. Continued silty black sand. Continued silty black sand, medium to fine grained, slightly moist. Clay content and moisture increasing. SAND. Creamy grey brown, coarse grained, well sorted, moist to wet.	7.00		Cement seal 50 mm uPVC Blank Casing Bentonite sea 60 mm uPVC Slotted Screen					

Total Depth: 11.50 m

PROD PROD LOCA DRIL SAMI SURI WELI LOGO	JECT N JECT N ATION , LING M PLING I FACE E L HEAD	South Telep Fax:(UMBE AME Talbo ETHO WETH LEVA VTOC	OD <u>Grab</u> TION O m lolgate	9 VIC 8699 122 202 Dakl	2199 eigh		DATE 27-01-2004 BLANK 0.0m - 5.5m SCREEN 5.5m - 9.5m GRAVEL PACK 5m - 9.5m SANITARY SEAL/BENTONITE 4 STABILISED WATER LEVEL GROUND WATER ELEVATION	I.5m - 5r	n
PID (ppm)	BLOW	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
						7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	TOPSOIL. Brown, fine to medium grained, grass surface. Sandy SILT. Brown, fine, loose, dry.	0.50	
		ZW.	BH18_ 3-3.2		- 3		Sandy CLAY. Grey / yellow, medium to course grained sand, low plasticity, dry. Clayey SAND. Orange, hard.	3.00	
CONSTRUCTION LOG JANDAROU GWIST HAY STULGUT UZ-UG-YA		10	BH18 6.9-7	*	- 5 7 8 8		CLAY. Grey / yellow / brown, low plasticity, dry, minor sand. 又 Becoming wet at 5.5m. SAND. Grey / yellow, medium grained, wet.	7.00	-0.8mm graded sand 50 mm uPVC Slotted Screen

Total Depth: 9,50 m

PAGE 1 OF 1

PRO PRO LOC. DRIL SAM SURI WEL LOG	JECT N ATION LING N PLING FACE E L HEAL GED B'	So Tel Fax JAM METI METI METI METI METI VY_P	Clarendon S uth Melbour lephone: (03 x: (03) 8699 IBER M400 IE Jandaro lbot Avenue HOD Solid THOD Grat VATION	ne VIC) 8699 2 2122 5202 , Oaklei Auger	gh	DATE 27-01-2004 BLANK SCREEN GRAVEL PACK SANITARY SEAL/BENTONITE STABILISED WATER LEVEL GROUND WATER ELEVATION	
PID (ppm)	BLOW	RECOVERY			UEPTH (m BGL) GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT
		<u> </u>	BH18A_ 2-2.2 QC08_ 27/01/04 QC08T_ 27/01/04		2	Minor gravel and brick. FILL. silty clay. Brown / grey, low plasticity with fragments of brick, dry. Becoming moist at 2.5m.	2.00
		7.7	BH18A_ 5.2-5.3	*	5	FILL. Silty SAND. Black, moist, minor fragments wood Slimes hit at 7.5m. Bore location abandoned.	5.00

Total Depth: 8.00 m

HLA 46 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG BH19 Telephone: (03) 8699 2199 Fax:(03) 8699 2122 DATE 27-01-2004 BLANK 0.0m - 4.5m PROJECT NUMBER M4005202 PROJECT NAME Jandaro LOCATION Taibot Avenue, Oakleigh SCREEN 4.5m - 7.5m DRILLING METHOD Solid Auger SAMPLING METHOD Grab GRAVEL PACK 4m - 7.5m SANITARY SEAL/BENTONITE 3.5m - 4m SURFACE ELEVATION STABILISED WATER LEVEL WELL HEAD/TOC 0 m **GROUND WATER ELEVATION** LOGGED BY P Stapleton COMMENTS . CONTACT DEPTH ANALYSED GRAPHIC LOG BLOW COUNTS SAMPLE PiD (ppm) DEPTH (m BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM FILL. Silt, minor gravel with orange to brown grading. 1.00 FILL. Silty sand, gravel, brick fragments, minor clay, slight aromatic odour (similar to gasworks napthalene odour) BH19_ 1.2-1.4 QC09_ 27/01/04 QC09T 27/01/04 Cement seal 2.00 FILL. Hard clay with sand, red / brown, odour BH19_ 2.2-2.3 continues. 50 mm uPVC Grading to soft clay. Blank Casing Hard drilling. -Bentonite seal Drilling remained hard up to 4m. 4.50 FILL. Grey black, fine to medium grained silty sand, BORING / WELL CONSTRUCTION LOG JANDAROO_GW.GPJ HLA_SYD.GDT 02-03-04 -0.8mm graded sand -50 mm uPVC Dilling becoming harder from 6m to 7m. Fill / natural boundary depth hard to tell due to sloppy Slotted Screen conditions on auger. 7.00 SAND, Grey, coarse grained, wet.

Total Depth: 8.00 m

BH19 7.8-8 Cave in

PAGE 1 OF 1

8.00

HLA 146 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG BH20 - A Telephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4005202 DATE <u>27-01-2004</u> PROJECT NAME Jandaro BLANK 0.0m - 6m LOCATION Talbot Avenue, Oakleigh SCREEN 6m - 11m DRILLING METHOD Solid Auger SAMPLING METHOD Grab GRAVEL PACK 5.5m - 11m SANITARY SEAL/BENTONITE 4m - 5.5m SURFACE ELEVATION STABILISED WATER LEVEL WELL HEAD/TOC 0 m GROUND WATER ELEVATION LOGGED BY P Stapleton COMMENTS BLOW COUNTS RECOVERY ANALYSED GRAPHIC SAMPLE NUMBER PID (ppm) CONTACT DEPTH DEPTH (m BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM SAND. Brown, fine, loose, dry. 1.00 SAND. Yellow / brown, medium to fine grained sand, dry. BH20_ 8 Cement seal 2-2,1 -50 mm uPVC Blank Casing Sand becoming finer. Bentonite seal 5.00 Sandy CLAY. Brown, dry. Alternating bands of sandy CLAY and clayey SAND. BH20_ 6,00 5.8-6 Clayey SAND. Brown / yellow, fine to medium grained, slightly moist.

BORING / WELL CONSTRUCTION LOG JANDAROO GW.GFJ HLA SYD.GDT 02-03-04 Becoming moist at 7m. Becoming wet at 7.5m. BH20 7 8.00 7.8-8 SAND. Orange / yellow, medium to coarse grained sand, wet. 0.8mm graded _sand _50 mm uPVC Slotted Screen Total Depth: 11.00 m PAGE 1 OF

PRO. PRO. LOC/ DRIL SAM SURI WEL LOG	JECT NUM JECT NAM ATION To LING MET PLING ME FACE ELE L HEAD/To	'HOD Soli THOD Gr VATION OC 0 m P Stapletor	93) 8699 9 2122 905202 0 ue, Oak d Auger ab	eigh		DATE _28-01-2004 BLANK _0.0m - 6m SCREEN _6m - 12m GRAVEL PACK _5.5m - 12m SANITARY SEAL/BENTONITE _5 STABILISED WATER LEVEL GROUND WATER ELEVATION	im - 5,5r	n
PiD (ppm)	BLOW COUNTS RECOVERY	SAMPLE	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM
	.35	BH21 1-1.1				ASPHALT FILL. Fine grained sand, brown, loose with minor gravel.	0.10	
	_19	BH21 3.9-4		- 3		SAND. Dark brown, fine grained, organic rich, minor clay. Clayey SAND. Cream brown, medium grained, dry.	3.50	Cement seal 50 mm uPVC Blank Casing
1 02-03-04	7.5	E BH21 7-7.1		- 5		Alternating bands of sandy CLAY / SANDY clay. Clayey SAND continues. Becoming moist.		Bentonite sea
BORING / WELL CONSTRUCTION LOG JANDAROO GWGFIJ HJA SYDGDT 02-03-04	3	E BH21 9-9.7		8 8 9		SAND. Cream, coarse grained. ^모 Wet at 9m.	8.00	-0.8mm grade sand 50 mm uPVC Slotted Scree
ORING / WELL CONSTRUCTION L				10			12.00	

Total Depth: 12.00 m PAGE 1 OF 1

Auger very hot. BH22 2.8-2.9 Wet sloppy cuttings at 5m. Hole making water when auger withdrawn. Wet sloppy cuttings at 5m. Hole making water when auger withdrawn. Sandy silty CLAY with sandstone gravel, grey /	PROJ PROJ LOCA DRILL SAME SURF WELL LOGO	JECT N JECT N ATION LING M PLING I FACE E HEAD BED BY	Sou Tele Fax UME AME Tall IETH MET LEV VTO	oot Avenue, IOD Solid / HOD Grab ATION C 1 m Stapleton	ne VI() 8699 2122 3202 Oakl Auger	9 2199 eigh	SCREEN 0.0m - 5m	DATE <u>28-01-2004</u> BLANK <u>0.0m - 5m</u> SCREEN <u>0m - 4m</u> GRAVEL PACK <u>6m - 12m</u> SANITARY SEAL/BENTONITE <u>5.5m - 12m</u> STABILISED WATER LEVEL GROUND WATER ELEVATION							
FILL. Dry clay, concrete, gravels, wood fragments, hard ground, organic odour, dry. FILL. Very hard compacted clay, dry. FILL. Slity sand, black, soft, moist. 1.50 FILL. Slity sand, black, with minor gravels and brick, wef to moist, clay content increasing with depth. Hard drilling. Wet sloppy cuttings at 6m. Hole making water when auger withdrawn. Wet sloppy cuttings at 6m. Hole making water when auger withdrawn. Sandy slity CLAY with sandstone gravel, grey / John John, moist. 7.00 Sandy slity CLAY with sandstone gravel, grey / John John, moist. FILL. Dry clay, concrete, gravels, wood fragments, hard gravels, soft, moist. 1.50 Cement se -50 mm uPN Blank Cash Bhilling. -6 - Wet sloppy cuttings at 6m. Hole making water when auger withdrawn. 7.00 Sandy slity CLAY with sandstone gravel, grey / John John John John John John John John	PID (ppm)	BLOW	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL) GRAPHIC	LITHOLOGIC DESCRIPTION	CONTACT	WE	ELL DIAGRAM					
			73	BH22_2.8-2.9 BH22_5.4-5.5	* 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		FILL. Dry clay, concrete, gravets, wood fragments, hard ground, organic odour, dry. FILL. Very hard compacted clay, dry. FILL. Gravelly silty clay, grey / black, soft, moist. Auger very hot. FILL. Silty sand, black, with minor gravets and brick, wet to moist, clay content increasing with depth. Hard drilling. Wet sloppy cuttings at 5m. Hole making water when auger withdrawn. Sandy silty CLAY with sandstone gravet, grey / black, moist. Wet band at 7.5m.	1.00 1.50 2.50		-0.8mm grade sand 50 mm uPV Slotted Scre					

HLA |46 Clarendon St BORING / WELL CONSTRUCTION LOG BH23 South Melbourne VIC 3205 A Telephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4005202 DATE 28-01-2004 PROJECT NAME Jandaro BLANK LOCATION Talbot Avenue, Oakleigh SCREEN DRILLING METHOD Solid Auger GRAVEL PACK SAMPLING METHOD Grab SANITARY SEAL/BENTONITE SURFACE ELEVATION STABILISED WATER LEVEL WELL HEAD/TOC **GROUND WATER ELEVATION** LOGGED BY P Stapleton COMMENTS SAMPLE NUMBER ANALYSED GRAPHIC LOG BLOW COUNTS PID (ppm) DEPTH (m BGL) LITHOLOGIC DESCRIPTION FILL. Gravel, sands, bricks. 0.50 Clayey SAND. Orange / brown, minor gravel. 1.00 Sandy CLAY, Low plasticity, soft. BH23_ 1.3-1.4 32 2.00 Clayey SAND. Brown, loose, wet and sloppy (perched water pond 40m to the south). BH23_ 2,8-3 BORING/WELL CONSTRUCTION LOG JANDAROO_GW.GPJ HLA_SYD.GDT 02-03-04 6.00 BH23_ 6-6.2 QC10_ 28/01/04 Sandy SILT. Soft, wet, fine grained. * * * QC10T 28/01/04 Grading into fine to medium grained silty SAND.

Silly SAND. Wet with minor bands of homogeneous clay, Alternating wet / moist

BH23_ 9-9.1

3

9.00

LOGGED	BY NTS.	L T					STABILISED WATER LEVEL GROUND WATER ELEVATION				
	T	≿		 DEPTH (m BGL)	GRAPHIC LOG	LITHOLO		Į	7		
							OGIC DESCRIPTION	CONTACT	,	WELI	L DIAGR/
PETERINITY PANAMAKAN MEMBERANA MANAMAKAN MEMBERANA MANAMAKAN MEMBERANA MANAMAKAN MEMBERANA MANAMAKAN MEMBERANA				_ 1 _		FILL. Sandy clay, b moist, no odour.	ricks, black, moderate plasticity,	1.50			
	2	2	BH24 2.5-2.7	- 2		Top of sand SAND. Light brown, CLAY. Grey, high pl odour,	moist, no odour. lasticity, soft to firm, moist, no	2.50			-Cement
	***************************************			- 3 - - - - - - 4 -		Sandy CLAY, Light	grey with white orange	4.00			-50 mm t Blank Ca
				5 -		smearing, firm to ha odour. Clayey SAND. Red sticky, moist to wet,	rd, high plasticity, moist, no / brown, medium plasticity, medium to coarse grained	5.00			-Bentonit
				- 6 -		Clayey SAND. Light plasticity, sticky, moi grained sand, no od	orange / brown, medium ist to wet, medium to coarse our,	6.00			
						Clayey SAND. Light plasticity, sticky, moi quarz grained sand,	orange / brown, medium Ist to wel, coarse to very coarse slight odour.	7.00			
				8 - 1 - 1 - 1		plasticity, sticky, moi	brown / yellow, medium st to wet, coarse to very coarse slight odour. Less clayey with	9.00			0.8mm g sand 50 mm u Slotted S
				10		sticky, very wet, coar grained sand, slight Drill on 2m and insta	grey / grey, medium plasticity, rse to very coarse quarz odour. Less clayey with depth.	10.00			

Clayey SAND, Light brown / yellow, medium plasticity, sticky, moist to wet, coarse to very coarse quarz grained sand, slight odour. Less clayey with depth. 8.00 0.8mm graded sand -50 mm uPVC Slotted Screen 9.00 Clayey SAND. Light grey / grey, medium plasticity, sticky, very wet, coarse to very coarse quarz grained sand, slight odour. Less clayey with depth. Drill on 2m and install. 10.00 Clayey SAND. Light grey / grey, medium plasticity, sticky, very wet, coarse to very coarse quarz grained sand, slight odour. Less clayey with depth. Drill on 2m and install. Total Depth: 11,00 m PAGE 1 OF 1

HLA 46 Clarendon St South Melbourne VIC 3205 Telephone: (03) 8699 2199

BORING / WELL CONSTRUCTION LOG BH25

PR LO DR SA SU WE LO	OJECT N OJECT N CATION ILLING N MPLING RFACE E ELL HEAD GGED B' MMENTS	Fax IUMI IAMI Tall IETH MET LEV D/TO	IOD <u>Solid A</u> HOD <u>Grab</u> 'ATION C 4 m Townsend	122 202 Oakl uger	eigh			DATE 03-02-2004 BLANK 0.0m - 3.5m SCREEN 3.5m - 10m GRAVEL PACK 3m - 3,5m SANITARY SEAL/BENTONITE 0.0001m - 3m STABILISED WATER LEVEL GROUND WATER ELEVATION				
PID (ppm)	BLOW	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGL)	GRAPHIC LOG	LITHOL	OGIC DESCRIPTION	CONTACT	WELL DIAGRAM		
BORING / WELL CONSTRUCTION LOG JANDAROO_GW.GPJ HLA_SYD.GDT 02-03-04		RE	W. Z.	A	- 1		SAND. Light brown medium to coarse SAND. Brown, mo grained.	ist to slightly wet, medium hit at 4.5m. Hard drilling hitting wet	3,00	-50 mm uPVC Blank Casing Bentonite seal -0.8mm graded sand -50 mm uPVC Slotted Screen		
BORIN												

PROD PROD LOCA DRILL SAME SURF WELL LOGG	JECT N JECT N ATION LING N PLING FACE E L HEAL GED BY	NOMINAMINA TAL	bot Avenue, HOD Solid / PHOD Grab /ATION IC Townsend	, Oakl Auger	lelgh r		DATE 03-02-2004 BLANK SCREEN GRAVEL PACK SANITARY SEAL/BENTONITE STABILISED WATER LEVEL GROUND WATER ELEVATION	
РІО (ррт)	BLOW	RECOVERY	SAMPLE NUMBER	ANALYSED	1	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	10 41 100
			BH25A		-12333333333		FILL. More clayey with depth, some light brown clay in black fine fine grained sandy clay material, slight organic odour, slighly moist. FILL. Sandy clay, fine to medium grained sand, black, moist, no odour, moderate plasticity, slight sheen. Refusal on fill material with large brick size pieces of steel. Total Depth: 4.50 m	4, 4,

HLA 146 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG BH26 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 DATE 03-02-2004 PROJECT NUMBER M4005202 BLANK <u>0.0m - 5.5m</u> PROJECT NAME Jandaro SCREEN 5.5m - 10m LOCATION Talbot Avenue, Oakleigh DRILLING METHOD Solid Auger GRAVEL PACK 4.5m - 10m SAMPLING METHOD Grab SANITARY SEAL/BENTONITE 4.0m - 4.5m STABILISED WATER LEVEL SURFACE ELEVATION WELL HEAD/TOC 6 m **GROUND WATER ELEVATION** LOGGED BY L Townsend COMMENTS ANALYSED CONTACT DEPTH SAMPLE NUMBER BLOW COUNTS DEPTH (m BGL) PID (ppm) WELL DIAGRAM LITHOLOGIC DESCRIPTION FILL. Sandy silty clay, medium brown, slightly moist, moderate plasticity, probable imported fill, on embankment, possibly from onsite overburden. 2.00 Cement seal Silty CLAY. Red / brown / grey. Firm to hard, high plasticity, moist slight odour. 50 mm uPVC Blank Casing 3.00 BH26 9 Sandy CLAY. Grey, high plasticity, moist, slight 3-3.2 sweet odour, some iron staining, medium grained As Above. With Iron staining, soft to firm, high -Bentonite seal plasticity. As Above. Red / brown. BORING / WELL CONSTRUCTION LOG JANDAROO GW.GPJ HLA SYD.GDT 02-03-04 As Above, Increasing firmness with depth, high plasticity, light grey. 7.00 Sandy CLAY. Red / brown / grey, coarse to medium 0.8mm graded grained, moist to wet. sand -50 mm uPVC Slotted Screen 8.00

Total Depth: 10.00 m

PAGE 1 OF

Sandy CLAY. Light grey, moderate plasticity, sticky, wet. Higher clay content than above.

As Above

Very wet medium grained sand.

PRO PRO LOC. DRIL SAM SURI WEL LOG	JECT I JECT I ATION LING I PLING FACE I L HEA GED B	Tel Fax NUM NAM Tal WETH MET ELEV D/TO Y L	Clarendon S th Melbourn ephone: (03) c: (03) 8699: BER_M4000 E_Jandaro bot Avenue, 10D_Solid / HOD_Grab /ATION C_7 m Townsend	ne VIII) 8699 2122 5202 Oakl	9 2199						
PID (ppm)	BLOW	RECOVERY	SAMPLE	ANALYSED	DEPTH (m BGL)	GRAPHIC £0G	LITHOLOGIC DESCRIPTION	CONTACT	WELL DIAGRAM		
					4		FILL. Slity sand, black, fine, dry to slightly moist, low plasticity, slight odour. Some fill material (e.g. brick etc)		Cement seal 50 mm uPVC Blank Casing Bentonite seal		
			BH27_ 3-3.2		- 2		As above with large pieces of metal. As above with occasional 2cm fragments of sandstone. Black staining. Some plastic and slag.				
					- 4		As above. Moist to wet, Slight sheen,		-0.8mm graded sand -50 mm uPVC Slotted Screen		
					- 6 - 2		As above. Wet with slight odour. As above. Wet with slight odour. Refusal on metal / wire. Total Depth: 6,50 m	6.50			

BORING / WELL CONSTRUCTION LOG JANDAROO_GW.GPJ HLA_SYD.GDT 02:03-04

HLA 46 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG BH28 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 DATE <u>04-02-2004</u> PROJECT NUMBER M4005202 BLANK 0.0m - 6m PROJECT NAME Jandaro SCREEN 6m - 12m GRAVEL PACK 5m - 12m LOCATION Talbot Avenue, Oakleigh DRILLING METHOD Solid Auger SANITARY SEAL/BENTONITE 4.5m - 5m SAMPLING METHOD Grab STABILISED WATER LEVEL SURFACE ELEVATION GROUND WATER ELEVATION WELL HEAD/TOC 8 m LOGGED BY L Townsend COMMENTS CONTACT BLOW ANALYSED SAMPLE NUMBER (mdd) DEPTH (m BGL) WELL DIAGRAM LITHOLOGIC DESCRIPTION PID (Sandy CLAY. Orange / brown, low to medium plasticity, moist to wet, fine grained sand, well sorted, foundary sands. 0.60 Sandy CLAY. Black, wet, no odour, moderate plasticity, fine grained sand, well sorted same as in BH28A, foundary sands. 2.00 FILL. Dark grey / black slimes, smooth, very moist to wet, no odour, soft to firm. Cement seal BH28 2.5-2.7 (9) 50 mm uPVC As above. Light grey, sloppy, almost flowing, very soft with no odour. Biank Casing Bentonite seal As above, Increasing water content with depth. BORING / WELL CONSTRUCTION LOG JANDAROO GW,GPJ HLA_SYD.GDT 02-03-04 As above, Very fluid. 0.8mm graded sand 50 mm uPVC Slotted Screen

Still in slimes. Total Depth: 11.50 m

11.50

PAGE 1 OF 1

BH28_ 10-10.2

HLA 146 Clarendon St South Melbourne VIC 3205 BORING / WELL CONSTRUCTION LOG BH29 Telephone: (03) 8699 2199 Fax: (03) 8699 2122 PROJECT NUMBER M4005202 DATE <u>04-02-2004</u> PROJECT NAME Jandaro BLANK <u>0.0m - 10m</u> SCREEN <u>5m - 5.5m</u> GRAVEL PACK <u>0.0001m - 5m</u> LOCATION Talbot Avenue, Oakleigh DRILLING METHOD Solid Auger SAMPLING METHOD Grab SANITARY SEAL/BENTONITE 0m - 6.5m SURFACE ELEVATION STABILISED WATER LEVEL WELL HEAD/TOC 9 m **GROUND WATER ELEVATION** LOGGED BY L Townsend COMMENTS PID (ppm) BLOW SAMPLE NUMBER ANALYSED DEPTH (m BGL) LITHOLOGIC DESCRIPTION WELL DIAGRAM FILL. Silty sandy clay, dark brown / grey, some gravels, moist. Cement seal 50 mm uPVC Large amount of fill material. Close to auger Blank Casing refusal. Bentonite seal 2.50 FILL. Slimes. Sifty sandy clay, dark brown / grey, moist. 4.00 FILL. Slimes. Sandy silly clay, in gravels. Brown / grey, wet, moderate to high plasticity. 0.8mm graded sand 50 mm uPVC Slotted Screen 5.00 FILL. Slimes. Less gravels with depth, very wet, not a smooth or fluid as BH28 6.00 Total Depth: 6.00 m

BORING / WELL CONSTRUCTION LOG JANDAROO GWGPJ HLA SYD, GDT 02-03-04



Monitoring Well **BH04D**

Project Huntingdale Location 1221-1249 Surface Elev. NA Top of Casing 63.95 Screen: Dia 50 mm. Casing: Dia 50 mm. Fill Material Bentonii Drill Co. Star Drilling Driller J. Thomas Checked By	COMMENTS					
Depth (m.) Well Completion	OIA (mdd)	Sample ID % Recovery Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structu Geologic descriptions are based on ASTM Standard	
- 1 - 2 - 3 ▼ - 4				sc sw	Fill: Clayey SAND; black, slightly moist. Fill: SAND; well graded, grey, loose. Fill: Silty SAND; fine grained, black, found metal, increasing moisture with depth, loos Fill: SLIMES; saturated, dark grey, very so	ry waste, with scrap se.



Monitoring Well **BH24A**Page: 1 of 1

-						wner Talbot Road Finance Pty Ltd	COMMENTS						
	Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB Surface Elev. NA Total Hole Depth 12.0 m. North 5801085.00 mEast 333332.39 m.												
Top of Casing 64.686 m. Water Level Initial NA Static 10.5 m. Diameter 225 mm. Screen: Dia 50 mm. Length 4.5 m. Type/Size Class 18 UPVC													
				Type									
-			-			g/Core _Geoprobe							
						tem flight auger							
			Log By D. W			Date17/8/16 Permit #0826							
			9 - 7										
	Well	م ج	Sample ID % Recovery Blow Count Recovery	oic B	USCS Class	Description							
Depth (m.)	We	PID (ppm)	Recc Sw C	Graphic Log	SS	(Color, Texture, Structu	ıre)						
	8		<u> </u>		ŠN	Geologic descriptions are based on ASTM Standard	d D 2487-93 and the USCS.						
L 0 -				XXXXXX		Fills Occupie OLAY Law planticity, dead, because	on with multiple or sight						
						Fill: Sandy CLAY; low plasticity, dark brow	n, with rubbie, moist.						
			D. 10.44 4.0										
		0.5	BH24A-1.0		CL								
<u> </u>		0.3	BH24A-2.0			very moist.							
						Fill: CLAY; medium plasticity, grey, moist.							
ļ		0.5	BH24A-3.0		СН	Fin. CLAT, medium plasticity, grey, moist.							
						Fill: Silty SAND; fine to medium grained, g	grey/brown, moist.						
4 -		1.1	BH24A-4.0		0,4/								
					SW								
-		1.0	BH24A-5.0										
						SANDY CLAY; low plasticity, dark brown, f	fine grained cand						
- 6 –		1.1	BH24A-6.0			very sandy, firm.	ille graineu sanu,						
한			D. 10.4.1. = 5		СН								
ġ -		0.9	BH24A-7.0										
=													
<u>a</u>		0.2	BH24A-8.0			becomes CLAYEY SAND ; fine to medium	grained, light brown						
/51A						moist.	J :						
3 		0.3	BH24A-9.0										
JOAE JOAE					sw	coarse grained sands, with white rounded	gravei, very moist.						
Ž													
e 10 -		0.4	BH24A-10.0			very coarse grained sand, very gravelly.							
87 .: ¥					\vdash	SILTY SAND; fine to medium grained, ligh	t brown wet						
Ý -						Sierr Gaile, fine to mediam grained, fight	t Diovvii, wot.						
2 Z					SW								
≣ - 12 -						Find of investigation of 40.0 and a							
						End of investigation at 12.0 mbgs.							



Monitoring Well **BH28A**Page: 1 of 1

•						wner _Talbot Road Finance Pty Ltd Dakleigh South Proj. NoENAUABTF00751AB_	COMMENTS
						North <u>5801145.97 m</u> East <u>333466.98 m</u> .	
						Static NA Diameter 225 mm.	
	-						
			-			Type/Size Class 18 UPVC	
-			•			Type Class 18 UPVC	
						g/Core <u>Geoprobe</u>	
						tem flight auger	
						Date	
Checked I	Ву		TI	License	e No.	_WLE066366	
_	Well		Sample ID % Recovery Blow Count Recovery	. <u>.</u>	USCS Class.	Description	
Depth (m.)	Well	PID (ppm)		Graphic	ပ္ပ	(Color, Texture, Structu	re)
"	Cor		Sar R Blov	U U		Geologic descriptions are based on ASTM Standard	
						Coologio docompliono di o bacca cim i o mi o canada c	TE 2 TOT GO WING WING GOOG.
0 -						Fill: Imported Soil; clayey sand, fine to me	edium grained, light
						brown, moist, soft.	
T -		0.6	BH28A-0.5				
- 1 -		0.5	BH28A-1.0				
-		0.2	BH28A-1.5			Fill: Silty SAND; fine grained sand, black,	foundry waste, with
						scrap metal, plastics, fbarics, loose.	•
2 -		0.4	BH28A-2.0				
-							
- 3 -		0.5	BH28A-3.0			moist.	
					SM	moist.	
<u>-</u> -							
12/4							
5L 4 -		0.3	BH28A-4.0				
ਨੂੰ ਹ						saturated.	
5							
=							
£							
SH 5 −						SLIMES; black, very soft, wet.	
000							
a P							
NAME OF THE PERSON OF THE PERS							
<u>-</u> 6 −							
1/1/8							
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≝ - 7 -							
<u>≅</u>							
Ž					\vdash	End of investigation at 7.5 mbgs.	
الله الم							
뷥 8 -	1						
<u>ــــــ</u> ــــات	II .		II		Ш		



Monitoring Well BH33

BH33Page: 1 of 1

-							wner Talbot Road Finance Pty Ltd	COMMENTS
							Dakleigh South Proj. No. ENAUABTF00751AB	
							North 5801051.13 m _{East} 333402.57 m.	
							Static NA Diameter 225 mm.	
							Type/Size Class 18 UPVC	
_			_				Type Class 18 UPVC g/Core Geoprobe	
							g/Core <u>Geoprobe</u> e, Hollow stem flight auger	
							Date	
							WLE066366	
						Ι		
₩	Well	a (î	Sample ID % Recovery	Blow Count Recovery	g g	USCS Class	Description	
Depth (m.)	We ompl	PID (ppm)	Rec	ow C	Graphic Log	SCS	(Color, Texture, Structu	ıre)
	Ö		NI%	8 -		SN	Geologic descriptions are based on ASTM Standard	d D 2487-93 and the USCS.
- 0 - - 2 - - 4 -						MLG SW SW	Fill: Imported Soil; gravelly sandy clay, da Fill: GRAVELLY SILT; dry friable, light bro Fill: Silty SAND; fine to medium grained, of Fill: Silty SAND; fine grained, grey, loose. Fill: SLIMES Fill: Silty SAND; fine grained, grey, loose.	wn. dark brown, loose.
8 -						sw	wet, very soft. Fill: Sandy SILT (SLIMES); fine grained sa soft. End of investigation at 10.5 mbgs.	and, saturated, very
<u>.</u>					×××××		End of investigation at 10.5 mbgs.	
<u>-</u>								
j			<u> </u>					



Monitoring Well **BH34**

Location Surface El Top of Cas Screen: D Casing: Di Fill Materia Drill Co. Driller S	lev. NA sing 61.94 ia 50 mm. ia 50 mm. al Bentonia Star Drilling	8 m. te, Grou	Total Hole I Water Leve Length 4. Length 8. tt, Sand Log By D.	2 Talbot Avo Depth 13 Il Initial No 5 m. 2 m.	enue, C	Date <u>20/6/16</u> Permit # <u>NA</u>	COMMENTS
Depth (m.)	Well	(mdd)	П	Graphic Log	USCS Class.	WLE066366 Description (Color, Texture, Structu Geologic descriptions are based on ASTM Standard	
- 0 - - 2 - - 4 -		3.9 2.8 3.1 0.3	BH34_0.5 BH34_1.0 BH34_2.0 BH34_3.0		SM	Fill: Silty SAND; with some brick pieces, le Sandy CLAY; low plasticity, very sandy, cobrighton group.	
### 10		0.6 0.8 1.3 1.0 0.9 0.5	BH34_5.0 BH34_6.0 BH34_7.0 BH34_8.0 BH34_10.0 BH34_11.0 BH34_11.0		SW	SAND; coarse, loose, grey. colour change to white at 5.5mbgs. colour change to orange at 6.0mbgs. colour change to grey at 7.0mbgs. becoming wet at 8.0mbgs.	
14 —		5.5	0.0			End of investigation at 13.0mbgs.	



Monitoring Well **BH35**

BH35Page: 1 of 1

Location 1221-1249 Centre Road, and 22 Tabled Avenue, Qualeigh South Proj. No. ENAUARTRO751AB Surface Elev. MA Top of Casing 61.901 m. Screen Dia 59 mm. Length 4.5 m. Length 4.5 m. Length 1.5 m. Type Size Class 18 UPVC Casing: Dia 50 mm. Length 1.5 m. Rigicore Sonic Drill Co. Star Drilling Drill Co. Star Drilling Drill Co. Star Drilling Checked By License No. MLE096389 License No. MLE096389 Description (Color, Texture, Structure) Gedogic descriptions are based on ASTM Standard D 2487-50 and the USCS. Fill: Sandy CLAY; low plasticity, light brown, uniform grading, medium grained sand, moist. Fill: Sandy CLAY; brown/grey, high plasticity, moist. Fill: Sandy CLAY; brown/grey, high plasticity, moist. Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Silmes; high plasticity, brown, wet. End of investigation at 6.0mbgs.	Project H	untingdale	Develop	oment			_ 0	wner _Talbot Road Finance Pty Ltd	COMMENTS					
Top of Casing 61.901 m. Water Level Initial	Location _	Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB												
Top of Casing 61.901 m. Water Level Initial	Surface Elev. <u>NA</u> Total Hole Depth <u>6.0 m.</u> North <u>5800867.67 m</u> East <u>333401.66 m.</u>													
Screen Dia 50 mm. Length 4.5 m. Type Class 18 UPVC Type Class 18	Top of Casi													
Casing Dia 50 mm. Length 1.5 m. Type Class 18 UPVC Fill Material Bentonite Sand RigCore Sonic Prill Cs. Star Dmiling Method Sonic Dmiling Diller S Anderson Log By R White Date 22/6/16 Permit # NA Checked By Checked	Screen: Dia	50 mm.		Length	4.5 n	n.	Type/Size _Class 18 UPVC							
Fill: Sandy CLAY; brown/grey, high plasticity, moist. Fill: Brick/Gravel/Basalt some bark noted. Fill: Brick/Gravel/Basalt some bark noted. Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.														
Driller S. Anderson Log By R. White Date 22/8/16 Permit # NA Checked By License No. MLE066366 Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS. Fill: Sandy CLAY; low plasticity, light brown, uniform grading, medium grained sand, moist. Fill: Sandy CLAY; brown/grey, high plasticity, moist. Fill: Sandy CLAY; brown/grey, high plasticity, moist. Fill: Sandy CLAY; brown/grey, high plasticity, moist. Fill: Sandy CLAY; brown/grey, high plasticity, moist. Fill: Sandy CLAY; brown/grey, high plasticity, moist. Fill: Sandy CLAY; brown/grey, high plasticity, moist. Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.	-			_										
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Fill: Sandy CLAY; low plasticity, light brown, uniform grading, medium grained sand, moist. Fill: Sandy CLAY; brown/grey, high plasticity, moist. Fill: Sandy CLAY; brown/grey, high plasticity, moist. Fill: Sandy CLAY; brown/grey, high plasticity, moist. Fill: Sandy CLAY; brown/grey, high plasticity, moist.	-							Coologio accorpione are passed on the time standard						
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medium grained sand, moist. 0.2 BH35_1.0 Fill: Sandy CLAY; brown/grey, high plasticity, moist. Fill: Brick/Gravel/Basalt some bark noted. Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.	− 0 −					*****		Fill: Sandy CLAY: low plasticity, light brow	n. uniform grading.					
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Fill: Brick/Gravel/Basalt some bark noted. Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.			0.2	ВП35_1.0										
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Fill: Brick/Gravel/Basalt some bark noted. Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.	├ ∦							Fill: Sandy CLAY; brown/grey, high plastic	city, moist.					
Fill: Brick/Gravel/Basalt some bark noted. Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.								, , , , , , , , , , , , , , , , , , , ,	,,					
Fill: Brick/Gravel/Basalt some bark noted. Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.	├ 2 -		0.3	BH35_2.0										
Fill: Brick/Gravel/Basalt some bark noted. Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.														
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Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.														
Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.	7. 2.													
Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.														
Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.														
Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.	<u> </u>													
Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.	<u>₹</u> ;													
Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.	001													
Fill: Gravelly SAND; coarse grained, wet, loose. Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.	<u> </u>							Fill Prink/Croval/People come bork noted						
Organic layer, bark/roots. Fill: Clay Slimes; high plasticity, brown, wet.	H NA							Fill. Brick/Grave//Basait Some bark noted.	•					
Fill: Clay Slimes; high plasticity, brown, wet.	<u>e</u> [loose.					
	787							Organic layer, bark/roots.						
End of investigation at 6.0mbgs.	Ş K							riii: Ciay Siimes; nigh plasticity, brown, we	₽l.					
	<u>~</u> ├ 6 ┼							End of investigation at 6.0mbgs.						
	Z Z Z							9						
	ğ -													
2 7 -	Ž													
	ġ <u>'</u>													



Monitoring Well BH36 Page: 1 of 1 COMMENTS

Project _F_ Location _ Surface Ele Top of Cas Screen: Dia Casing: Dia Fill Materia Drill Co Driller _S. Checked B	COMMENTS							
Depth (m.)	Well Completion	(mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structu Geologic descriptions are based on ASTM Standard	
- 0 -						SM	Fill: TOPSOIL; sand, trace of silt, brown, u grained, moist, loose. Silty SAND; light brown, low plasticity, fine	
- 2 -						SM SM	grading, moist, loose. Sandy CLAY; grey/brown, low plasticity, ur grained, moist, medium dense. Silty SAND; uniform grading, fine grained, dense. becoming grey. becoming orange. Silty SAND; uniform grading, fine grained, orange/grey mottling.	moist, medium
- 4 -					7777777	SM	Silty SAND; grey, low plasticity, uniform gr dry, very dense.	
1 CORP. (a) 1 COR						CLS SM CLS	Sandy CLAY; brown, medium plasticity, fin moist. Silty SAND; brown, uniform, fine grained s Sandy CLAY; brown, medium plasticity, fin moist. Fill: SAND; some gravel, brown, fine to cograded, moist, loose. Fill: SAND; brown, fine grained, uniform gradense.	and, moist. e grained sand, arse grained, gap
MENIS REV. 28/1/16 ENAUAB						SWG	SAND; grey, fine to medium grained, well gense.	graded, wet, medium
10 —							End of investigation at 10.0mbgs.	



Monitoring Well **BH37**

Location . Surface El Top of Cas Screen: D Casing: Di Fill Materia	1221-1249 lev. NA sing 61.38 ia 50 mm. ia 50 mm. al Bentonit Star Drilling	9 m.	Road, and Total Ho Water L Length Length t, Sand	ole Deperendent of the dependent of the	albot Ave oth 10. itial NA it. nod Ha	5 m. Ri	wner Talbot Road Finance Pty Ltd Oakleigh South Proj. No. ENAUABTF00751AB North 5800926.90 mEast 333081.43 m. Static 8.0 m. Diameter 100 mm. Type/Size Class 18 UPVC Type Class 18 UPVC Ig/Core Geoprobe Iger, push tube, solid stem flight auger. Date 21/6/16 Permit # 0826	COMMENTS
							WLE066366	
Depth (m.)	Well	OId (mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structu Geologic descriptions are based on ASTM Standard	
- 0 -					***	SM	Fill: Topsoil; Silty sand, brown, fine graine silt, moist, loose, organic material. Silty SAND; light brown, fine grained, mois	st, loose.
						MLS	Sandy SILT; some clay, light brown/grey, l grained, firm clay clumps, dry, loose.	ow plasticity, fine
- 2 -						CLS	Sandy CLAY; mottled orange/brown, low pmoist.	_
						SC	Clayey SAND; grey, low plasticity, fine to n moist. as above, becoming orange.	nedium grained,
4 -						SM	Silty SAND; orange, fine to coarse grained round/sub angular, moist.	l sand, well graded,
9						SW	SAND; orange, fine grained, some coarse grading, rounded, moist, loose.	grains, uniform
						SW	SAND; pale orange/brown, medium graine coarser grains, uniform grading, rounded,	d sand, some moist, loose.
8						SW	SAND; grey, medium to coarse grained, ro trace of clay, wet.	ound, gap graded,
							End of investigation at 10.5mbgs.	



Monitoring Well **BH38**

BH38Page: 1 of 1

Project _	Huntingdale	Develo	oment		_ 0	wner	COMMENTS					
Location .	1221-1249	Centre	Road, and 22	Talbot Ave	enue,	Oakleigh South Proj. No. <u>ENAUABTF00751AB</u>						
Surface Elev. NA Total Hole Depth 8.0 m. North 5800597.04 mEast 333172.17 m. Top of Casing 55.895 m. Water Level Initial NA Static 4.1 m. Diameter 200 mm.												
Top of Cas	sing _55.89)5 m	Water Leve	Initial _NA	١	Static <u>4.1 m.</u> Diameter 200 mm.						
Screen: Di	ia <u>50 mm.</u>		Length 4.	5 m.		Type/Size Class 18 UPVC						
						Type _Class 18 UPVC						
						g/Core Sonic						
			M			-						
						Date _20/6/16 Permit # _NA						
						WLE066366						
	-,		II									
	<u>.</u> 6	_	unt elb	Recovery Graphic Log	ass.	Description						
Depth (m.)	Well	PID (ppm)	Sample ID % Recovery Blow Count	Graphic Log	USCS Class.		uro)					
	^u	- U	Sar % R Blov	Pall Pa	SC	(Color, Texture, Structu Geologic descriptions are based on ASTM Standard						
						Geologic descriptions are based on ASTIN Standard	1 D 2407-93 and the 0303.					
$\vdash 0 \dashv$				311/2 311/2 3		TOD COIL Cilty CAND, majet lease						
					SM	TOP SOIL - Silty SAND; moist, loose. Silty SAND; grey, moist, loose.						
						Sandy CLAY; low plasticity, brown/grey me	ottled moist					
						Garlay GEAT, low placedity, browningley his	ottiod, moiot.					
<u></u> 1 −												
					CLS							
F -												
├ 2 -		1.0	BH38_2.0									
				777777		Silty SAND; grey, medium to coarse grain	ed, low plasticity silt,					
† †						moist.						
3		0.9	BH38_3.0									
			D. 100 0 5									
		0.5	BH38_3.5		SM							
_ , _												
\$ 4 ₹												
[]												
5 -												
						Silty SAND; grey, fine to coarse grained, v	vet, medium dense.					
<u>ğ</u>												
6 -						aggreen meterial at C Oral						
						coarser material at 6.0mbgs						
<u> </u>					SM							
<u>}</u> ⊢ 7 ⊣						finer grains at 7.0mbgs						
						mici gianis at 7.0mbys						
<u> </u>												
2												
8 -		0.6	BH38_8.0	<u>earadea</u>		End of investigation at 8.0mbgs.						
+												
<u></u>												
SI	ll .											



Monitoring Well **BH39**

Project Huntingdale Location 1221-1249 Surface Elev. NA Top of Casing 58.90 Screen: Dia 50 mm Casing: Dia 50 mm Fill Material Benton Drill Co. Star Drilling Driller S. Anderson Checked By	re) D 2487-93 and the USCS.					
- 0 - 2 - 4 - 6 - 100 -	0.3 0.4 0.7 0.3 0.8 1.3 5.2 2.4 1.6 0.2 0.7			SM SM SW SW SW SW SW	Fill: Top Soil; silty sand, moist, loose, orgated Silty Sand; grey, medium grained, uniform loose. Silty SAND; brown/grey, medium grained, loose. Silty SAND; brown, uniform grading, mediuted SAND; light brown, uniform grading, fine gramoist. Sandy CLAY; light brown, grey mottling, loograined sand, moist. Silty CLAY; red/brown, low plasticity, moist. Clayey SAND; red/grey mottling, uniform grading. Clayey SAND; red/grey mottling, uniform grading, uniform grading, uniform grading. SAND; fine to coarse grained, grey, moist, SAND; grey, fine to coarse grained, wet.	grading, moist, uniform grading, dry, um grained. rained, dry, loose. ined, low plasticity, w plasticity, fine t. rading, low plasticity, rading, low plasticity,



Gas Bore **GB18A**Page: 1 of 1

Location Surface E Top of Ca Screen: D Casing: D Fill Materi Drill Co.	Project Huntingdale Development Owner Talbot Road Finance Pty Ltd Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB Surface Elev. NA Total Hole Depth 6.0 m. North 5801106.30 mEast 333194.29 m. Top of Casing 61.166 m. Water Level Initial NA Static NA Diameter 125 mm. Screen: Dia 50 mm. Length 5.5 m. Type/Size PVC Casing: Dia 50 mm. Length 1.0 m. Type PVC Fill Material Bentonite, Sand Rig/Core Geoprobe Drill Co. Star Drilling Method Soild stem flight Driller J. Thomas Log By D. White Date 17/8/16 Permit # 0826 Checked By License No. NA									
Depth (m.)	Well	(mdd)	Sample ID % Recovery Blow Count	Graphic	USCS Class.	Description (Color, Texture, Structu Geologic descriptions are based on ASTM Standard				
		0.8	GB18A-2.0 GB18A-3.0 GB18A-4.0		SW	Fill: Silty SAND; fine grained, black, moist, Fill: Sandy CLAY; low plasticity, grey, fine becomes Clayey SAND; fine to mediuim grainest. End of investigation at 6.0 mbgs.	grained sand, firm.			
- 7 -						Lid of myosagation at 0.0 mbgs.				



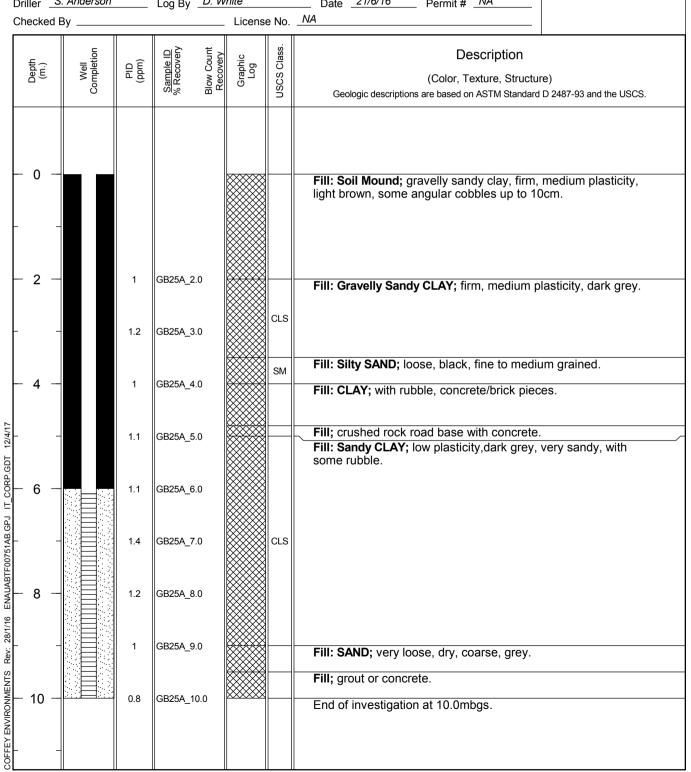
Gas Bore **GB21A**Page: 1 of 1

Location Surface E Top of Ca Screen: E Casing: E Fill Mater Drill Co. Driller	Project Huntingdale Development Owner Talbot Road Finance Pty Ltd Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB Surface Elev. NA Total Hole Depth 6.0 m. North 5801034.45 mEast 333214.92 m. Top of Casing 61.300 m. Water Level Initial NA Static NA Diameter 125 mm. Screen: Dia 50 mm. Length 4 m. Type/Size PVC Casing: Dia 50 mm. Length 1 m. Type PVC Fill Material Bentonite, Grout, Sand Rig/Core Geoprobe Drill Co. Star Drilling Method Solid stem flight Driller J. Thomas Log By D. White Date 16/8/16 Permit # 0826 Checked By License No. NA										
Depth (m.)	Well	(mdd)	Sample ID % Recovery Blow Count	Graphic	USCS Class.	Description (Color, Texture, Structu Geologic descriptions are based on ASTM Standard					
- 0 -					CLG	Fill: Gravelly CLAY; firm.					
- 1 -	-	0.2	GB21A-1.0		sw	Fill: Silty SAND; fine grained sand, light br					
- 2 -		0.6	GB21A-2.0			Fill: Silty SAND; fine grained sand, black, with sand castings, loose.	some foundry waste,				
— 3 —		0.7	GB21A-3.0								
4 -		1.0	GB21A-4.0		SW						
— 5 —		0.5	GB21A-5.0								
- 6 -						End of investigation at 6.0 mbgs.					
- 7 -											



Gas Bore GB25A

			rage. I of I
Project Huntingdale Developm	ment Owner	Talbot Road Finance Pty Ltd	COMMENTS
Location 1221-1249 Centre Re			
Surface Elev. NA T	Total Hole Depth 10.0 m.	North <u>5801004.50 m</u> East <u>333404.04 m.</u>	
Top of Casing <u>66.299 m.</u> V	Water Level Initial NA	Static _ <i>NA</i> Diameter _200 mm.	
Screen: Dia _50 mm L	Length 4 m.	Type/Size _ <i>PVC</i>	
Casing: Dia 50 mm.	Length 6 m.		
Fill Material Bentonite, Grout,	Sand Rig/Con	re Sonic	
Drill Co. Sonic Drilling	Method Sonic		
Driller S. Anderson L	Log By _ <i>D. White</i>	Date <u>21/6/16</u> Permit # <u>NA</u>	
Checked By	License No. NA		
tion (very bunt sir lic lic lass.	Description	





GB27APage: 1 of 1 Gas Bore

Project Huntingdale Development Owner Talbot Road Finance Pty Ltd COMMENTS								
Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB								
Surface Elev. <u>NA</u> Total Hole Depth <u>4.4 m.</u> North <u>5800912.35 m</u> East <u>333404.09 m.</u>								
						Static NA Diameter 125 mm.		
Screen: D	ia <u>50 mm.</u>		Length 3 m.			Type/Size _ <i>PVC</i>		
						Type _ <i>PVC</i>		
-			-					
Fill Material Bentonite, Grout, Sand Rig/Core Geoprobe Drill Co. Star Drilling Method Push tube / Solid stem auger								
Driller J. Thomas Log By R. White Date 21/6/16 Permit # 0826 Checked By								
Checked by License No								
	Б		e it ele		ass.	Description		
Depth (m.)	Vell	PID (ppm)		Graphic Log	ဗ္ဗိ			
	Well	ш <u>а</u>	Sample ID % Recovery Blow Count Recovery	85	USCS Class	(Color, Texture, Structu		
					_ >	Geologic descriptions are based on ASTM Standard	1 D 2487-93 and the USCS.	
L 0 -								
"						Fill: Sandy CLAY; gravel, rocks, basalt, lo	w plasticity	
						occasionally, moist.		
-		0.4	GB27A_0.5					
L 1 -		0.2	GB27A_1.0					
'								
						Gravel: BASALT; coarse grained.		
						Fill: Sandy SILT; low plasticity, light brown	, some clay, moist.	
<u> </u>								
<u> </u>		0.4	GB27A_2.0					
_								
1/1						Fill: Brick/Gravel, some metal scraps, san	dy clay infill.	
<u></u>								
5								
=								
द्व⊢ 3 −								
Š								
2								
[
{						Fill: Slime like material, low plasticty, clay,	wet, some sand/gravel.	
Ž								
2								
§ - 4 -								
DE L								
2								
-						End of investigation at 4.4mbgs.		
Į								
]							
- 5 -								
		-						



Gas Bore GB29A

Project Huntingdale Development Owner Talbot Road Finance Pty Ltd COMMENTS								
					Oakleigh South Proj. No. <u>ENAUABTF00751AB</u>			
Surface Elev. NA		Total Hole Dep	oth <u>2.2</u>	m.	North <u>5800840.83 m</u> East <u>333444.41 m.</u>			
Top of Casing 60.61	1 m	Water Level In	nitial <i>NA</i>		Static _ <i>NA</i> Diameter110 mm.			
Screen: Dia 50 mm. Length 2.2 m. Type/Size PVC								
Casing: Dia 50 mm.		Length 1 m.			Type <i>_PVC</i>			
Fill Material _Bentonite	e, Grou	t, Sand		_ Ri	g/Core _Geoprobe			
Drill Co. Star Drilling Method Push tube								
Driller J. Thomas		Log By R. W	/hite		Date _21/6/16 Permit # _0826			
Checked By License No								
Depth (m.) Well	PID (ppm)	Sample ID % Recovery Blow Count Recovery	Graphic Log	USCS Class.	Description			
Co Co Co Co Co Co Co Co Co Co Co Co Co C	д <u>д</u>	Sam % Re Blow Rec	Gra	SCS	(Color, Texture, Structu			
		9, 3			Geologic descriptions are based on ASTM Standard	1 D 2487-93 and the USCS.		
- 0 -	0.4	GB29A_0.5		CLS	Fill: Sandy CLAY; low plasticity, light brow moist.	n, uniform grading,		
	0.4	GB29A_0.5						
					Fill: Silty SAND; light brown, low plasticity,	uniform grading,		
					moist, dense. Fill: Gravelly SAND; fine to coarse grain, a	angular dense		
					Fill: Silty SAND; brown, organic, fine grain			
					Fill: Sandy GRAVEL; medium to coarse gr			
- 1 - B	0.2	GB29A_1.0			loose. with organic bark			
				GWS	with diganic bank			
2 -	0.3	GB29A_2.0			as above, becoming wet.			
					End of investigation at 2.2mbgs.			
5								
		II			<u> </u>			



Gas Bore GB33A

Project Huntingdale Development Owner Talbot Road Finance Pty Ltd Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB Surface Elev. NA Total Hole Depth 4.0 m. North 5801232.96 mEast 333305.88 m. Top of Casing 62.662 m. Water Level Initial NA Static NA Diameter 110 mm. Screen: Dia 50 mm. Length 2 m. Type/Size PVC Casing: Dia 50 mm. Length 1 m. Type PVC Fill Material Bentonite, Sand Rig/Core Geoprobe Drill Co. Star Drilling Method Push tube Driller J. Thomas Log By D. White Date 17/8/16 Permit # 0826 Checked By License No. NA							COMMENTS
Depth (m.)	Well	(mdd)	Sample ID % Recovery Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structu Geologic descriptions are based on ASTM Standard	
- 0 - 		0.3	GB33A-0.5			SILTY SAND; fine to medium grained sand becomes grey, moist.	l, black, loose.
- 1 - 			GB33A-1.0		SW	becomes white.	
						distinct colour change to dark brown, vey r coarsed sand, wet.	
3 -		4.2	GB33A-3.0		SW	CLAYEY SAND; fine to medium grained, domoist. becomes SANDY CLAY; medium plasticity	0
4 — 4		0.9	GB33A-4.0		СН	sand, stiff. End of investigation at 4.10 mbgs.	,, g.o.,, into granica
- 5 — 5							



Gas Bore **GB36A**Page: 1 of 1

						1 age. 1 of 1
Project Huntingdale	Develo	pment		_ Ov	wner	COMMENTS
Location1221-1249	Centre	Road, and 22 7	Talbot Ave	nue, (Dakleigh South Proj. No. <u>ENAUABTF00751AB</u>	
Surface Elev. NA		Total Hole De	epth <u>4.0</u>) m.	North <u>5801162.22 m</u> East <u>333386.35 m.</u>	
Top of Casing 64.98	84 m	Water Level I	nitial <i>NA</i>	l	Static NA Diameter 150 mm.	
					Type/Size _ <i>PVC</i>	
Casing: Dia 50 mm.		Length 2.5	m.		Type _ <i>PVC</i>	
Fill Material Bentoni					-	
					e / Solid stem auger	
Driller <i>J. Thomas</i>		Log By _D. V	Vhite		Date _16/8/16 Permit # _0826	
Checked By			Licens	e No.	NA	
		a S t		Š.	5	
Depth (m.) Well	ΔÊ	Sample ID % Recovery Blow Count Recovery	Graphic Log	USCS Class.	Description	
Depth (m.) Well ompletii	PID (mdd)	Rec low (Grap	SCS	(Color, Texture, Structu	ıre)
		N		Sn	Geologic descriptions are based on ASTM Standard	d D 2487-93 and the USCS.
- 0					F. 0 . 1 M	. 1:00
					Fill: Soil Mound; gravelly clay, dark brown	I, Stiff.
├ 1 ├ 	0.1	GB36A-1.0				
	0.3	GB36A-1.5			Fill: Silty SAND; fine to medium grained, o	lark brown Josea
					Fill. Sitty SAND, fille to filedidiff grained, o	iaik biowii, ioose.
				sw		
- 2 -				000		
11/4/1					Fill: SAND; fine grained sand, black, loose).
<u> </u>						
	0.6	GB36A-2.5		sw		
<u>-</u> 3 →				C	Fill: SAND; fine grained sand, white, loose	<u>.</u>
				SW		
					Fill: SAND; fine grained sand, black, found	ary waste.
	1.7	GB36A-3.5				
				sw		
4					End of investigation at 4.0mbgs.	
Ý						
¥						
∄⊢ 5 ╢						
⊙I ∥ ∣			II I			



Gas Bore GB46A

Location Surface E Top of Ca: Screen: D Casing: Di Fill Materia Drill Co. Driller _S	1221-1249 lev. NA sing 60.58 ia 50 mm. ia 50 mm. al Bentoni Star Drilling	Centre 14 m. tte, Sano	Road, and 22 T Total Hole De Water Level Ir Length 5 m. Length 1 m.	pth 7.0 nitial NA hod Pu	nue, (m. _ Ri _sh tub	Date	COMMENTS
Depth (m.)	Well	(mdd)	Sample ID % Recovery Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structu Geologic descriptions are based on ASTM Standard	
- 0 -		0.7	GB46A_0.2 GB46A_0.5			Fill: Gravelly Sandy CLAY; low plasticity, f brown.	irm, compacted, light
- 1 -		1.7	GB46A_1.0			Fill: Foundry Waste; silty sand, with sands medium dense, fine to medium grained.	stone castings, black,
_ 2 _		1.2	GB46A_2.0				
- 3 - 3 -		1.2	GB46A_3.0				
7 - 4 -		1.6	GB46A_4.0			LANDFILL; muncipal rubbish, with sandy o	clay and gravel.
ABI F00/51AB.GF0		1.7	GB46A_5.0			Fill: Sandy CLAY; low plasticity, very sand dark brown, very moist.	y, medium grained,
7dv: 28/1/16 ENAUV		1.0	GB46A_6.0				
7 — 7 —		1.2	GB46A_7.0			End of investigation at 7.0mbgs.	
8 -							



Gas Bore GB60

GB60Page: 1 of 1

Location Surface E Top of Ca Screen: D Casing: D Fill Materia Drill Co.	Project Huntingdale Development Owner Talbot Road Finance Pty Ltd Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB Surface Elev. NA Total Hole Depth 7.5 m. North 5801175.95 mEast 333246.70 m. Top of Casing 63.058 m. Water Level Initial NA Static NA Diameter 150 mm. Screen: Dia 50 mm. Length 4 m. Type/Size PVC Casing: Dia 50 mm. Length 2.5 m. Type PVC Fill Material Bentonite, Sand Rig/Core Geoprobe Drill Co. Star Drilling Method Push tube / Solid stem auger Driller J. Thomas Log By D. White Date 22/6/16 Permit # 0826 Checked By License No. NA											
Depth (m.)	Well	OIA (mdd)	Sample ID % Recovery Blow Count	Recovery Graphic	USCS Class.	Description (Color, Texture, Structu Geologic descriptions are based on ASTM Standard						
- 0 - - 1 - - 1 -						Soil Mound Fill; sandy clay, low plasticity, grained, light brown. Fill: Silty SAND; loose, dry, fine to medium						
- 2 - - 3 -			GB60_2.0 GB60_3.0			Fill: Foundry Waste; silty sand with casting sand gravels, black, dry, loose.	gs and cemented					
4 - 5 -		0	GB60_4.0 GB60_5.0									
		2.8	GB60_6.0 GB60_7.0			becoming wet, slight sheen, slight hydroca	rbon odour.					
8 —						End of investigation at 7.5mbgs.						



Gas Bore **GB61**

Location Surface El Top of Cas Screen: Di Casing: Di Fill Materia Drill Co Driller	1221-1249 lev. NA sing 61.98 ia 50 mm. la Bentonii Star Drilling Thomas	Centre	Road, and 22 Total Hole [Water Leve Length 4. Length 1 Length M Log By R.	2 Talbot Ave Depth 4.7 I Initial NA 5 m. m. Ilethod Pu White	enue, (7 m. Ri	North 5801179.46 mEast 333313.32 m. Static NA Diameter 150 mm. Type/Size PVC Type PVC g/Core Geoprobe De / Solid stem flight auger Date 23/6/16 Permit # 0826	COMMENTS
Depth (m.)	Well	(mdd)	Sample ID % Recovery	Recovery Graphic Log	USCS Class.	Description (Color, Texture, Structu Geologic descriptions are based on ASTM Standard	
- 0 -					SC	Fill: Clayey SAND; brown with red streaks grained sand, uniform grading, moist, med	, low plasticity, fine dium dense.
		0.4	GB61_0.5		SM	Fill: Silty SAND; black, fine to medium gradry, loose.	nined, uniform grading,
- 1 - 		0.1	GB61_1.0		SW SM	Fill: SAND; yellow, uniform grading, fine g Fill: Silty SAND; black/grey, low plasticity, to medium grained, dry, medium density. Fill: SAND; gap graded, fine to coarse gra grey, moist, loose.	uniform grading, fine
- 2 -		0.0	GB61_2.0		SC	Fill: Clayey SAND; brown, low plasticity, ungrained, moist.	niform grading, fine
AB.GPJ 11_CORF.GDJ 12/4/17		0.0	GB61_3.0		CLS	Fill: Sandy CLAY; brown, low plasticity, co	parse grained, moist.
4 -		0.1	GB61_4.0		CLS	Fill: Sandy CLAY; brown, high plasticity, fi	ne grained, moist.
I PAGAB					CLS	Fill: Sandy CLAY; black, high plasticity, fir wet.	ne to medium grained,
5 – 5						End of investigation at 4.7mbgs.	
— 6 —							



Gas Bore GB62

GB62Page: 1 of 1

Project H	roject Huntingdale Development Owner Talbot Road Finance Pty Ltd COMMENTS											
Location _	Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB											
Surface Elev. <u>NA</u> Total Hole Depth <u>3.0 m.</u> North <u>5801144.12 m</u> East <u>333255.44 m.</u>												
							Static NA Diameter 150 mm.					
•	-						Type/Size _ <i>PVC</i>					
			_				Type PVC					
_			_				g/CoreGeoprobe					
							pe / Solid stem flight auger					
							Date22/6/16 Permit #0826					
							NA Permit # 3020					
Checked B	у		ī		License	NO.	IVA					
	5		미충	ξ,		SS.	Description					
Depth (m.)	Well Completion	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.						
ا م	≥ mo	g 9	Re	Rec	Gra	scs	(Color, Texture, Structu	·				
	0		0/1%			ž	Geologic descriptions are based on ASTM Standard	D 2487-93 and the USCS.				
						_						
							Fill: Sandy Gravelly CLAY; low plasticity, f	irm, light brown.				
		0.5	GB62_0.5									
		0.5	GB02_0.5				Fill: Silty SAND; coarse grained, loose, dry	/ .				
						SM						
_ 1 _		0.4	GB62_1.0				Fill: Silty SAND; foundry waste, fine to me	dium grained, black,				
'		.	02020				dry, loose with castings and cemented san					
- 2 -		0.6	GB62_2.0									
			_									
F 4												
!												
<u>;</u> ⊢ 3		0.5	GB62_3.0			SM						
3												
;} -												
<u> </u>												
i - 4 -		1.1	GB62_4.0									
<u> </u>												
			ODC0 5 0									
5		0.7	GB62_5.0				End of investigation at 5.0mbgs.					
<u> </u>												
[
6 -												



Gas Bore **GB63**

Project _	Huntingdale	Develop	oment		0	wner _Talbot Road Finance Pty Ltd	COMMENTS					
Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB												
Surface Elev. NA Total Hole Depth 6.5 m. North 5801106.35 m _{East} 333230.29 m. Top of Casing 63.290 m. Water Level Initial NA Static NA Diameter 150 mm.												
Top of Cas	sing 63.29	00 m	Water Lev	vel Initial _	NA	Static <u>NA</u> Diameter <u>150 mm.</u>						
	-					Type/Size _ <i>PVC</i>						
			_			Type _ <i>PVC</i>						
-			_			ig/Core Geoprobe						
						be / Solid stem flight auger						
						Date <u>22/6/16</u> Permit # <u>0826</u>						
						NA						
Checked	Jy		П		1136 110.							
	noi		G ∑	c la	ass.	Description						
Depth (m.)	Vell	PID (ppm)) Scov	low Coun Recovery Graphic								
ے ا	Well Completion	g)	Sample ID % Recovery	Blow Count Recovery Graphic	USCS Class.	(Color, Texture, Structu						
			6,			Geologic descriptions are based on ASTM Standard	1 D 2487-93 and the USCS.					
L 0 -				XXXX		Coil Mound Fills Crowdly Condy Clay Java	nlasticit.					
					\otimes	Soil Mound Fill; Gravelly Sandy Clay, low black/brown/grey with basalt boulders.	plasticity,					
					\otimes	gradia are in a grad are are are are are are are are are are						
<u></u> 1 −					\otimes							
					\otimes							
├ 2 -		0	GB63_2.0		\otimes							
					\otimes							
					$\boxtimes loodsymbol{igwedge}$	Push tube refusal on rock or metal at 2.5n						
					\otimes	Fill: Foundry Waste; silty sand, dry, loose fine to medium grained.	, black with castings,					
3 -		0.3	GB63_3.0			mile to medium grained.						
1/2					\otimes							
<u> </u>					\otimes							
2					\otimes							
					\otimes							
4		0.2	GB63_4.0		\otimes							
<u> </u>												
<u>-</u>												
Š												
<u> </u>			OD00 - 0		\otimes							
5 -		0.2	GB63_5.0		\otimes							
					\otimes							
= -					\otimes							
07					\otimes							
É												
6 -					\otimes							
					\otimes							
<u> </u>					×	End of investigation at 6.5mbgs.						
7 -												



Gas Bore **GB64**

Project Huntingdale Develo Location 1221-1249 Centre Surface Elev. NA Top of Casing 65.173 m. Screen: Dia 50 mm. Casing: Dia 50 mm. Fill Material Bentonite, Ground Drill Co. Star Drilling Driller J. Thomas Checked By			
- 0 - 0.7 - 2 - 0.7 - 4 - 0.0 0.1 - 6 - 0.4 0.3 - 8 - 0.3	GB64_3.5 GB64_4.0 GB64_5.0 GB64_7.0 GB64_7.0	CLS Fill: Sandy CLAY; brown, medium plastic wet. as above, becoming moist. Fill: Silty CLAY; with some sand, high plagrained sand, moist. Fill: Gravelly SAND; grey, sub-angular, fider, grained sand, moist. Fill: Silty SAND; low plasticity, fine grained sand, dry. Fill: Sandy CLAY; with some sand, high plagrained sand, moist. Fill: Gravelly SAND; grey, sub-angular, fider, grained sand, dry. Fill: Gravelly SAND; low plasticity, fine grained grained sand, dry. Fill: Gravelly SAND; light brown, medium grained gravel, dry, loose. Fill: Gravelly SAND; black/grey, fine to comedium dense. Fill: Gravelly SAND; black/grey, fine to comedium dense. Fill: Clayey SAND; black, fine grained, himoist, medium dense. Fill: Clayey SAND; black, fine grained, himoist, medium dense. Fill: Clayey SAND; black, fine grained, himoist, medium dense.	ity, fine grained sand, ad, brown, dry, loose. asticity, brown, fine ne to coarse grained, ad, brown, dry, loose. sticity, fine to coarse grained sand, coarse ing, medium grained, I, moist, loose. barse grained, moist,



Gas Bore **GB65**

Project _	Huntingdale	Develop	oment		_ 0	wnerTalbot Road Finance Pty Ltd COMMENTS
						Oakleigh South Proj. No. ENAUABTF00751AB
Surface E	lev. NA		Total Hole	Depth <u>8.5</u>	<u>т</u> .	North <u>5801061.94 m</u> East <u>333139.34 m.</u>
						Static NA Diameter 150 mm.
	•					Type/Size _ <i>PVC</i>
			-			Type _ <i>PVC</i>
_			-			ig/Core Geoprobe
						be / Solid stem flight auger
						Date <u>23/6/16</u> Permit # <u>0826</u>
						NA Territory
Checked	п п			LICEIIS	U 110.	
	E				ISS.	Description
Depth (m.)	Well	PID (ppm)	Sample ID % Recovery	Recovery Graphic Log	USCS Class.	·
	> E	п <u>ө</u>	Sam 6 Re	Grand Grand	SCS	(Color, Texture, Structure)
			****	"	_	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
L 0 -						
"					SM	Fill: Silty SAND; brown/black, fine grained, uniform grading, low
					GWS	plasticity, silt, moist, loose. Fill: GRAVEL; with some sand, grey/orange mottling, fine
						grained, uniform grading, low plasticity, clay, moist, medium
├ 1 -						dense.
					sc	Fill: Clayey SAND; grey/orange mottling, fine grained, uniform
-						grading, low plasticity clay, moist, medium dense.
<u></u> − 2 −						
				<u> </u>		SAND; very coarse, brown, fine grained, uniform grading, dry,
-					swg	very loose.
					SWG	SAND; very coarse, brown, uniform grading, fine grained, dry,
3 -					SWG SWG	very loose.
		0.2	GB65_3.5		3000	SAND; very coarse, brown, uniform grading, fine grained, dry,
		0.2	GB05_3.5			very loose. SAND; with some silt, very coarse, brown, uniform grading, fine
<u> </u>		0.0	GB65_4.0			grained, dry, medium dense.
4/2		0.0	0200		SM	Silty SAND; grey/orange mottled, medium grained sand, low
<u>-</u> -						plasticity, silt, dry.
2. -						
5 -		0.0	GB65_5.0	777777		Clayey SAND; orange, fine grained, uniform grading, high
=						plasticity, stiff clay, dry, medium dense.
5 -					sc	
5						
⋛ 6 −		0.1	GB65_6.0			Silty SAND; orange with some gravel, medium to coarse grain,
						well graded, moist, loose.
<u>}</u> -					SM	
□ □ 7 -		0.1	GB65 7.0			
		0.1	GB05_7.0			SAND; trace of silt, orange, uniform grading, coarse grained,
<u>.</u> -					SM	sub angular, moist, loose.
٢						
<u> </u>						CAND to a of city and the control of city and the city and city and city and city and city and city and city and city and city and city and city and city and city and city and city and ci
					SM	SAND; trace of silt, orange, medium to coarse grained, sub angular, moist, loose.
<u> </u>						
						End of investigation at 8.5mbgs.
[9 -						
<u>ــــــا</u> ذ						



Gas Bore GB66

GB66Page: 1 of 1

Project _	Huntingdale	Develop	oment			_ 0	wnerTalbot Road Finance Pty Ltd	COMMENTS					
Location	Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB												
Surface E	lev. NA		Total Hol	e De	pth <u>7.0</u>	m.	North <u>5801065.99 m</u> East <u>333222.16 m.</u>						
							Static NA Diameter 150 mm.						
Screen: D	ia 50 mm.		Lenath	6 m.			Type/Size _ <i>PVC</i>						
			_				Type _ <i>PVC</i>						
_			_				g/Core Sonic						
	Sonic Drillir												
							Date21/6/16 Permit #NA						
							NA To Strike III						
			II			J 110.							
	<u>io</u>	_	⊒Ş	unt S	U	ass.	Description						
Depth (m.)	Well	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	SCI	(Color, Texture, Structu	ro)					
	S		Sar R	Blo Re	Ō	USCS Class.	Geologic descriptions are based on ASTM Standard						
							Coologio accompanio al o casca cin i di imi ciandano						
├ 0 -							Fill: Gravelly Sandy CLAY; low plasticity, f	irm, compacted, light					
		1.0	GB66_0.2				brown.	, copactou,g					
-		2.6	GB66_0.5										
├ 1 -		6.0	GB66_1.0				Fill: Foundry Waste; silty sand with some plastic, black, medium dense, fine to medi	scrap metal and					
							plactic, black, mediam derice, fine to medi	am gramoa.					
-													
_ 2 -		3.0	GB66_2.0										
			_										
_ 3 -		4.6	GB66_3.0										
"		1.0	0200_0:0										
7													
		3.6	GB66_4.0										
- 4 -		3.0	GB00_4.0										
5													
-													
<u> </u>		4.0	GB66_5.0										
-													
Š													
<u>-</u> 6 −		3.2	GB66_6.0										
% - -							Fill: Clayey SAND; medium to coarse grain	ned, wet, medium					
Ź						sc	dense, grey.	,,					
<u>°</u>							End of investigation at 7.0mbgs.						
-													
E 8 -													
3													



Gas Bore **GB67**

Project _	Project Huntingdale Development Owner Talbot Road Finance Pty Ltd COMMENTS												
Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB													
Surface Elev. NA Total Hole Depth 7.5 m. North 5801206.77 mEast 333367.20 m.													
							Static NA Diameter 150 mm.						
Screen: D	ia 50 mm.		Length	6.5 n	n.		Type/Size _ <i>PVC</i>						
							Type _ <i>PVC</i>						
							g/Core Geoprobe						
							pe / Solid stem flight auger						
							Date _23/6/16 Permit # _0826						
							NA Territory						
Checked	Dy		П		Liceris	e INO.							
	E		ag	Ħ >		SS.	Description						
Depth (m.)	lell letic	PID (ppm)	ple I	Cou	Graphic Log	Cla	Description						
ا ۾ ج	Well	g g	Sample ID % Recovery	Blow Count Recovery	Gra	USCS Class.	(Color, Texture, Structu	·					
			03/%	ш —		Ď	Geologic descriptions are based on ASTM Standard	I D 2487-93 and the USCS.					
├ 0 -						CL	Fill: Silty CLAY; with some sand, brown, h	igh plasticity, fine					
						ML/ SM	grained sand, moist.						
† -		0.1	GB67_0.5			SM	Silty SAND; light brown, fine grained, uniform loose.	orm grading, moist,					
						CL ML	Silty SAND; light brown, fine grained, unifo	orm grading moist					
<u></u>		0.0	GB67_1.0			0)4/0	∥ \ loose.	orm grading, molec,					
						SWG	Silty CLAY; orange, low plasticity, dry.						
-							SAND; light brown, fine grained, uniform g	rading, dry, loose.					
							\\\\\as above, becoming grey. \\\\\as above, becoming dark brown.						
<u> </u>		0.2	GB67_2.0				as above, becoming dark brown, as above, becoming light brown/grey.						
-							SAND; trace of clay, red, fine grained, unif	form grading, medium					
						SWG	plasticity clay, dry, medium dense.						
<u> </u>		0.2	GB67 3.0										
		0.2	GB07_3.0										
/1/4							Sandy CLAY; grey/orange mottling, mediu	m plasticity, fine					
27						CLS	grained sand, dry.						
<u>5</u> ⊢ 4 −		0.2	GB67_4.0										
						SM	Silty SAND; trace of clay, red, fine grained	uniform grading					
- -						SM	dry, medium dense.	, uniform grading,					
- -					77777	SM	Clayey SAND; grey, medium plasticity, fine	e to medium grained,					
<u> </u>		0.4	GB67_5.0				well graded sand, dry.						
161							as above, becoming coarse grained.	ding low placticity					
8 -						SC	Silty SAND; red, fine grained, uniform grad dry.	ling, low plasticity,					
JAB							Clayey SAND; grey, coarse grained, dry, n	nedium dense.					
- 6 –		0.3	GB67 6.0										
ရု မြ		0.0	0200.0				SAND; with some clay, coarse grained, green medium dense.	ey/orange, moist,					
78/1						CLS	medium dense.						
						CLO							
ν –			0007 = 5										
z / -		0.2	GB67_7.0				Gravelly SAND; grey, coarse grained, som	ne cobbles, well					
<u> </u>						SWG	graded, wet, medium dense.						
<u>¥</u>					- /*		End of investigation at 7.5mbgs.						
<u>-</u>													
: 8 -													
ರ			11										



Gas Bore **GB68**

Project _	Huntingdale	Develop	oment			_ 0\	wner _Talbot Road Finance Pty Ltd	COMMENTS					
	Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB												
Surface E	Surface Elev. <u>NA</u> Total Hole Depth <u>3.5 m.</u> North <u>5801119.11 m</u> East <u>333350.55 m.</u>												
							Static NA Diameter 125 mm.						
	•						Type/Size _ <i>PVC</i>						
							Type _ <i>PVC</i>						
-			•				g/Core Geoprobe						
	Star Drilling												
							Date						
							NA Territory						
C T C C C T C C C T C			II			110.							
	LO LO		₽Ş	t Z	U U	ass.	Description						
Depth (m.)	Vell	PID (ppm)		Co	Graphic Log	👸							
ے ا	Well	H (d)	Sample ID % Recovery	Blow Count Recovery	5 d	USCS Class.	(Color, Texture, Structu						
						_ >	Geologic descriptions are based on ASTM Standard	1 D 2487-93 and the USCS.					
├ 0 -					XXXXXX		Fill Imported Cail: gravelly aloy dark hray	un ooft					
							Fill: Imported Soil; gravelly clay, dark brow	WII, SOIL.					
							Fill: Clayey SAND; fine grained sand, with	gravel.					
├ 1 -		5.6	GB68-1.0			sw							
							concrete road base.						
							Fill: Silty SAND ; fine grained sand, varying grey, and brown, loose.	g lenses of black,					
-		1.2	GB68-1.5				grey, and brown, loose.						
<u> </u>													
<u> </u>													
<u> </u>		1.5	GB68-2.0										
Ē -			0200 2.0			SW							
=													
<u>-</u>													
							CAND Grada wall have						
5							SAND ; fine to mediuim grained, grey, loos	e.					
∄ 3 −		1.0	GB68-3.0										
2						sw							
07													
DE L													
<u>-</u>		0.5	GB68-3.5				wet.						
							End of investigation at 3.5 mbgs.						
Į.													
<u> </u>													
							•						



Gas Bore **GB69**

Project _	Huntingdale	Develo	oment			_ O\	wner	COMMENTS
Location	1221-1249	Centre	Road, and	1 22 Ta	albot Ave	nue, (Dakleigh South Proj. No. ENAUABTF00751AB	
Surface E	Elev. NA		Total Ho	le Dep	oth <u>4.0</u>	m.	North <u>5801085.39 m</u> East <u>333345.96 m.</u>	
Top of Ca	asing _62.72	5 m	Water Le	evel In	itial <i>NA</i>		Static NA Diameter 125 mm.	
Screen: E	Dia <u>50 mm.</u>		Length	1.0 n	1.		Type/Size _ <i>PVC</i>	
							Type _ <i>PVC</i>	
_			_				g/Core Geoprobe	
	Star Drilling						-	
							Date	
							NA	
	_,							
_	<u></u>	_	G Z	Blow Count Recovery	o	ass.	Description	
Depth (m.)	Well	PID (ppm)	Sample ID % Recovery	S S	Graphic Log	USCS Class.	·	ro)
	Col	- 😉	San % Re	Blov	- B	SC	(Color, Texture, Structu Geologic descriptions are based on ASTM Standard	
						٦	Geologic descriptions are based on ASTW Standard	1 D 2407-93 and the 0303.
- o -					*****		Fill: Imported Soil; sandy gravelly clay.	
							Fin. imported Son, sandy graveny day.	
					\bowtie			
L .								
							Fill: Gravelly SAND; fine to medium graine	ed, black/brown/grey.
						sw		
							Fill: Silty SAND; fine grained sand,grey, lo	ose.
- 1 -		0.4	GB69-1.0					
					\bowtie			
ļ .					\bowtie		colour change to brown.	
<u> </u>								
Ť						sw		
[5 2 -		1.6	GB69-2.0					
		1.6	GD09-2.0					
5							and and wat	
=							grey and wet.	
C.								
<u>-</u>	1							
Š						sc	Fill: Clayey SAND; grey, medium density.	
3 -	4	0.8	GB69-3.0				Fills CLAV: modium planticity, group years	ooiet firm
2							Fill: CLAY; medium plasticity, grey, very n	10151, 111111.
Ö						СН		
j j								
2		0.4	GB69-3.5					
		0.4	GB09-3.5				End of investigation at 3.5 mbgs.	
<u> </u>	╣							
<u> </u>	II		<u> </u>					



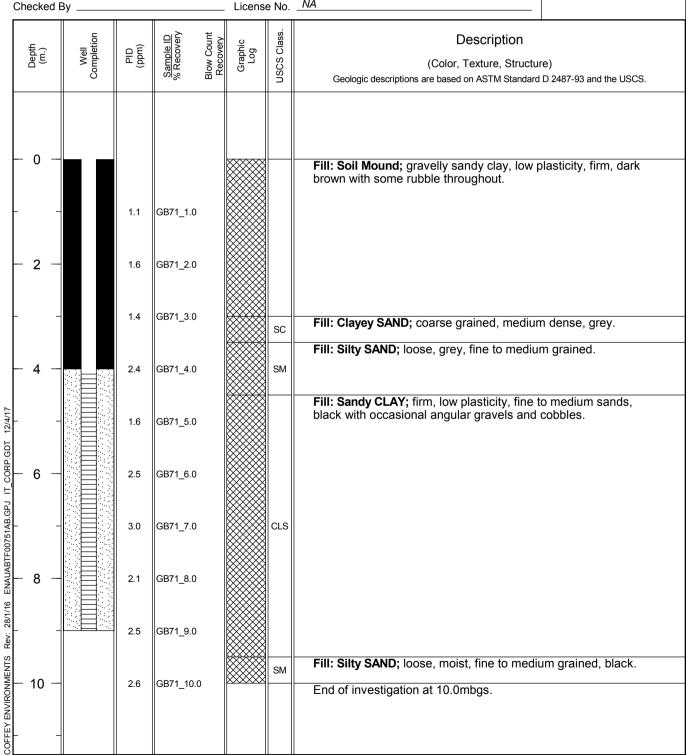
GB70Page: 1 of 1 Gas Bore

•	roject Huntingdale Development Owner Talbot Road Finance Pty Ltd COMMENTS												
Location	ocation 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB												
Surface E	lev. NA		Total Ho	le Dep	oth <u>4.0</u>	m.	North <u>5801049.17 m</u> East <u>333340.30 m.</u>						
Top of Ca	sing <u>62.20</u>	11 m	Water Le	evel In	itial <i>NA</i>		Static _ <i>NA</i> Diameter _ <i>125 mm</i> .						
Screen: D	ia <u>50 mm.</u>		Length	1.5 n	n.		Type/Size PVC						
Casing: D	ia <u>50 mm.</u>		Length .	1.0 n	n.								
Fill Materia	al <u>Bentoni</u>	te, Grou	ıt, Sand			_ Ri	g/Core <u>Geoprobe</u>						
Drill Co.	Star Drilling	1		Meth	nod Pu	sh tub	pe						
Driller _J	. Thomas		Log By	D. W	/hite		Date						
Checked I	Ву				License	e No.	NA						
			>	.		o,							
₩	Well	ΩÊ	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description						
Depth (m.)	M V	PID (ppm)	amp Rec	ow (Grap	SS	(Color, Texture, Structu	ire)					
	ŏ		NI%	₩.		SN	Geologic descriptions are based on ASTM Standard	D 2487-93 and the USCS.					
- o -													
							Fill: Imported Soil; clayey sand.						
					\bowtie		concrete.						
_													
							Fill: Silty SAND; fine grained sand, black/b	orown, loose.					
4		1.2	GB70-1.0										
Γ' -		1.2	GB/0-1.0										
					\bowtie	sw							
_													
4					\bowtie								
-													
<u> </u>		0.6	GB70-2.0										
							Fill: Clayey Gravelly SAND; well grained s dense.	and, very moist,					
=							uciise.						
5						sw							
<u> </u>							wet.						
							FILL OLAY						
							Fill: CLAY; medium plasticity, grey, firm.						
\$						CH							
3 -	1	0.4	GB70-3.0										
5													
							Fill: Clayey Gravelly CLAY; well graded, g	rey, dense.					
2						CH							
<u>-</u>	1	0.5	GB70-3.5		XXXXX		End of investigation at 3.5 mbgs.						
-													
<u> </u>	1												
<u> </u>	Ш	l	Ш										



GB71 Gas Bore

			Page: 1 of 1
Project Huntingdale Development	Owner	Talbot Road Finance Pty Ltd	COMMENTS
Location 1221-1249 Centre Road, and			
Surface Elev. NA Total Ho			
Top of Casing 64.702 m. Water L	evel Initial NA	Static NA Diameter 150 mm.	
Screen: Dia 50 mm. Length	5.0 m.	Type/Size PVC	
Casing: Dia _50 mm. Length	4.0 m.	Туре _ <i>PVC</i>	
Fill Material Bentonite, Sand	Rig/Core	Sonic	
Drill Co. Star Drilling	Method Sonic		
Driller S. Anderson Log By	D. White	Date <u>22/6/16</u> Permit # <u>NA</u>	
Checked By	License No. NA		
(m.) Well ompletion PID (ppm)	Graphic Log SCS Class.	Description	
	low (Grap	(Color, Texture, Structu	re)





GB72Page: 1 of 1 Gas Bore

Project _	Huntingdale	Develo	oment			_ 0	wner Talbot Road Finance Pty Ltd COMMENTS					
Location1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. NoENAUABTF00751AB												
Surface El	ev. NA		Total Ho	le De _l	pth <u>7.2</u>	? m.	North <u>5800984.70 m</u> East <u>333446.48 m.</u>					
Top of Cas	sing <u>63.66</u>	66 m	Water Le	evel Ir	m. Static NA Diameter 150 mm.							
Screen: Di	ia <u>50 mm.</u>		Length	4.5 r	n.		Type/Size _ <i>PVC</i>					
Casing: Di	a <u>50 mm.</u>		Length	Type _ <i>PVC</i>								
Fill Materia	al <u>Bentoni</u>	te, Sand	1			_ Ri	ig/Core <u>Geoprobe</u>					
Drill Co	Star Drilling	7		Met	hod <i>Pu</i>	sh tul	be / Solid stem flight auger					
Driller J.	Thomas		Log By	R. W	/hite		Date <u>21/6/16</u> Permit # <u>0826</u>					
Checked E	Зу				Licens	e No.	. <u>NA</u>					
	_		2 2	<u></u>		ν _ζ	5					
Depth (m.)	Well Completion	PID (mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description					
P P E	M o	교형	Samp Rec	Jow Rec	Gra	SCS	(Color, Texture, Structure)					
	0		01%	<u> </u>		ž	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.					
L 0 -							FILO A LOUT AND FOR A LOUIS FOR A LOUIS AND A LOUIS AN					
						MLS	Fill: Sandy SILT; medium plasticity, light brown, moist.					
		0.3	GB72_0.5			SW	Fill CAND for any in all brown and form and in a day large					
			_			SW	Fill CAND trace of grovel brown uniform fine to correct					
L 1 -		0.4	GB72 1.0			SWG SM/	751 · · · · · · · · · · · · · · · · · · ·					
			_			GW\$	Fill: Gravelly SAND; red, medium to coarse grained, moist,					
							loose. Fill: Silty SAND; brown, low plasticity, fine grained, moist, loose,					
							with some organic material.					
<u> </u>		0.3	GB72_2.0				Fill: Sandy GRAVEL; pale red, fine to coarse grained, angular,					
-							dry, loose.					
							Fill: Sandy GRAVEL; grey, angular, fine to coarse grained, dry, loose.					
							Fill: Gravelly SAND; with some silt, brown, low plasticity, fine to					
<u> </u>						swg	coarse grained, dry, loose.					
<u>_</u>												
./4/7												
5-4-												
ੂੰ ਹ '							as above with brick/gravel/metal scraps.					
=]							Fill; as above with some brick/gravel rocks and rubber, moist, loose.					
5 -							10030.					
akle.												
ABI												
6 -												
<u></u> ∑												
Yek.							as above, becoming wetter and medium density.					
<u></u>												
							End of investigation at 7.2mbgs.					
<u> </u>							End of invodigation at 7.2mbgs.					
‡ 8 −												
3[



Gas Bore GB73

GB73Page: 1 of 1

Location Surface E Top of Ca Screen: D Casing: D Fill Materi Drill Co.	Huntingdale 1221-1249 Ilev. NA Ising 62.33 Dia 50 mm. Dia 50 mm. Bentonia Star Drilling	COMMENTS					
						Date <u>21/6/16</u> Permit #	
Depth (m.)	Well	(mdd)	Sample ID % Recovery Blow Count		USCS Class.	Description (Color, Texture, Structu Geologic descriptions are based on ASTM Standard	
- 0 -				×××××		Fill: Gravelly Silty CLAY; dry/hard.	
		0.1	GB73_0.2			Fin. Graveny Sitty CLAT, dry/nard.	
-	-	0.1	GB73_0.5		MLG		
_ 1 -		0.6	GB73_1.0			Fill: Basalt Boulder	
- -					CLG	Fill: Gravelly Sandy CLAY; firm, low plasti	city, some rubble.
_ 2 _		0.5	GB73_2.0		CLS	Fill: Sandy CLAY; low plasticity, very sand	y, dark grey.
-						Fill: Bricks, Concrete, Rubble. Fill: Gravelly Sandy CLAY; low plasticity, of	dark brown
3 -		0.2	GB73_3.0		CLG	Tim. Gravery Sandy GEAT, low plasticity, o	ZAIK DIOWII.
4 -			GB73_4.0			Fill: Sandy Gravelly CLAY; low plasticity, I sandstone castings.	olack, wet, very sandy,
5 -			GB73_5.0		CLG		
6 - - 7 -			GB73_6.0			End of investigation at 6.0mbgs.	
3 <u>L</u>							



Gas Bore **GB74**

								Page: 1 of 1
•							wner Talbot Road Finance Pty Ltd	COMMENTS
							Dakleigh South Proj. NoENAUABTF00751AB	
	lev. <u>NA</u>							
	•						Static NA Diameter 150 mm.	
			_				Type/Size PVC	
_			_				Type PVC	
							g/Core <u>Sonic</u>	
	Star Drilling						Date <u>21/6/16</u> Permit # <u>NA</u>	
	Зу							
Checked	э у		II		Licens	E INO.		
_	tion		el P	ar T	<u>.</u>	ass.	Description	
Depth (m.)	Well	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	(Color, Texture, Structu	ıre)
	S		Sal R	eg s	o l	OSC	Geologic descriptions are based on ASTM Standard	
L 0 -								
							Fill: Gravelly Sandy CLAY; low plasticity, l	brown.
		0.9	GB74_0.5	;				
			_					
						CLG		
├ 1 -		1.2	GB74_1.0)			colour changing to block	
							colour changing to black.	
-							Fill: Basalt Boulder	
							i iii. Busuit Boulder	
/1/4								
12/2								
<u>5</u>		0.2	GB74_2.0)				
7.								
) = =								
<u> </u>								
- HAB.C							Fill: Gravelly Sandy CLAY; medium plasti	city, grey, slightly
2700							moist.	-
18								
NAC								
<u> </u>							End of investigation at 3.0mbgs.	
7/1/8								
Gev:								
מי								
z								
Q Q								
N N								
<u> </u>								
j 4 –								



Gas Bore GB75

GB75Page: 1 of 1

Location : Surface El Top of Cas Screen: D Casing: Di	1221-1249 lev. NA sing 62.05 ia 50 mm. ia 50 mm.	MorerTalbot Road Finance Pty Ltd COM Dakleigh South Proj. NoENAUABTF00751AB North5800878.29 mEast333359.27 m. Diameter150 mm. Type/SizePVC TypePVC g/CoreSonic COM Diameter150 mm. Type/SizePVC TypePVC g/CoreSonic COM Diameter150 mm. Type/SizePVC TypePVC g/CoreSonic COM Diameter150 mm. Type/SizePVC TypePVC TypePVC TypeSonic COM Diameter150 mm. Type/SizePVC TypePVC TypePVC TypeSonic Type/SizeSonic Type/SizePVC TypePVC	MENTS					
	Star Drilling						9/00/10	
							Date <u>22/6/16</u> Permit # <u>NA</u>	
Checked E	Ву				License	e No.	_NA	
Depth (m.)	Well	OIA (mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 248	7-93 and the USCS.
- 0 - 1 -		0.2	GB75_0.5 GB75_1.0			CLS GWS CL ML	Fill: Sandy CLAY; low plasticity, light brown, unimedium grained, moist. Fill: Sandy GRAVEL; medium to coarse grained loose. Fill: Silty CLAY; brown/orange, low plasticity, dr	, angular, dry,
2 - 3 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5		1.5	GB75_2.0			SM CL ML	Fill: Silty SAND; black, fine grained sand, unifor plasticity, dry, loose. Fill: Silty CLAY; orange, medium plasticity, mois	
4 - 5						SM	Fill: Silty SAND; brown, fine grained, uniform gr plasticity, moist, loose. End of investigation at 4.0mbgs.	ading, low



Gas Bore **GB76**

									Page: 1 of 1
	Project _	Huntingdale	Develo	oment			_ Ov	vner _Talbot Road Finance Pty Ltd	COMMENTS
	Location	1221-1249	Centre	Road, and 2	22 Talb	ot Ave	nue, C	Dakleigh South Proj. NoENAUABTF00751AB	
	Surface E	lev. NA		Total Hole	Depth	4.2	m.	North <u>5800823.58 m</u> East <u>333382.33 m.</u>	
								Static <i>NA</i> Diameter150 mm.	
		•						Type/Size PVC	
								Type _ <i>PVC</i>	
	-			-				g/Core _Geoprobe 7720DT	
							-	e / Solid stem flight auger	
								Date _20/6/16 Permit # _0826	
				• •				NA Territory	
	Checked	п п				1001130	- NO.		
		l o			ŧ >	ο	ass.	Description	
	Depth (m.)	Well	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	•	
	ے ق	No.	g)	Sam % Re	Rec S	ຼື	SC	(Color, Texture, Structu	
					"		∍	Geologic descriptions are based on ASTM Standard	1 D 2487-93 and the USCS.
	- 0 -							Fill: Sandy Gravelly CLAY; very sandy and	d arayelly low
			6.4	GB76_0.2		XXX	CLG	plasticity, stiff, moist, red/brown.	a gravery, low
			0.1	05/0_0.2		\ggg		•	
			1.1	GB76_0.5				Fill: Gravelly Clayey SILT; dry, friable.	
				0.070_0.0		>>>>			
						XXX	CL		
						>>>>	ML		
	- 1 -		0	GB76_1.0		>>>>			
								Fill: Sandy Gravelly CLAY; coarse sand, lo	ow plasticity
						XXX		brown/grey with tree roots.	ow plasticity,
						\ggg		•	
						\ggg			
						XXX			
	- 2 -		0	GB76_2.0		>>>>			
	2		O	05/0_2.0		XXX	CLG		
/4/17						\ggg			
12/4/						>>>>			
GD1						>>>>			
ORP						\ggg			
I_C						XXX			
PJ	_ 3 _		6.5	GB76_3.0		\ggg			
AB.G								Slimes; clay, high plasticity, soft, moist.	
0751						\ggg			
TF0]				XXX			
VAB	_					XXX			
ΕŊ						\ggg			
1/16						XXX			
28/	- 4 -		1.4	GB76_4.0		XXX			
Rev: 28/1/16 ENAUABTF00751AB.GPJ IT_CORP.GDT						****	$\mid - \mid \mid$	End of investigation at 4.2mbgs.	
SNTS								End of invocagation at 4.2mbgs.	
177		11 11		11	- 11		. 11		



Gas Bore **GB77**Page: 1 of 1

Project	COMMENTS							
Depth (m.)	Well	(mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structu Geologic descriptions are based on ASTM Standard	
- 0 - - 1 - 		0 0	GB77_0.2 GB77_0.5 GB77_1.0				Fill: Gravelly Sandy CLAY; low plasticity, for rubble and sheet metal, coarse sands, sections, red/black/brown.	
— 2 —		0	GB77_2.0				Fill: GRAVEL; angular, red/orange cobbles Fill: CLAY, SLIMES; high plasticity, moist,	
3 4 4		1.5	GB77_3.0			СН		
2					xxxxx		End of investigation at 4.1mbgs.	



Gas Bore GB78

GB78Page: 1 of 1

Project <u>F</u> Location _ Surface Ele Top of Cas Screen: Di Casing: Di Fill Materia	COMMENTS							
							e / Solid stem flight auger	
							Date Permit #	
Checked E	Ву		II		License	No.	NA	
Depth (m.)	Well	(mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structu Geologic descriptions are based on ASTM Standard	
- 0 -					****		Fills Condu Crowells Close love placeticity, so	
		0	GB78_0.2				Fill: Sandy Gravelly Clay; low plasticity, m light brown.	oist, coarse sand,
		0	GB78_0.5				Fill: Clayey Gravel and Silt; dry, dark brow scrap metal.	n with rubble and
_ 1 _		0	GB78_1.0					
5. P. P. P. P.			_					
30.							Fill: GRAVEL; red/orange, angular cobblee Fill: Slimes; Clay, high plasticity, wet, light	
							End of investigation at 3.2mbgs.	



Gas Bore **GB79**Page: 1 of 1

					rage. I of i									
Project Huntingdale Dev	elopment		_ Ow	ner Talbot Road Finance Pty Ltd	COMMENTS									
Location1221-1249 Cer	Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB Surface Elev. NA Total Hole Depth 3.2 m. North 5800791.14 mEast 333465.69 m.													
Surface Elev. NA	North <u>5800791.14 m</u> East <u>333465.69 m.</u>													
Top of Casing 60.675 m	Static NA Diameter 125 mm.													
Screen: Dia 50 mm.	Length	i m.		Type/Size <u>PVC</u>										
Casing: Dia 50 mm.	Length) m.		Type _ <i>PVC</i>										
Fill Material Bentonite, S	and		_ Rig	/Core Geoprobe 7720DT										
Drill Co. Star Drilling	Me	ethod Pus	sh tube	e										
				Date21/6/16 Permit #0826										
Checked By		_ License	No.	NA										
Depth (m.) Well Completion	(ppm) Sample ID % Recovery Blow Count	hic	USCS Class.	Description										
Depth (m.) Well ompletii	(ppm)	Recovery Graphic Log	SS	(Color, Texture, Structu	ıre)									
8			NS	Geologic descriptions are based on ASTM Standard	D 2487-93 and the USCS.									
				Fill: Sandy CLAY; low plasticity, uniform g sand, light brown, moist.	rading, fine grained									
			CLS											
O	2 GB79_0.5			Fills Cities CANDs light have a loss placeticity.	ifa avadina									
				Fill: Silty SAND; light brown, low plasticity moist, loose.	, uniform grading,									
			SM	,										
- 1 - 0.	4 GB79_1.0			Fills CANDs brown fine agained spiferre	radian dur dana									
			sw	Fill: SAND; brown, fine grained, uniform grained with organic tree roots.	rading, dry, dense.									
				Fill: GRAVEL; angular, dry, loose.										
				Fill: Slime - Clay; high plasticity, brown, m	oist.									
42														
<u>-</u>	4 GB79_2.0													
\$														
				Fill: Slime; clay, brown, high plasticity, we	t.									
	2 GB79_3.0													
و ا	1													
787			\dashv	End of investigation at 3.2mbgs.										
Yee				3										
<u> </u>														
<u>‡</u> _ 4														
ġ ' ∥ ∥														



Soil Mound SM1

SM1Page: 1 of 1

Location 1221-1249 Certier Road, and 22 Tablod Avenue, Oxidelegis South Proj. No. ENAUARTRO7518B	Project Huntingdale Developn	nent	OwnerTalbot Road Finance Pty Ltd COMMENTS									
Top of Casing MA Length MA Type/Size MA Diameter Casing: Dia MA Length MA Type/Size Ma Type/Size MA Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size	Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB											
Top of Casing MA Length MA Type/Size MA Diameter Casing: Dia MA Length MA Type/Size Ma Type/Size MA Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size Ma Type/Size	Surface Elev. 61.7 m.	Total Hole Depth	2.0 m. North _5801061.65 m _{East} 333142.61 m.									
Casing: Dia _MA	Top of Casing NA	Nater Level Initia	al <u>NA</u> Static <u>NA</u> Diameter									
Casing: Dia _MA	Screen: Dia NA L	_ength _ <i>NA</i>	Type/Size NA									
Fill Material Backfill Drill Co. Method Drill Co. Method Drill Co. Method Drill Co. Method Drill Co. Method Drill Co. Method Drill Co. Method Drill Co. Method Doscription (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-43 and the USCS. Fill: Silty SAND; black, loose, fine to medium grained. Fill: Sandy CLAY; very hard, with some bricks and rubble. Fill: Sandy CLAY; very hard, with some bricks and rubble.												
Driller Log by D. White Date 26/5/16 Permit # MA Description (Color, Texture, Structure) Description (Color,	Fill Material Backfill		Rig/Core Excavator/Excavator									
Driller Log By White Date												
Checked By License No												
Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.												
Fill: Silty SAND; black, loose, fine to medium grained. Fill: Sandy CLAY; very hard, with some bricks and rubble. Fill: Sandy CLAY; very hard, with some bricks and rubble. Fill: Sandy CLAY; very hard, with some bricks and rubble. Fill: Sandy CLAY; very hard, with some bricks and rubble.												
Fill: Silty SAND; black, loose, fine to medium grained. Fill: Sandy CLAY; very hard, with some bricks and rubble. Fill: Sandy CLAY; very hard, with some bricks and rubble. End of investigation at 2.0mbgs.	h h	ery lic lass	Description									
Fill: Silty SAND; black, loose, fine to medium grained. Fill: Sandy CLAY; very hard, with some bricks and rubble. Fill: Sandy CLAY; very hard, with some bricks and rubble. End of investigation at 2.0mbgs.	(m.) PID PID Ppm mple Recor	Log	(Color Texture Structure)									
Fill: Silty SAND; black, loose, fine to medium grained. Fill: Sandy CLAY; very hard, with some bricks and rubble. Fill: Sandy CLAY; very hard, with some bricks and rubble. End of investigation at 2.0mbgs.	Signal Control	G G USC										
Fill: Sandy CLAY; very hard, with some bricks and rubble. Fill: Sandy CLAY; very hard, with some bricks and rubble. End of investigation at 2.0mbgs.			·									
Fill: Sandy CLAY; very hard, with some bricks and rubble. Fill: Sandy CLAY; very hard, with some bricks and rubble. End of investigation at 2.0mbgs.												
Fill: Sandy CLAY; very hard, with some bricks and rubble. Fill: Sandy CLAY; very hard, with some bricks and rubble. End of investigation at 2.0mbgs.												
Fill: Sandy CLAY; very hard, with some bricks and rubble. Fill: Sandy CLAY; very hard, with some bricks and rubble. End of investigation at 2.0mbgs.												
Fill: Sandy CLAY; very hard, with some bricks and rubble. Fill: Sandy CLAY; very hard, with some bricks and rubble. Fill: Sandy CLAY; very hard, with some bricks and rubble.	├ 0		Fill: Silty SAND; black, loose, fine to medium grained.									
Fill: Sandy CLAY; very hard, with some bricks and rubble. Fill: Sandy CLAY; very hard, with some bricks and rubble. End of investigation at 2.0mbgs.												
- 1 - 0.1 SM1_1.0 - 2 - 0.2 SM1_2.0 End of investigation at 2.0mbgs.	0.2 SM1_0.2											
- 1 - 0.1 SM1_1.0 - 2 - 0.2 SM1_2.0 End of investigation at 2.0mbgs.			Fill: Sandy CL AV: yery hard, with some bricks and rubble									
End of investigation at 2.0mbgs.			Tim. Sandy SEAT, Very hard, with Some bricks and rubble.									
End of investigation at 2.0mbgs.												
End of investigation at 2.0mbgs.												
End of investigation at 2.0mbgs.												
End of investigation at 2.0mbgs.												
End of investigation at 2.0mbgs.												
End of investigation at 2.0mbgs.												
	├ 1											
	<u> </u>											
End of investigation at 2.0mbgs.												
End of investigation at 2.0mbgs.												
	SM1_2.0		End of investigation at 2.0mbgs.									
	<u> </u>											
	2											
	5											



Soil Mound SM10

SM10Page: 1 of 1

Location Surface El Top of Cas Screen: Di Casing: Di Fill Materia Drill CoDriller	1221-1. ev. <u>65</u> sing <u>N.</u> a <u>NA</u> a <u>NA</u> al <u>Bacca</u>	249 Centre I .1 m. A	Road, and 22 Total Hole I Water Leve Length	Pepth Depth Initia A A Sethod Bei	Owner	COMMENTS
Depth (m.)	(mdd)	Sample ID % Recovery	Blow Count Recovery Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 248	37-93 and the USCS.
- 0 -				sw	Fill: Silty SAND; fine to medium grained sand, black organic roots, dry, loose.	/grey, with some
	2.2	SM10-0.2			Fill: Sandy CLAY; high plasticity, orange mottled bro coarse grained sand, moist, stiff.	wn/grey, fine to
- 1 -	2.0	SM10-0.5		CH		
2 2	1.8	SM10-1.5		sw	Fill: Clayey SAND; low plasticity to medium plasticity grained sand, orange mottled brown/grey, moist, stif	f. T
FINAL ENAUABITO	0.9	SM10-2.5		sw	Fill: Clayey SAND; low plasticity to medium plasticity grained sand, orange mottled brown/grey, moist, stif	r ciay, τine to coarse f.
	0.9	Sivi 10-2.3			Terminated at 2.5 mbgs.	



Soil Mound SM11

SM11Page: 1 of 1

Project Hunt	ingdale Developme	ent	Owner _ Talbot Road Finance Pty Ltd COMMENTS							
Location 122	21-1249 Centre Roa	ad, and 22 Tall	oot Avenue, Oakleigh South Proj. NoENAUABTF00751AB_							
	Surface Elev. 66.6 m. Total Hole Depth 3.0 m. North 5801168.12 mEast 333281.62 m.									
			al <u>2.0 m.</u> Static <u>NA</u> Diameter							
			Type/Size <u>NA</u>							
		-	Type NA							
			Rig/Core Excavator/Excavator							
			d							
			be Date _27/5/16							
			License No.							
Checked by Electise No										
	ant eny	C C	Description							
Depth (m.)	Sample ID % Recovery Blow Count Recovery	Graphic Log USCS Class.	· ·							
	San % Red Man		(Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.							
			Geologic descriptions are based on ASTM Standard D 2407-93 and the OSCS.							
⊢ o			Fill: Sandy Gravelly CLAY; low plasticity, dry, stiff, dark brown, with some							
			green waste througout.							
			g. con nacco un cagoan							
1 1 1	.2 SM11_1.0									
F										
<u>-</u>										
17.										
2 型 0	.4 SM11_2.0									
=										
<u> </u>										
5										
∯ 3 	.4 SM11_3.0		End of investigation at 3.0mbgs.							
2			Life of invocagation at oldmage.							
07										
<u></u>										
		<u> </u>	II .							



Soil Mound SM12

SM12 Page: 1 of 1

								rage. r or r
-							Owner _Talbot Road Finance Pty Ltd	COMMENTS
							ot Avenue, Oakleigh South Proj. No. <u>ENAUABTF00751AB</u>	
							2.5 m. North <u>5801193.68 m</u> East <u>333336.66 m.</u>	
		-					Static NA Diameter	
							Type/Size _ <i>NA</i>	
							Type NA System Frequenter	
							Rig/Core Excavator/Excavator	
							Date <u>2/6/16</u> Permit # _ <i>NA</i>	
							icense No	
Cileci	TI	у	П					
_		_	⊒Á	ţ Z	U	ass.	Description	
Depth	(: E)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	(Color, Texture, Structure)	
"			Sar R	Bo Re	Ŋ	nsc	Geologic descriptions are based on ASTM Standard D 246	37-93 and the USCS.
	٦						Fill: Silty SAND; fine to medium grained sand, black	, with some organic
						SW	roots, moist, loose.	
		0.7	SM12-0.2				Fill: Sandy CLAY; high plasticity, brown mottled oran	nge/grey, fine to
						СН	medium grained sand, moist, firm.	
-	Ⅎ						Fill: Sandy CLAY; high plasticity, brown mottled oran	nge/grey, fine to
							medium grained sand, moist, firm, some odour.	
<u> </u>	\dashv	1.2	SM12-1.0			СН		
12/4/17								
卢	4						Fill. Cond. CLAV. Link alreaded. London 100	
RP.G							Fill: Sandy CLAY; high plasticity, brown mottled oral medium grained sand, moist, firm.	ige/grey, fine to
ENAUABTF00751AB.GPJ IT_CORP.GDT							g g g	
2								
AB.GF								
A12700 - 2						СН		
Z Z								
AUAB								
11/16								
Rev: 28/1/16			0.4.5					
Re	1	1.9	SM12-2.5				Terminated at 2.5 mbgs.	
STNTS								
N N								
N/IR								
COFFEY ENVIRONMENTS								
[3	\dashv							
\circ L			II		1		İ	



Soil Mound SM13

SM13Page: 1 of 1

•						Owner Talbot Road Finance Pty Ltd COMMENTS
						t Avenue, Oakleigh South Proj. No. ENAUABTF00751AB
						2.0 m. North 5801169.61 m _{East} 333311.83 m.
						NA Static NA Diameter
						Type/Size _ <i>NA</i> Type _ <i>NA</i>
						Rig/Core Excavator/Excavator
						Rig/Core
Driller			Log	By J.	eti iou Bei	Date <u>6/6/16</u> Permit # <i>NA</i>
						cense No
	, <u> </u>					
		Q S	ount ery	<u>.</u> 2	lass.	Description
Depth (m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	(Color, Texture, Structure)
		Sa R	B ₀	9	OSC	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
0					sw	Fill: Silty SAND; low to medium plasticity, fine to coarse grained, dark
	1.7	SM13-0.1				brown, with some organic matter, moist, stiff. Fill: Clayey SAND; fine to coarse grained, brown/grey, high plasticity clay,
	0.7	SM13-0.2				orange/dark brown, moist, dense.
					SC	-
† †	0.9	SM13-0.5				Fill: Gravelly Clayey SAND; fine to coarse grained sand, brown/grey, high
						plasticity clay, orange/brown/dark brown/grey, fine to coarse grained gravel
						(basalt), with some asphalt gravel (black), brick, concrete, timber and tile metal fragements.
						modi nagomono.
				\bowtie		
├ 1 -						
					SWG	
2/4/7						
<u>-</u>	1.1	SM13-1.5				
		OWITO 1.5				
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21AE						
È 2 -						Terminated at 2.0 mbgs.
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SM14Page: 1 of 1 Soil Mound

Location Surface El Top of Cas Screen: Di Casing: Di Fill Materia Drill CoDriller	1221-13 ev. <u>63</u> sing <u>Na</u> ia <u>NA</u> a <u>NA</u>	249 Centre F .1 m. 4 	ment Road, and 22 Total Hole E Water Level Length N Length M Log By J	Palbo Depth Initia A ethod Bei	COMMENTS	
Depth (m.)	(mdd)	Sample ID % Recovery	Recovery Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 248	87-93 and the USCS.
_ 0 _	1.1	SM14-0.5		sw	Fill: Gravelly SAND; fine to coarse grained sand, da grained gravels, metal fragments, trace of and low p loose. Fill: Clayey SAND; fine to coarse grained sand, brow	lasticity clay, moist,
	0.8	SM14-1.5		sw	plasticity, trace of asphalt gravel, metal fragments, of the control of the contr	Iry, loose.



Soil Mound SM15

SM15Page: 1 of 1

Location Surface El Top of Cas Screen: Di Casing: Di Fill Materia Drill CoDriller	1221-1; ev. <u>65</u> sing <u>N</u> ia <u>NA</u> a <u>NA</u>	249 Centre .7 m. 4	Tota Wa Len Len	d, and 22 al Hole D ter Level agth NA agth NA	Owner		
Depth (m.)	Old (mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the U	SCS.
- 0 - - 1 -	0.7	SM15-0.5			SW	Fill: Clayey SAND; fine to coarse grained sand, dark brown, mehigh plasticity clay, brown, with some coarse grained gravels, mehigh plasticity clay, brown, with some coarse grained gravels, mehigh plasticity clay, brown, with some coarse grained gravels, mehigh plasticity clay, brown, with some coarse grained	oist, loose.
7. 4. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	1.1	SM15-2.0			sw	sandstone case, concrete and brick fragments. Terminated at 2.0 mbgs.	
3							



Soil Mound SM16

SM16Page: 1 of 1

Project H	untingd	ale Develo	pmer	nt		OwnerOwner COMMENTS
						t Avenue, Oakleigh South Proj. No. ENAUABTF00751AB
Surface Ele	ev. <u>63</u> .	.0 m.	Tot	al Hole D	epth	<u>2.0 m.</u> North <u>5801200.11 m</u> East <u>333429.27 m.</u>
						Static Diameter
						Type/Size _ <i>NA</i>
						Type _ <i>NA</i>
						Rig/Core Excavator/Excavator
Drill Co				M	ethod	
Driller			Log	ву <u></u> <i>J. I</i>	Bei	Date <u>2/6/16</u> Permit # <u>NA</u>
Checked By	y				Li	cense No
		. >			, i	
₩	۵Ê	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description
Depth (m.)	PID (ppm)	Rec	ow o	Grap Lo	CS	(Color, Texture, Structure)
		\w\%	<u>a</u> <u>r</u>		Sn	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
					sw	Fill: SAND ; fine to medium grained sand, black/grey, with some sandstone case, brown, dry, loose.
		01440 0 0			300	saliusione case, brown, dry, loose.
	0.9	SM16-0.2				Fill: SAND; fine to medium grained sand, black/grey, trace of rubber,
						metal, timber, concrete fragements, tin, plastic and cloth, dry, loose.
├						
					SW	
⊢ 1 ⊣	1.0	SM16-1.0				FILL CAND. fire to madicine and and because the second by
						Fill: SAND ; fine to medium grained sand, brown, trace of rubber, metal, timber, concrete fragements, tin, plastic and cloth, dry, loose.
1						
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					SW	
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<u> </u>						
§ 2 —		SM16-2.0			$\ \cdot\ $	Terminated at 2.0 mbgs.
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Soil Mound SM17

SM17Page: 1 of 1

Project _	luntingd	lale Develop	oment		OwnerTalbot Road Finance Pty Ltd COMMENTS
•					ot Avenue, Oakleigh South Proj. NoENAUABTF00751AB
					<u>2.0 m.</u> North <u>5801192.85 m</u> East <u>333493.22 m.</u>
					Al NA Static NA Diameter
	-				Type/Size NA
					Type NA
Fill Materia					
					Rig/Core _Excavator/Excavator
					Date Date31/5/16 Permit #NA
Checked B	У				icense No
		ا کے	ŧ ,	SS.	Description
Depth (m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery Graphic Log	USCS Class.	Description
	ਰ ਕੁ	Sam 6 Re	Rec Green	SCS	(Color, Texture, Structure)
		%//	<u> </u>	βĎ	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
					Fill: SAND; fine to coarse grained sand, black, trace of sandstone, brown,
				\otimes	organic roots, plastic, glasses, wire, dry, loose.
				\otimes	
				\otimes	
F 4				\otimes	
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				\otimes	
				\otimes	
				\otimes	
├ 1 ┤	0.3	SM17_1.0		∭swg	
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Ye				\otimes	
<u> </u>	0.6	SM17_2.0		\bowtie	End of investigation at 2.0mbgs.
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<u>-</u> 3 −					



Soil Mound SM18

SM18Page: 1 of 1

Project _	Huntinga	lale Develop	oment		OwnerTalbot Road Finance Pty Ltd COMMENTS
-					ot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB
Surface El	ev62	.1 m.	Total Hole [Depth	2.0 m. North 5801132.53 m _{East} 333534.61 m.
					NA Static NA Diameter
	-				Type/Size _ <i>NA</i>
					Type _NA
Fill Materia					Rig/Core Excavator/Excavator
					Date 31/5/16 Permit # NA
					cense No.
	· ,		II .		
		el Gl⊝	c and	ass.	Description
Depth (m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery Graphic Log	USCS Class.	
	- 🗷	Sar % R	G Re	JSC	(Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
					Geologic descriptions are based on ASTIVI Standard D 2407-33 and the 0303.
- 0 -					Fill: SAND; fine to coarse grained sand, dark brown, trace of rubber,
					sandstone cast, brown, timber, plastics, asphalt gravels (black), cloth, dry,
					loose, no odour.
1					
				SW	
L 1 -	1.0	SM18_1.0			
'	1.0				
<u> </u>					
2					
<u>ş</u>					
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<u> </u>					Fills Opends OI AV ships planticity along the base of the second of
-					Fill: Sandy CLAY; high plasticity clay, dark brown/brown/orange, fine to coarse grained sand, black, trace of sandstone case, brown, asphalt,
5				СН	gravels (black), moist, no odour.
	,	00.440.00			
2 -	1.2	SM18_2.0			End of investigation at 2.0mbgs.
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2					
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Soil Mound SM19

SM19 Page: 1 of 1

Location Surface El Top of Cas Screen: Di Casing: Di Fill Materia Drill CoDriller	1221-1: lev. <u>64</u> sing <u>Na</u> ia <u>NA</u> a <u>NA</u>	lale Developr 249 Centre R 4 m. A	Road, and 22 Total Hole D Water Level Length N Length M Log By J.	P Talbe Depth I Initia A A dethod Bei	COMMENTS	
Depth (m.)	(mdd)	Sample ID % Recovery	Recovery Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 248	97-93 and the USCS.
- 0 - 1 -	0.3	SM19_1.0		SW	Fill: SAND; fine to coarse grained sand, brown, with clay, trace of metal fragments and brick fragments, of the fill: SAND; fine to medium grained sand, black, dry,	dry, loose, no odour.
0	0.6	SM10 2.0		SW		
2	0.6	SM19_2.0			End of investigation at 2.0mbgs.	
3 -						



Soil Mound SM2

SM2Page: 1 of 1

Project _	Huntinga	lale Devel	ортег	nt		Owner Talbot Road Finance Pty Ltd COMMENTS
Location _	1221-1	249 Centre	e Roa	d, and 22	Talbo	ot Avenue, Oakleigh South Proj. NoENAUABTF00751AB_
						<u>2.0 m.</u> North <u>5801099.19 m</u> East <u>333164.73 m.</u>
						I <u>NA</u> Static <u>NA</u> Diameter
	-					Type/Size <i>_NA</i>
Fill Materia						Rig/Core Excavator/Excavator
						Date <u>26/5/16</u> Permit # <u>NA</u>
			-	-		icense No.
		Sample ID % Recovery	Blow Count Recovery	<u>.</u> 2	ass.	Description
Depth (m.)	PID (ppm)	mple eco	S S	Graphic Log	SCI	(Color, Texture, Structure)
		Sar R	Blo	9	USCS Class.	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
						Coologic decomplished at a backer of the character of the cools.
├ 0 ├						Fill: Silty SAND; fine to medium grained, loose, black.
						c, c to g. a g. a c, g. a
	0.1	SM2_0.2				
├ 1 -	4.0	SM2_1.0				
<u> </u>						
77						
<u> </u>						
5						Fill: Sandy CLAY; low plasticity, firm, grey, very sandy, fine to coarse
2						sands.
E 2 -	2.3	SM2_2.0				End of investigation at 2.0 mbgs.
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Soil Mound SM20

SM20Page: 1 of 1

						Owner _Talbot Road Finance Pty Ltd COMMENTS	
						t Avenue, Oakleigh South Proj. No. ENAUABTF00751AB	
						2.0 m. North 5800986.90 m _{East} 333508.16 m.	
						NA Static NA Diameter	
						Type/Size _ <i>NA</i>	
						Type NA	
						Rig/Core Excavator/Excavator	
Drillor			Log	IVI	etnoa <i>Rei</i>	Date6/6/16 Permit # <i>NA</i>	
						cense No	
Checked D	y	1				Cerise No.	
		ery GP	r r	ပ	ass.	Description	
Depth (m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	(Color, Texture, Structure)	
		Slar R	B B	Ŋ	nsc	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.	
						Fill: Silty SAND; fine to coarse grained, low plasticity, dark brown, moist,	
				>>>>	SW	loose.	
						Fill: Gravelly SAND; fine to medium grained sand, black, fine to coarse	
						grained gravel, with some concrete and metal fragments, trace of cloth, plastic, and asphalt gravel, sandstone case (brown, purple), moist, loose.	
						plastic, and aspiralit graver, sandstone case (brown, purple), moist, loose.	
† 1	1.1	SM20-0.5					
					SWG		
				>>>>			
├ 1 -							
						Fill: SAND; fine to medium grained, grey, trace of concrete cobble and	
<u> </u>						brick fragments, dry, loose.	
12/4/							
수 5.					sw		
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ģ							
2 -	0.6	SM20-2.0					
	0.0	SIVIZU-Z.U				Terminated at 2.0 mbgs.	
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Soil Mound

SM21Page: 1 of 1

Location Location Surface El Top of Cas Screen: Di Casing: Di Casing: Di Fill Materia Drill Co. Locatill	1221-1 ev. <u>64</u> sing <u>N.</u> a <u>NA</u> a <u>NA</u> al <u>Baca</u>	Owner Talbot Road Finance Pty Ltd COMMENTS t Avenue, Oakleigh South Proj. No. ENAUABTF00751AB 2.0 m. North 5800991.13 mEast 333458.21 m. NA Static NA Diameter Type/Size NA Type NA Rig/Core Excavator/Excavator Date 6/6/16 Permit # NA				
Depth (m.)	(mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
- 0 - - 1 -	2.2	SM21-1.0			swg	Fill: Silty SAND; fine to medium grained, dark brown, low plasticity, moist, loose. Fill: Gravelly Clayey SAND; fine to coarse grained sand, brown/dark brown, low to medium plasticity clay, fine to coarse grained gravel, dry, dense.
- 3 -						Terminated at 2.0 mbgs.



Soil Mound SM22

SM22Page: 1 of 1

Location _ Surface Ele Top of Cas Screen: Dia Casing: Dia Fill Materia Drill Co Driller	1221-12 ev. <u>65.</u> ing <u>NA</u> a <u>NA</u> Back	249 Centre R 4 m 4 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Total Hole E Water Level Length NA Length NA Length M Log By J.	Pepth Initia	Owner
Depth (m.)	PID (mdd)	Sample ID % Recovery	Recovery Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
- 0 - 	1.6	SM22-1.0		sw	Fill: Silty SAND; fine to medium grained, dark brown, low plasticity, trace of brick fragments (red) and asphalt fragments (black), moist, loose. Fill: Gravelly Clayey SAND; fine to medium grained sand, dark brown, high plasticity clay, dark brown, fine to coarse grained gravel, trace of pvc, brick, asphalt, grass, metal and concrete fragments.
745.50 CORP.GDI 12/477 2	2.4	SM22-2.0		SWG	Fill: Gravelly SAND; fine to medium grained sand, black, fine to coarse grained gravel, with some concrete fragments, brick fragments, trace of sandstone case and siltstone gravel (white/pale yellow), moist, dense.
3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1.0	SM22-3.0			End of investigation at 3.0 mbgs.



Soil Mound SM23

SM23Page: 1 of 1

Location Surface E Top of Ca Screen: D Casing: D Fill Materi Drill Co. Driller	1221-1. Elev. 65 asing Na Dia NA Dia NA Dia Back	249 Centre .1 m. A	Total Hole D Water Level Length	Pepth Initia	Owner	COMMENTS
Depth (m.)	OIA (mdd)	Sample ID % Recovery	Blow Count Recovery Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 248	7-93 and the USCS.
- 0 -	0.6	SM23-0.2		sc	Fill: Gravelly Clayey SAND; fine to coarse grained sa to medium plasticity clay, dark brown, fine to coarse some metal, timber and brick fragments, pvc, moist, Fill: Gravelly Sandy CLAY; medium to high plasticity	grained gravel, with loose.
_ 1 <i>_</i>	- 1.0	SM23-1.0		СН	fine to coarse grained sand, fine to coarse grained g pvc (white) and asphalt, moist, stiff.	
2 -	- 1.0	SM23-2.5		СН	Fill: Gravelly Sandy CLAY; medium to high plasticity fine to coarse grained sand, fine to coarse grained g pvc (white) and asphalt, moist, stiff.	, orange/dark brown, ravel, with some brick,
3	- 1.4	SM23-3.5		СН	Fill: Gravelly Sandy CLAY; medium to high plasticity fine to coarse grained sand, fine to coarse grained g pvc (white) and asphalt, moist, stiff. Terminated at 3.5 mbgs.	, orange/dark brown, ravel, with some brick,



Soil Mound SM24

SM24 Page: 1 of 1

Location 122 Surface Elev. Top of Casing Screen: Dia 1 Casing: Dia 1 Fill Material E Drill Co.	1-1249 Centre Ros 64.0 m. To NA W IA Le IA Le	ad, and 22 Tall otal Hole Depti ater Level Initi ength NA ength NA Metho	Owner Talbot Road Finance Pty Ltd oot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB a 2.0 m. North 5801023.84 mEast 333443.98 m. al NA Static NA Diameter Type/Size NA Type NA Rig/Core Excavator/Excavator d Date 30/5/16 Permit # NA
			License No
Depth (m.)	Sample ID % Recovery Blow Count Berovery	Graphic Log USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
- 0 0.	I SM24_0.1	SW	Fill: SAND; fine to medium grained sand, brown, with timber (shredded), dry, loose, no odour.
D			as above with brick and asphalt fragments.
	SM24_0.2		End of investigation at 2.0mbgs.
3 -			



Soil Mound SM25

SM25Page: 1 of 1

•						Owner Talbot Road Finance Pty Ltd COMMENTS
	t Avenue, Oakleigh South Proj. No. ENAUABTF00751AB					
	2.0 m. North 5800939.97 m _{East} 333482.01 m.					
						Static Diameter
			Type/Size _ <i>NA</i>			
						Type
						Rig/Core Excavator/Excavator
Drill Co				M	ethod <i>Rei</i>	Date Permit #
						cense No
Checked B	У	Π				cerise no.
			ŧ ≥	U	ass.	Description
Depth (m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	·
	_ =	Sar %R	Blov	g _)SC	(Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
						Fill: Sandy CLAY; high plasticity, brown, fine to coarse grained sand, with
					CH	some concrete, brick and bluestone fragments, moist, firm.
						Fill: Sandy CLAY; high plasticity, brown, fine to coarse grained sand, with
						some concrete, brick and bluestone fragments, moist, firm.
1						
					CH	
├ 1 ┤		SM25-1.0				Fill: Sandy CLAY; high plasticity, brown, fine to coarse grained sand, with
						some concrete, brick and bluestone fragments, moist, firm.
12/4						
					СН	
7 7 -						
5 =						
TAB.C						
S 2 -		SM25-2.0				Terminated at 2.0 mbgs.
<u> </u>						reminated at 2.0 mbgs.
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Soil Mound SM26

SM26Page: 1 of 1

Location Surface El Top of Cas Screen: Di Casing: Di Fill Materia Drill CoDriller	1221-1; ev. <u>63</u> sing <u>N</u> , a <u>NA</u> a <u>NA</u> al <u>Back</u>	249 Centre .8 m. 4	. Tot . Wa . Ler . Ler	d, and 22 al Hole D ater Level agth NA agth Ma ag By J.	Pepth Initia	Owner	COMMENTS
Depth (m.)	(mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-9	93 and the USCS.
- 0 -	0.8	SM26-0.5			sw	Fill: Gravelly Silty SAND; fine to medium grained sand brown/red, fine to coarse grained gravel, with some time concrete fragments, dry, loose. Fill: Gravelly Silty SAND; fine to medium grained sand brown/red, fine to coarse grained gravel, with some time concrete fragments, dry, loose.	nber, brick and
1		SM26.2.0			SW	Fill: Gravelly Silty SAND; fine to medium grained sand brown/red, fine to coarse grained gravel, with some time concrete fragments, dry, loose.	, low plasticity, pale nber, brick and
2 3		SM26-2.0				Terminated at 2.0 mbgs.	



Soil Mound SM27

SM27Page: 1 of 1

Project _F	Huntinga	lale Develo _l	pmen	nt		OwnerOwner							
Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB													
Surface El	ev. <u>63</u>	.5 m.	Tota	al Hole D	epth	2.0 m. North 5800834.51 m _{East} 333491.14 m.							
Top of Cas	Static Diameter												
Screen: Di	a _ <i>NA</i> _		Len	gth NA	1								
Casing: Di	a <u><i>NA</i></u>		Len	gth NA	1	Type _ <i>NA</i>							
						Rig/Core Excavator/Excavator							
Drill Co				Me	ethod								
Driller			Log	Ву <u></u> <i>J. I</i>	Bei	Date Permit #							
Checked E	Checked By License No												
£ ~	Q (F	Sample ID % Recovery	Blow Count Recovery	hic	USCS Class.	Description							
Depth (m.)	PID (ppm)	Rec	O VC	Graphic Log	CS ((Color, Texture, Structure)							
		001%	ĕ ~		Sn	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.							
						Fill: Silty SAND; fine to medium grained, dark brown, low plasticity, moist,							
						loose.							
					sw								
h 1						Fill: Silty SAND; fine to medium grained, dark brown, low plasticity, with							
						trace of concrete, brick, timber, organic matter, plastic and metal fragments,							
						dry, loose.							
					SW								
L 1 -	0.1	SM27-1.0											
'													
						Fill: SAND; fine to coarse grained, brown, with some low plasticity clay,							
1						brown/orange, concrete boulders, bluestone cobbles, brick and metal fragments, dry, loose.							
						ag							
k					SW								
<u>-</u>													
ğ													
8 2 -	0.3	SM27-2.0				End of investigation at 2.0 mbgs.							
						End of invodigation at 2.0 mbgs.							
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Soil Mound SM28

SM28Page: 1 of 1

Location 1221-1249 Centre Surface Elev. 60.3 m. Top of Casing NA Screen: Dia NA Casing: Dia NA Fill Material Backfill Drill Co. Driller	Total Hole Dep Water Level In Length NA Length NA Length NA Length NA Length NA Length NA Metr Log By J. Be	Owner	
Depth (m.) PID (ppm) Sample ID % Recovery	Blow Count Recovery Graphic Log	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2	487-93 and the USCS.
- 0 -	C	Fill: Sandy CLAY; medium to high plasticity, dark be grained sand, trace of concrete, brick fragments, s moist, stiff.	rown, fine to coarse andstone gravel (brown),
0.9 SM28-0.5	C	Fill: Sandy CLAY; medium to high plasticity, brown grained sand, trace of concrete, brick fragments, s moist, firm.	n, fine to coarse andstone gravel (brown),
G 1.8 SM28-1.5	S	Fill: Gravelly Clayey SAND; fine to coarse grained to medium plasticity clay, fine to coarse grained gracobble, brick fragments, metal, tile, glass wire frag	avel, with some concrete
2 —	XXXXX	Terminated at 2.0 mbgs.	
3 -			



Soil Mound SM29

SM29Page: 1 of 1

Project F Location Surface El Top of Cas Screen: Di Casing: Di Fill Materia Drill Co. Driller Checked E	COMMENTS										
Depth (m.)	OIA (mdd)	Sample ID % Recovery	Blow Count Recovery	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 246	37-93 and the USCS.					
- 0 - - 1 -	2.4	SM29-1.0							CL	Fill: Gravelly Clayey SAND; fine to coarse grained s white, low to medium plasticity clay, orange/brown, t gravel, some trace of brick and sandstone case (bro loose.	fine to coarse grained own) fragments, moist,
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3.6	SM29-2.0			Fill: Building Waste; low plasticity clay, dark brown/grained sand, traces of timber, metals, concrete, bri galsses, bluestone cobbles with some clayey sand, Terminated at 2.0 mbgs.	ck, plastic, tiles,					
3											



Soil Mound SM3

SM3Page: 1 of 1

Project _	Huntinga	ale Develo	рте	nt		OwnerTalbot Road Finance Pty Ltd COMMENTS						
Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB												
						<u>2.0 m.</u> North <u>5801163.16 m</u> East <u>333199.34 m.</u>						
						NA Static NA Diameter						
	-	Type/Size NA										
						Type _NA						
Fill Motoric	a <u> </u>	cfill	. LCI	igiii <u> </u>	-	Rig/Core Excavator/Excavator						
	<u> </u>	um_		N 4	- 41	Rig/Core						
	Drill Co Method											
	Driller Log By _D. White Date Date Permit # NA											
Checked By License No												
		의중	ŧ,		SS.	Description						
Depth (m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.							
	<u>_ </u>	Sam Re	Slow	Gra	SCS	(Color, Texture, Structure)						
		03/8	Ш		Š	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.						
o -												
"						Fill: Silty SAND; loose, grey, moist, fine to medium grained.						
	0.4	SM3_0.25										
	0.1	0.110_0.20										
				*****		Fills Clauses City CAND, fine to madisus against modisus danse						
						Fill: Clayey Silty SAND; fine to medium grained, moist, medium dense, brown.						
						biowii.						
├ 1 -	1.3	SM3_1.0										
1												
<u>-</u>												
-												
-												
9												
§ 2 –	1.1	SM3_2.0										
	'.'	51410_2.0				End of investigation at 2.0 mbgs.						
8												
2												
107												
ا ا												
0												
<u></u> 3 −												
3												



Soil Mound SM4

SM4Page: 1 of 1

Location _1221-1249 Centre Road, and 22 Surface Elev. _63.5 m.	Rig/Core Rig/Core
Depth (m.) PID (ppm) Sample ID % Recovery Blow Count Recovery Graphic Log	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
- 1 - 0.4 SM4_1.0	Fill: Gravelly Silty SAND; loose, dry, fine, grey/brown.
3 — 0.4 SM4_3.0	Fill: Sandy CLAY; low plasticity, very hard coarse sand, grey/light brown. End of investigation at 3.0mbgs.



Soil Mound SM5

SM5Page: 1 of 1

Project _	Huntinga	lale Devel	lopmer	nt		OwnerOwner						
	t Avenue, Oakleigh South Proj. No. ENAUABTF00751AB											
Surface El	<u>1.3 m.</u> North <u>5801235.98 m</u> East <u>333252.46 m.</u>											
						Static Diameter						
						Type/Size <i>_NA</i>						
						Type _ <i>NA</i>						
						Rig/Core Excavator/Excavator						
						Date <u>2/6/16</u> Permit # <u>NA</u>						
Checked By License No												
			ŧ,		SS.	Description						
Depth (m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.							
ا مق	ᆸᆸ	Sam 6 Re	3low Rec	Gra	scs	(Color, Texture, Structure)						
					>	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.						
- 0 -						Fill: SAND; fine to medium grained sand, dark brown/brown, trace of						
						organic roots, dry, loose.						
					SW							
						Eille CAND: fine to madium grained aged dark brown/brown trace of						
						Fill: SAND ; fine to medium grained sand, dark brown/brown, trace of organic roots, dry, loose.						
					CVA	5						
					SW							
+ -		SM5-0.5				Fill: SAND; fine to medium grained sand, brown, trace of organic roots,						
						dry, loose.						
i i					sw							
_												
		SM5-1.0										
				\bowtie								
=												
5												
						Terminated at 1.3 mbgs.						
107												
Q												
L 2 -												
<u> </u>												



Soil Mound SM6

SM6Page: 1 of 1

Project F	Huntinga	lale Develo	opmen	nt		OwnerTalbot Road Finance Pty Ltd	COMMENTS			
•	Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB									
						1.0 m. North 5801223.11 m _{East} 333294.29 m.				
Top of Cas										
Screen: Di										
Casing: Di										
Fill Material Backfill Rig/Core Excavator/Excavator										
Drill Co Method										
Driller			Log	Ву <u></u> <i>J.</i> .	Bei	Date <u>2/6/16</u> Permit # <u>NA</u>				
Checked E										
		ei⊡	rut S	O	ass.	Description	l .			
Depth (m.)	PID (ppm)	ble	S Co	Graphic Log	Cle					
ا ق	п о	Sample ID % Recovery	Blow Count Recovery	Gre	USCS Class.	(Color, Texture, Structure)				
		07/6			⊃	Geologic descriptions are based on ASTM Standard D 24	87-93 and the USCS.			
- 0 -						Fill: Silty SAND; fine to medium grained sand, black with some organic roots, tract of coarse grained gra	x/dark brown/grey, vels, dry, loose.			
	0.6	SM6-0.5			SW	Terminated at 1.0 mbgs.				
7 2 1										



Soil Mound SM7

SM7Page: 1 of 1

								rage. I of I
-							Owner Talbot Road Finance Pty Ltd	COMMENTS
							<u>ot Avenue, Oakleigh South</u> Proj. No. <u>ENAUABTF00751AB</u> <u>2.5 m.</u> North <u>5801212.84 m</u> East <u>333252.23 m.</u>	
		-					Static NA Diameter	
							Type/Size NA	
							Type NA Sycalyster/Evaluator	
							Rig/Core Excavator/Excavator	
Drill	I CO				IVI	etnoa <i>Rei</i>	Date <u>2/6/16</u> Permit # <u>NA</u>	
							icense No	
Cile	CKEU L	у	11				icense no.	
	_			unt iry	v	ass.	Description	
1 1	(m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	(Color, Texture, Structure)	
'	_		Sar R	Blo	Ō	nsc	Geologic descriptions are based on ASTM Standard D 248	37-93 and the USCS.
	0 -						Fill: Silty SAND; low plasticity, fine to medium graine	ed sand, black/grey,
						SW	trace of coarse grained gravels and organic roots, m	noist, loose.
		0.3	SM7-0.2				Fill: Sandy CLAY; high plasticity, orange mottled gre	ey, moist, firm.
ŀ	-	1.0	SM7-0.5					
						CLS		
\vdash	1 -						Fill: Sandy CLAY; high plasticity, orange mottled gre	w moiet etiff
							III. Sandy SEAT, mgm plasticity, Grange motified gre	,y, moist, stin.
12/4/17								
<u></u>	_					CLS		
3P.G								
8								
ENAUABTE00751AB.GPJ IT_CORP.GDT 12.								
B.GF								
7514	2 -	1.1	SM7-2.0					
TF00	_	1.1	JIVI7-2.0				Fill: Sandy CLAY; high plasticity, orange mottled gre	ey, moist, stiff.
AUAE								
						CLS		
/1/16								
Rev: 28/1/16								
- J&	7	1.4	SM7-2.5		PAXXXX		Terminated at 2.5 mbgs.	
COFFEY ENVIRONMENTS								
NME								
IVIRC								
E E								
	3 -							
ŏ <u> </u>			II					



Soil Mound SM8

SM8Page: 1 of 1

Project H	untingd	ale Develo	pment			OwnerTalbot Road Finance Pty Ltd COMMENTS							
Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB													
						<u>3.2 m.</u> North <u>5801150.00 m</u> East <u>333218.55 m.</u>							
Top of Casing NA Water Level Initial NA Static NA Diameter													
	-					Type/Size _ <i>NA</i>							
	Type _ <i>NA</i>												
Fill Material Backfill Rig/Core Excavator/Excavator													
Drill Co Method													
Driller Log By _ <i>D. White</i> Date _26/5/16 Permit # _ <i>NA</i>													
	Checked By License No												
	, –						_						
		e P	Blow Count Recovery	<u>.</u> 2	ass.	Description							
Depth (m.)	PID (ppm)	Sample ID % Recovery	> 00 00 00 00 00 00 00 00 00 00 00 00 00	Graphic Log	ŝ	(Color, Texture, Structure)							
		Sar R	B B	Ŋ	USCS Class.	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.							
						Coologic doos, phone are based on Actini chandra & 2 for colonia the coolo.							
⊢ 0 ⊣				XXXX		Fill: Sandy CLAY; compacted hard, low plasticity, very sandy, orange and	_						
						grey with red mottling.							
F 4													
⊢ 1 ⊣	0.4	SM8_1.0											
'	0.1	0.0.0_1.0											
4													
2 -	0.5	SM8_2.0											
-													
8													
5 3 →	0.2	SM8_3.0											
2						Fill: Silty SAND; black, loose, fine to medium grained.							
07.				· · · · · · · · · · · · · · · · · · ·		End of investigation at 3.2mbgs.	_						
4													
							_						



Soil Mound SM9

SM9Page: 1 of 1

Project Huntingdale Development Location 1221-1249 Centre Road, and Surface Elev. 65.6 m. Total Hole Top of Casing NA Water Lev Screen: Dia NA Length Casing: Dia NA Length Drill Co. Driller Log By Checked By	COMMENTS		
Depth (m.) PID (ppm) Sample ID % Recovery Blow Count Recovery Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487	7-93 and the USCS.
- 1 - 0.4 SM9_1.0	Fill: Sand and light	dy CLAY; very sandy, low plasticity, medium brown.	grained sand, grey
2 — 0.4 SM9_2.0			
3 - 0.2 SM9_3.0	End of in	vestigation at 3.0mbgs.	



001109		Drilling Log	
A TETRA TECH COMPANY		Test Pit	TP25
Drainet Huntingdale Develo	onment	Owner _Talbot Road Finance Pty Ltd	Page: 1 of 1 DMMENTS
•		oot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB	
		4.0 m. North <u>5801233.76 m</u> East <u>333210.80 m.</u>	
		al <u>NA</u> Static <u>NA</u> Diameter	
Screen: Dia NA	Type/Size NA		
Casing: Dia NA	Length NA	Type	
Fill Material Backfill		Rig/Core Excavator/Excavator	
		d	
	• •	te Date _27/5/16 Permit # _NA	
Checked By		License No.	
	Lut	Description	
Depth (m.) PID (ppm) Sample ID % Recovery	Blow Count Recovery Graphic Log	·	
San San % Ref	Blow Count Recovery Graphic Log USCS Class.	(Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93	3 and the USCS
			, and the Good.
L 0 -			
		Silty SAND; fine grained, dry, grey/brown, loose.	
1.1 TP25_0.2			
- 1.2 TP25_0.5	SM		
20_515			
1 - 1.0 TP25_1.0			
		SAND; dry, very loose, fine, brown.	
2 - 0.4 TP25_2.0			
2 0.4 11 25_2.0		becoming white/grey.	
5/4/1	SP		
CORP. GD			
트 교 3 - 0.4 TP25_3.0			
G 0.4 11 25_5.5			
ENAUABITED			
AUAE		Clayey SAND; very hard, medium to coarse grained, gre	ey/orange.
I II II	sc.		
9/1/88 4 — 0.5 TP25_4.0			
% 4 0.5 1P25_4.0		End of investigation at 4.0mbgs.	
<u>«</u> ا			
NONMEN OF THE PLANT OF THE PLAN			
SONA			



Test Pit TP26

TP26Page: 1 of 1

Project Huntingdale Development Owner Talbot Road Finance Pty Ltd COMMENTS Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB COMMENTS Slight odour at 3.5 mbgs.											
Location 1221-1249 Centre Road, and 22 Taibot Avenue, Oakleigh South Proj. NoENAUABTF0075TAB Surface Elev. 62.6 m. Total Hole Depth 4.0 m. North 5801223.63 mEast 333265.58 m.											
			North <u>5607225.03 m</u> East <u>533203.56 m.</u> Static <u>NA</u> Diameter								
			Type/Size NA								
			Type NA								
_	-		Excavator/Excavator								
		-	Exouration Exouration								
Driller	Log By J. Be	ei i	Date <u>2/6/16</u> Permit # <u>NA</u>								
			Territory								
	ount ic	lass	Description								
Depth (m.) PID (ppm) Sample ID % Recovery	Blow Count Recovery Graphic Log	SCO CIAS	(Color, Texture, Structure)								
Sala Caracter Caracte	S B B	OS Geo	logic descriptions are based on ASTM Standard D 24	187-93 and the USCS.							
		Fill: Sandy	CLAY; high plasticity, brown, mottled or	ange/grey, fine to							
0.9 TP26-0.2			ned sand, moist, firm.								
		mandtan mani	fine to medium grained sand, black, wit	h some organic							
- 4.6 TP26-0.5		SW matter, mois	st, loose.								
		Fill: SAND:	fine to medium grained, black/dark brov	wn/grev_trace_of							
			ned gravel, some wire and metal fragme								
─ 1 ─ 4.3 TP26-1.0											
		D/A/									
		SW									
 											
		Fill: SAND:	fine to medium grained sand, black, tra	ce of cloths, metal							
2 - 2.6 TP26-2.0			er and sandstone case (brown), moist,								
174/2											
		SW									
2											
<u> </u>											
= 											
1.7 TP26-3.0			fine to medium grained sand, black, tra								
		sneets, timb	er and sandstone case (brown), moist,	ioose.							
		SW									
L L											
9											
₹ 4 — 2.2 TP26-4.0		Terminated	at 4.0 mbgs.								
) 			-								
[5 -											
8											



Test Pit **TP27**

Page: 1 of 1

Location	Total Hole De Water Level I Length NA Length NA Log By J. B	Talbot Avenue, Oakleig epth 4.0 m. Initial NA Rig/Core ethod Bei [License No.	Talbot Road Finance Pty Ltd th South Proj. No. ENAUABTF00751AB North 5801215.85 mEast 333304.89 m. Static NA Diameter Type/Size NA Type NA Excavator/Excavator Date 2/6/16 Permit # NA	COMMENTS
	Blow Count Recovery Graphic Log	USCS Class.	Description (Color, Texture, Structure) logic descriptions are based on ASTM Standard D 248	97-93 and the USCS.
1.7 TP27-0.2		CH organic mat	AND; fine to medium grained sand, black ter, moist, loose. CLAY; high plasticity, orange mottled bro	
0.6 TP27-0.5		SW Fill: SAND; clay, dark b	ned sand, moist, firm. fine to medium grained sand, black, trac rown, moist, loose.	
- 1 - 1.3 TP27-1.0		sw clay, brown/ Fill: SAND; case, brown	fine to medium grained sand, black, trac/white, dry, loose. fine to medium grained sand, black, with h, dry, loose.	some sandstone
7 2 — 1.6 TP27-2.0		case, brown	fine to medium grained sand, black, with n, moist, loose.	
2.4 TP27-3.0		grained san	CLAY ; high plasticity, grey mottlled brown d, white/grey/brown, trace of car tyre, co, steel, brick and sandstone case.	
TP27-4.0		Termianted	at 4.0 mbgs.	
5 —				



5

Drilling Log

TP28 Test Pit Page: 1 of 1 Project __Huntingdale Development _____ Owner __Talbot Road Finance Pty Ltd COMMENTS Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB Surface Elev. 62.6 m. Total Hole Depth 4.0 m. North 5801215.24 mEast 333349.44 m. Top of Casing NA Water Level Initial NA Static NA Diameter _____ Length NA Type/Size NA Screen: Dia NA Casing: Dia NA Length NA Type NA Fill Material Backfill Rig/Core Excavator/Excavator Drill Co. _____ Method _____ _____ Log By *J. Bei* Date <u>6/6/16</u> Permit # _*NA* ____ License No. __ Checked By ___ Blow Count Recovery Sample ID % Recovery USCS Class. Description Graphic Log Depth (m.) (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS. 0 Fill: Silty SAND; fine to medium grained sand, brown/dark brown, with SW some coarse grained gravel, low plasticity brick and timber fragments, 6.5 TP28-0.2 some metal pipe, moist, loose. Fill: SAND fine to medium grained sand, grey, dry, loose. TP28-0.5 SW Fill: SAND; fine to medium grained sand, brown. SW TP28-1.0 17 SANDSTONE; low plasticity, residual soil, fine to coarse grained sand, sub-rounded, brown mottled orange, dry. SW 2 TP28-2.0 1.8 SANDSTONE; low plasticity, residual soil, fine to coarse grained sand, sub-rounded, brown mottled orange, dry. SW 3 1.6 TP28-3.0 **SANDSTONE**; low plasticity, residual soil, fine to coarse grained sand, sub-rounded, brown mottled orange, dry. SW 2.4 TP28-4.0 Terminated at 4.0 mbgs.



Test Pit TP29

TP29Page: 1 of 1

Project _	Project Huntingdale Development Owner Talbot Road Finance Pty Ltd COMMENTS												
•	Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB												
Surface El	ev. <u>61</u>	.3 m.	Total	Hole D	epth	5.0 m. North 5801183.67 m _{East} 333209.40 m.							
						Static Diameter							
	-					Type/Size _ <i>NA</i>							
	Type _NA												
Fill Material Backfill Rig/Core Excavator/Excavator													
	Drill Co Method												
						Date <u>27/5/16</u> Permit # <u>NA</u>							
			_			cense No.							
Oncoked E	Jy	I				CONSCINCTION.							
			ŧ z	0	ass.	Description							
Depth (m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.								
ے ا	g)	San % Re	Slow	פֿ	SCS	(Color, Texture, Structure)							
		8,)	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.							
L 0 -				····									
	1.4	TP29_0.2			SM	Fill: Silty SAND; black, loose, moist, soft, fine to medium grained.							
		11 20_0.2				Fill: Silty SAND; very loose, dry, dark brown with rubble fabrics and slabs							
-	1.1	TP29_0.2				of concrete.							
├ 1 ┤	0.6	TP29_1.0											
					SM								
† †													
2	0.2	TP29_2.0				Fill: SAND; very loose, fine to medium grained, grey/black, with scrap							
						metal, plastic and rubble							
					SW								
=					SVV								
4													
<u> </u>	0.4	TP29_3.0				Fills OLAVEV CAND, doubt become and discondense 20 at 112.1							
						Fill: CLAYEY SAND; dark brown, medium dense with rubbish.							
[}					sc								
<u>[</u>													
2													
<u>ĕ</u>	3.2	TP29_4.0				Landfill; plastic, rubble, fabrics, steel, ASBESTOS PIECE collected in							
<u> </u>						sample of surrounding sand.							
\$													
<u> </u>													
ا خا ج													
<u>₽</u> 5 −				^^^X		End of investigation at 5.0mbgs.							
É													
6 -													



Test Pit

TP30Page: 1 of 1

Project _	Huntinga	lale Devel	opmer	nt		Owner Talbot Road Finance Pty Ltd COMMENTS
						ot Avenue, Oakleigh South Proj. NoENAUABTF00751AB_
Surface E	Elev. <u>61</u>	.9 m.	_ Tot	al Hole D	epth	6.0 m. North <u>5801175.12 m</u> East <u>333252.21 m.</u>
Top of Ca	asing _ <i>N</i>	A	Wa	iter Level	Initial	NA Static NA Diameter
Screen: [Dia <i>NA</i>		Ler	ngth NA	1	Type/Size <i>_NA</i>
Casing: [Dia <i>NA</i>		Ler	ngth NA	1	Type _ <i>NA</i>
Fill Mater	ial <i>Baci</i>	kfill				Rig/Core Excavator/Excavator
Driller _			Log	з Ву <u></u>	White	Date <u>27/5/16</u> Permit # <u>NA</u>
Checked	Ву	cense No				
		م ک	ŧ,		S	Description
Depth (m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description
Pe E		Samp Rec	low Rec	Gra	SCS	(Color, Texture, Structure)
		03/%	м –		š	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
├ 0 -	4					Fill: Silty SAND; fine to medium grained, moist, dark brown/grey.
	0.3	TP30_0.2				Fill. Sitty SAND, fille to filedidiff graffied, filosst, dark browningrey.
	0.2	TP30_0.5				
	0.2	11 00_0.0			CN4	
					SM	
- 1 -	0.2	TP30_1.0				
-	-					Fill: Sandy CLAY; firm, low plasticity, light brown/grey, coarse sands.
					CLS	· ····· · ····························
<u> </u>	0.4	TP30_2.0				Fill: Clayey SAND; black with cemented yellow sand rubble suspected
						foundry waste.
- 3 -	0.4	TP30_3.0				
1						
-	1					
5						
- 4 -	6.7	TP30_4.0			CLS	
5						
5 -	1					
ا						
-	-					
:						
6 -	4					End of investigation at 6.0mbgs.
						Life of investigation at olombys.
il _						



Test Pit **TP31**

Page: 1 of 1

Project Hunti	ngdale Developr	ment		Owner COMMENTS								
	Avenue, Oakleigh South Proj. No. ENAUABTF00751AB											
Surface Elev.												
	Static Diameter											
	Type/Size <i>_NA</i>											
	Type <i>NA</i>											
	Fill Material Backfill Rig/Core Excavator/Excavator											
Drill Co Method												
	Driller Log By Date Date Permit # NA											
Checked By _			Lic	cense No								
	0 5 t		SS.	Description								
Depth (m.)	Sample ID % Recovery	Recovery Graphic Log	USCS Class.	Description								
	Sample Rec	Gra Lc	SCS	(Color, Texture, Structure)								
	01%		ž	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.								
⊢ o ⊣		XXXXXX		Eille Cille CAND								
0.:	3 TP31_0.2			Fill: Silty SAND.								
0.5	J 1F31_0.2											
1.0	TP31_0.5		SM									
	_											
├ 1 │ 0.1	7 TP31_1.0			Fill: Silty SAND; black with cemented yellow sand pieces, suspected								
				foundry waste, fine to coarse grained sands, moist.								
T 1												
2 - 2.0	TP31_2.0											
=												
47/2												
<u></u>			SM									
3												
3 - 1.0	TP31_1.0											
2												
0.9	9 TP31_4.0	XXXXXX		End of investigation at 4.0mbgs.								
<u> </u>												
<u>ا ا</u> ا												



Test Pit

TP32Page: 1 of 1

Project H	Project Huntingdale Development Owner Talbot Road Finance Pty Ltd COMMENTS													
Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB														
Surface Ele	ev. <u>62</u>	.9 m.	Tota	l Hole D	epth	4.0 m. North 5801172.87 m _{East} 333340.78 m.								
						Static Diameter								
Screen: Dia <u>NA</u> Length <u>NA</u> Type/Size <u>NA</u>														
Casing: Dia NA Length NA Type NA														
Fill Material Backfill Rig/Core Excavator/Excavator														
				Me	ethod									
	Driller Log By _ <i>J. Bei</i> Date _2/6/16 Permit # _ <i>NA</i>													
			_	-		cense No.								
	· · · · · · · · · · · · · · · · · · ·	I												
		⊕	t Z	o	ass.	Description								
Depth (m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	·								
	т <u>п</u>	San % Re	Bow	g	SC((Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.								
			_		ر	Geologic descriptions are based on ASTM Standard D 2467-95 and the OSCS.								
\vdash 0 \dashv				XXXXX		Fills CAND, fine to madium grained and block with brink matril								
	0.8	TP32-0.2			sw	Fill: SAND ; fine to medium grained sand, black, with brick, metail, concrete, and plastic fragements, moist, loose.								
	0.0	1732-0.2				<u> </u>								
	1.2	TP32-0.5		$\times\!\!\times\!\!\times$	SW	Fill: SAND; fine to medium grained sand, grey, dry, loose.								
	1.2	11732-0.5			SVV									
						Fill: SAND; fine to medium grained sand, black/brown, dry, loose.								
						, , , , , , , , , , , , , , , , , , ,								
├ 1 -	1.3	TP32-1.0												
				>>>>										
					SW									
 														
						Fill: Clayey SAND ; fine to medium grained sand, low plasticity clay, brown mottled grey, moist, loose.								
2	0.3	TP32-2.0				brown motified grey, moist, 1003c.								
<u> </u>				$\times\!\!\times\!\!\times$										
2					sw									
<u>5</u>				$\times\!\!\times\!\!\times$										
<u>[</u>														
<u> </u>			K											
3 -	0.6	TP32-3.0												
	3.5	5_ 5.5	Š			Fill: Clayey SAND ; fine to medium grained sand, low plasticity clay, brown mottled grey, moist, loose.								
						brown motted grey, moist, 100se.								
₹			IX		SW									
				$\times\!\!\times\!\!\times$										
			₿											
<u>}</u> ⊢ 4	1.1	TP32-4.0		******		Terminated at 4.0 mbgs.								
g						reminated at 4.0 mbgs.								
<u></u> 5														
ــــــاد		1												



Test Pit

TP33Page: 1 of 1

Location Surface El Top of Cas Screen: Di Casing: Di Fill Materia	Project Huntingdale Development Owner Talbot Road Finance Pty Ltd Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB Surface Elev. 61.2 m. Total Hole Depth 5.0 m. North 5801146.93 mEast 333201.94 m. Top of Casing NA Water Level Initial NA Static NA Diameter Screen: Dia NA Length NA Type/Size NA Casing: Dia NA Length NA Type NA Fill Material Backfill Rig/Core Excavator/Excavator Drill Co. Method												
	Driller Log By D. White Date 26/5/16 Permit # NA Checked By License No.												
Depth (m.)	OIA (mdd)		Blow Count Recovery		USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 248	37-93 and the USCS.						
- 0 -				××××		Fill: Silty SAND; soil mound material, loose, black/b	rown, fine to medium						
	0.2	TP33_0.2				grained.	iown, into to modium						
	0.3	TP33 0.3			SM								
	0.4	TP33_1.0											
	0.4	11733_1.0			SM	Fill: Silty SAND; dry, loose, brown, fine to medium g	rained.						
_ 2 _	1.4	TP33_2.0			CLS	Sandy CLAY; medium to high plasticity (fill), dark green metal.	ey with some scrap						
3 -	1.4	TP33_3.0			SM	Silty SAND; loose, (fill), grey, fine to medium grained	d.						
4 -	0.8	TP33_4.0				Sandy CLAY; brighton group, medium plasticity, ver light brown, medium to coarse grained sands.	y sandy, grey with						
5 – 50 – 50 – 50 – 50 – 50 – 50 – 50 –	0.9	TP33_5.0			CLS	End of investigation at 5.0mbgs.							



Test Pit TP34

TP34Page: 1 of 1

Project Huntingdale Development Location 1221-1249 Centre Road Surface Elev. 61.3 m. Tot Top of Casing NA Ler Screen: Dia NA Ler Casing: Dia NA Ler Fill Material Backfill Driller Log Checked By Log	COMMENTS		
Depth (m.) PID (ppm) Sample ID % Recovery Blow Count Recovery	Graphic Log USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 248	37-93 and the USCS.
- 0 - 1.3 TP34_0.2 TP34_0.5	SM	Fill: Silty SAND; fine to coarse grained, dark brown, odour.	moist, loose, no
— 1 — 0.8 TP34_1.0	SP	Fill: SAND; fine to medium grained sand, brown/whit medium to high plasticity, moist, loose.	te, trace of silty clay,
- 2 - 2.0 TP34_2.0		Fill: SAND; fine to coarse grained sand, black, trace fragments, dry, loose. as above, trace of metal fragments, pleastic cups (w	
TP34_3.0	SP	as above, trace of rubber, foam, metals, moist, loose	e.
TP34_4.0			
5 —	XXXXX	End of investigation at 4.8mbgs	



Test Pit **TP35**

Page: 1 of 1

	Location _ Surface Ele Top of Cas Screen: Di Casing: Di Fill Materia Drill Co	1221-1 ev. <u>64</u> sing <u>N</u> a <u>NA</u> a <u>NA</u>	249 Centro I.1 m. IA Kfill	e Road, and Total Hole Water Lev Length Length	Owner Talbot Road Finance Pty Ltd Ind 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB Ole Depth 6.0 m. North 5801123.37 mEast 333278.56 m. Level Initial NA Static NA Diameter Diameter Slight odour at 5.5 mbgs. NA Type/Size NA Type NA Rig/Core Excavator/Excavator Method Moderate Pty Ltd Existing soil mount on top mbgs to 0.0					
						Date3/6/16 Permit #NA icense No				
	Depth (m.)	Old (mdd)	Sample ID % Recovery	Blow Count Recovery Graphic Log	, o	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.				
	- 0 - 	2.3 1.8	TP35-0.2 TP35-0.5		sw	Fill: SAND; fine to medium grained sand, black, with some coarse grained gravel, fragments of brick, sandstone case, and asphalt gravel (black), metal bar, trace of plastic, ACM FRAGMENTS, moist, loose. Fill: SAND; fine to medium grained sand, grey/brown, trace of coarse				
	- 1 - 	2.6	TP35-1.0		sw	grained asphalt gravel. Fill: SAND; fine to medium grained sand, black, with some sandstone case (brown).				
/	- 2 - 	3.7	TP35-2.0		sw	Fill: SAND; fine to medium grained sand, black, with some sandstone case (brown).				
751AB.GPJ 11_CORP.GDI 12/4/1	- 4 - 	0.9	TP35-4.0		sw	Fill: SAND; fine to medium grained sand, black, with some sandstone case (brown), moist, loose. trace of metal and plastic fragments.				
16 ENAUABIFUU	- 5 -	3.3	TP35-5.0		sw	Fill: Clayey SAND ; fine to coarse grained sand, grey/brown/black, low plasticity clay, with some metals (spring, sheet, wire), plastics, timber and concrete, moist, loose.				
ENVIRONMENTS Rev: 28/1/	- 6 - 	2.6	TP35-6.0			Fill: WASTE; timber, metals, plastics (commercial packages), brick, concrete, trace of tyre, tiles, with some fine to coarse grained sand, black, moist, loose. Terminated at 6.0 mbgs.				
COPPEY	- 7 -									



Test Pit **TP36**

Page: 1 of 1

Project _	Huntingdale Development Owner Talbot Road Finance Pty Ltd COMMENTS								
Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB									
Surface E	lev62	2.4 m.	Tota	al Hole D	epth	4.0 m. North 5801121.98 m _{East} 333339.20 m.			
						I <u>NA</u> Static <u>NA</u> Diameter			
	-					Type/Size <i>_NA</i>			
						Type _ <i>NA</i>			
Fill Materia									
				Date _2/6/16 Permit # _ <i>NA</i>					
						icense No.			
	-, <u></u>								
		GEI	t a	o	ass.	Description			
Depth (m.)	PID (ppm)		S S	Graphic Log	SCE	·			
	- 5	Sample ID % Recovery	Blow Count Recovery	5	USCS Class.	(Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 a	and the LISCS		
					ر	Geologic descriptions are based on ASTIVI Standard D 2467-95 a	ind the 0303.		
├ 0 −						Fill: Sandy CLAY; low to medium plasticity, dark brown, fi	ine to coarse		
	2.8	TP36-0.2				grained sand, brown, trace of orangic matter, brick and as			
	2.0	11 00 0.2			CL	moist, soft.			
	3.5	TP36-0.5			OL				
	3.5	11 30-0.3							
						Fill: brick, concrete, timber, sandstone case, coarse grain	ned bluestone,		
					SW	sub-angular, with some fine to coarse grained sand, brow	vn, concrete		
- 1 -	2.6	TP36-1.0				boulders, dry, loose. Fill: SAND; fine to medium grained sand, grey, trace of co	parso grained		
						bluestone gravel, low plasticity clay, brown, trace of meta			
						pipe fragments, dry, loose.			
-									
					SW				
_ 2 -	2.3	TP36-2.0							
	2.5	11 30-2.0							
7									
_									
						Fill: SAND; fine to medium grained sand, black/brown, dr	ry, loose.		
=									
दू⊢ 3 −	1.4	TP36-3.0			SW				
Ap.									
						Fill: Gravelly SAND; fine to medium grained sand, brown/	/vellow fine to		
					SW	coarse grained gravel, sub-angular gravel, with some blue			
2						most, loose.			
§ 4 -	1.0	TP36-4.0	ľ	*****		Terminated at 4.0 mbgs.			
Ž									
2									
2									
5 -									
3									



Test Pit

TP37Page: 1 of 1

Project _	Huntingo	dale Development Owner Talbot Road Finance Pty Ltd COMMENTS										
Location	Location _1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. NoENAUABTF00751AB_											
Surface E	lev60).1 m.	Total Hole [Depth	4.0 m. North 5801090.64 m _{East} 333199.18 m.							
					NA Static NA Diameter							
					Type/Size NA							
Casing: Dia NA Length NA Type NA												
	Fill Material Backfill Rig/Core Excavator/Excavator											
	Drill Co Method											
	Driller Log By D. White Date 26/5/16 Permit # NA											
Checked By License No												
	TI	II										
_		e G G G	c c	ass.	Description							
Depth (m.)	PID (mdd)	Sample ID % Recovery	Blow Count Recovery Graphic Log	USCS Class.	·							
	- 9	San % Re	Re Gr	SC	(Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 248	17-03 and the LISCS						
	-				Geologic descriptions are based on ASTM Standard D 240	77-95 and the 0505.						
├ 0 -	4				Fill: Gravelly Sandy CLAY; low plasticity, firm, light b	prown with crushed						
	0.4	TP37_0.4			rock.	nown with crushed						
	0.4	1157_0.4		CLG								
L.	0.7	TP37_0.5										
	0.7	11-37_0.3			Fill: Silty SAND; black, loose, slightly moist, fine to n	nedium grained with						
					rubble, bricks, metal concrete blocks.							
<u></u>	0.1	TP37_1.0										
ļ .	4											
_ 2 -	0.2	TP37_2.0										
<u> </u>				SM								
2												
<u>-</u> -	\parallel											
Ę.												
3												
- - 3 -	0.4	TP37_3.0										
5												
5												
g	1											
2												
हैं⊢ 4 −	0.6	TP37_4.0		\parallel	End of investigation at 4.0mbgs.							
<u>ر</u>					End of investigation at 4.0mbgs.							
0												
_												
E 5 -	1											
	П	II .		II .								



Test Pit **TP38**

Page: 1 of 1

Project _	Huntinga	gdale Development Owner Talbot Road Finance Pty Ltd COMMENTS										
Location	Location1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. NoENAUABTF00751AB											
Surface F	lev 60	0.6 m.	Tota	al Hole D)enth	4.0 m. North _5801089.70 m _{East} _333243.73 m.						
						I NA Static NA Diameter						
	_					Type/Size NA						
	Type _NA											
	Fill Material Backfill Rig/Core Excavator/Excavator											
	Drill Co Method											
	Driller Log By _ <i>D. White</i> Date _27/5/16 Permit # _ <i>NA</i>											
Checked By License No												
					, i							
£	2 6	∥ Gery	ount	:은 _	lass	Description						
Depth (m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	(Color, Texture, Structure)						
-		Sa %	S S	9)SN	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.						
├ 0 −				*****		Fill Olfs OAND lease goeint fire						
				\bowtie	SM	Fill: Silty SAND; loose, moist, fine, grey.						
	0.1	TP38_0.2				Fill: Silty SAND; medium dense, black, fine-medium grained with some						
				\bowtie		cemented yellow sand pieces suspected to be foundry waste.						
-	0.1	TP38_0.5		\bowtie								
				\bowtie								
				\bowtie								
L 1 -	0.2	TP38_0.2		\bowtie								
'	0.2	11 00_0.2		\bowtie								
				\bowtie								
				\bowtie								
-				\bowtie								
				\bowtie								
				\bowtie								
				\bowtie								
2 -	0.4	TP38_2.0		\bowtie	CM							
<u> </u>				\bowtie	SM							
2/2				\bowtie								
<u>-</u> [-				\bowtie								
<u> </u>				\bowtie								
3												
<u>F</u> 3 −	0.4	TP38_3.0		\bowtie		with some scrap steel, fabrics and plastic.						
2				\bowtie								
				\bowtie								
<u>-</u>				\bowtie								
{				\bowtie								
				\bowtie								
2				\bowtie								
§ - 4 -	0.2	TP38_4.0		XXXXX		End of investigation at 4.0mbgs.						
Š												
2												
<u> </u>												
3												



Test Pit TP39

			Page: 1 of 1							
			OwnerTalbot Road Finance Pty Ltd COMMENTS							
Location	19 Centre Road, and 22	? Talbo	t Avenue, Oakleigh South Proj. No. ENAUABTF00751AB							
Surface Elev. 64.0	m. Total Hole [Depth	7.0 m. North 5801082.18 m _{East} 333289.66 m.							
Top of Casing NA Water Level Initial NA Static NA Diameter										
Screen: Dia NA Length NA Type/Size NA										
Casing: Dia NA										
			Rig/Core Geoprobe							
	ng M									
Driller	Log By _ <i>R</i> .	White	Date <u>23/6/16</u> Permit # <u>NA</u>							
Checked By		Li	cense No							
	> ±	ý								
# G	Sample ID % Recovery Blow Count Recovery Graphic Log	USCS Class.	Description							
Depth (m.)	Rec low (SCS	(Color, Texture, Structure)							
	ol% <u>⊞</u> π.	Sn	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.							
			Fill: Silty CLAY; with sand, brown, high plasticity, fine grained sand, moist.							
L		CL ML	most.							
		'''-								
L 1 →		\parallel	Fill: Gravelly SAND; some clay, coarse grained, angular, brown, dry,							
'		swg	loose.							
L										
		SM	Fill: Silty SAND; brown, fine grained, dry, medium dense.							
_ 2 _			The Control of the Co							
-		MLS	Fill: Sandy SILT; light brown, low plasticity, fine grained sand, dry.							
L		\parallel	Fill: Clayey SILT; some sand, brown/red, low plasticity, fine grained sand,							
1			dry.							
- 3 -										
		CL								
<u></u>	P39_3.5	ML								
			as above, coarser sand, becoming more grey.							
□ 4 — 0.2 TI	P39_4.0									
9. B. B. B. B.		\parallel	SAND; brown/grey, fine to coarse grained, gap graded, moist, loose.							
			SAND, blowingley, fille to course grained, gap graded, molec, lecce.							
		SW								
⁰ ਹੁ ਕੁੰ 5 − 0.4 TI	-P39_5.0		to a control of the control of the latest the control of the contr							
1751AI			becoming fine grained sand, black/brown, moist, loose. SAND; grey, fine grained, uniform grading, moist, loose.							
14001	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	sw	SAND, grey, fine grained, dimonifigrating, moist, 10030.							
₹ - 6 - 1.0 TI	-P39_6.0	SW	SAND; black, fine grained, uniform grading, moist, loose.							
9			Sandy CLAY; black, high plasticity, fine grained, moist.							
		СН								
7 — 0.1 TI	-P39_7.0									
Z '			End of investigation at 7.0mbgs.							
02 -										
		İl II								



Test Pit

TP40Page: 1 of 1

Project Huntingdale Development Owner Talbot Road Finance Pty Ltd COMMENTS							
Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. El							
Surface Elev. <u>62.0 m.</u> Total Hole Depth <u>5.0 m.</u> North <u>5801073.89 m</u> E							
Top of Casing NA Water Level Initial NA Static NA D							
Screen: Dia NA Length NA Type/Size NA							
Casing: Dia NA Length NA Type NA							
Fill Material Backfill Rig/Core Excavator/Excavator							
Drill Co Method							
Driller Log By Date Date Pe	ermit # <u>NA</u>						
Checked By License No							
Color. Color.	Description						
Depth (m.) PID PID Color, Col	Toytura Structura)						
COIOI,	Texture, Structure) on ASTM Standard D 2487-93 and the USCS.						
Geologic descriptions are based	OITAS TIVI Statidard D 2407-93 and the 0303.						
	brown, fine to coarse grained sand, with						
	er (black), coarse grained asphalt gravel,						
moist, firm. Fill: Clavey SAND: fine to coarse	grained sand, brown, high plasticity						
	crete, steel, and pale yellow sandstone						
case, moist, loose.	viote, eteor, and pare years carracterie						
	idstone case, yellow/pale purple, dry,						
dense.							
SW Fill: SAND; fine to medium graine	ed sand, black, moist, loose.						
Fill: SAND; fine to medium graine	ed sand grev moist loose						
T in Grand, the territorial grants	ou dand, groy, molet, loods.						
Z							
SW Fill: SAND; fine to medium graine	ed sand. brown. moist. loose.						
Fill CAND for to made in the second s							
TP40-3.0 Plasticity clay, moist, loose.	grained sand, brown mottled grey, high						
plasticity day, moist, loose.							
§							
é							
SW TP40-4.0							
Torminated at 5.0 mbgs							
Terminated at 5.0 mbgs.							
<u> </u>							



Test Pit

TP41Page: 1 of 1

Project _	Project _Huntingdale Development Owner _Talbot Road Finance Pty Ltd COMMENTS								
Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB									
Surface E	lev59	.5 m.	Tota	al Hole D	epth	5.0 m. North 5801072.91 m _{East} 333155.51 m.			
						NA Static NA Diameter			
	_					Type/Size _ <i>NA</i>			
						Type _NA			
Fill Materia	al Back	kfill			Rig/Core Excavator/Excavator				
Drill Co	<u> </u>			M	ethod				
						Date <u>26/5/16</u> Permit # <u>NA</u>			
						icense No.			
	-, <u></u>								
		ê _r y	Blow Count Recovery	ပ	ass.	Description			
Depth (m.)	PID (ppm)	Sample ID % Recovery	v Co	Graphic Log	USCS Class.				
	_ =	Sar % R	Blov	_ <u>0</u> _	SC	(Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.			
						Geologic descriptions are based on NOTM chandra B 2407 30 and the Geod.			
├ 0 −						Fill: SILTY SAND; black, loose, fine to medium grained, suspected			
	0.5	TP41_0.2				foundry slag.			
-	0.1	TP41_0.5		\bowtie					
4	0.4	TD44 4 0		\bowtie	CNA				
	0.1	TP41_1.0			SM				
				\bowtie					
L _				\bowtie					
_ 2 _	0.2	TP41_2.0				Fill: Sandy CLAY; low plasticity, very sandy, grey mottled light brown with			
						rubble, concrete, pides.			
						, , , , ,			
-				\bowtie					
7									
-		TD44 0.0							
<u>-</u> 3 −	0.2	TP41_3.0		\bowtie	CLS	becoming gravelly with cobbles.			
				\bowtie					
				\bowtie					
<u>g</u>				\bowtie					
§ - 4 -	2.3	TP41_4.0		******		Landfill; plastic, fabrics, rubbish.			
						Editarii, pidotto, idolioo, idobioli.			
Š									
<u> </u>									
× -									
5 -						End of investigation at 5.0mbgs.			
<u> </u>									
6 -									
3									



Test Pit **TP42**

JUL	•	
		Page: 1 of

Project Hun	t Huntingdale Development Owner Talbot Road Finance Pty Ltd COMMENTS										
Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB											
Surface Elev.	60.0 m.	_ Total Hole D	epth	4.0 m. North 5801051.89 m _{East} 333192.15 m.							
Top of Casing	NA NA	_ Water Level	Initia	NA Static NA Diameter							
Screen: Dia _											
Casing: Dia _											
Fill Material Backfill Rig/Core Excavator/Excavator											
Drill Co Method											
Driller Log By D. White Date Permit # NA											
Checked By License No											
_	(ppm) Sample ID Recovery	Blow Count Recovery Graphic Log	USCS Class.	Description							
Depth (m.)	(ppm)	low Coun Recovery Graphic Log	ပ္ပ	(Color, Texture, Structure)							
	Sal %	B B B	nsc	Geologic descriptions are based on ASTM Standard D 248	37-93 and the USCS.						
├ 0 				Fill: Gravelly CLAY; compacted with crushed rock, le	ow plasticity, light						
).4 TP42_0.2		CLG	brown.	1 37 3						
- 1 c	0.2 TP42_0.5			Fill: Silty SAND; with some rubble suspected to be f	oundry waste,						
				medium dense, fine to medium grained.							
).4 TP42_1.0										
' "	7.4 11 42_1.0										
├											
⊢ 2 ⊣ 0).4 TP42_2.0										
<u>_</u>			SM								
(4/2											
<u>-</u> L _											
=											
1 3 - 1	I.0 TP42_3.0										
6 4 1 1	I.1 TP42_4.0			End of investigation at 4 0mbgs							
				End of investigation at 4.0mbgs.							
0											
5 -											



Test Pit **TP43**

Page: 1 of 1

Project _	Project Huntingdale Development Owner Talbot Road Finance Pty Ltd COMMENTS											
Location .	Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB											
Surface El	lev60).7 m.	Total H	Hole De	epth	4.0 m. North 5801041.42 m _{East} 333237.32 m.						
						NA Static NA Diameter						
						Type/Size NA						
Casing: Dia NA Length NA Type NA												
	Fill Material Backfill Rig/Core Excavator/Excavator											
	Drill Co Method											
Driller Log By D. White Date Permit # NA												
						cense No.						
	,											
_		리호	Blow Count Recovery	<u>.</u>	ass.	Description						
Depth (m.)	PID (ppm)	Sample ID % Recovery	S S S S S S S S S S S S S S S S S S S	Log	USCS Class.	(Color Toyture Structure)						
	=	Sar R	B B B	5	JSC	(Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 24	87-93 and the USCS					
					_	Coologie descriptions are based on No TW Standard D 24	or oo and the dede.					
- 0 -						Fill: Gravelly CLAY; compacted, grey, low plasticity.						
	0.2	TP43_0.2				Tim. Gravery GEAT, compacted, grey, low plasticity.						
	0.2	11 10_0.2		₩W	CLG							
	0.6	TP43 0.5										
	0.0	11 10_0.0				Fill: Sandy CLAY; low plasticity, light brown/grey, m	edium grained sand					
						ini bandy bear, low placetory, light browning by, in	calam gramea cana.					
1 -	0.4	TP43_1.0										
					CLS							
-												
						Fill: Silty SAND; evidence of foundry waste, black, s	some cemented sand					
<u> </u>	0.7	TP43_2.0				cobbles.	some comented sand					
-												
- 1												
<u>-</u>												
<u>-</u>					SM							
g - 3 -	0.4	TP43_3.0				Becoming clayey sand.						
100												
<u> </u>												
5												
Í												
2 4		TD40 : 0										
§ 4	0.8	TP43_4.0				End of investigation at 4.0mbgs.						
É												
5 -												
3												



Test Pit **TP44**

Page: 1 of 1

Project H	Huntingdale Development OwnerTalbot Road Finance Pty Ltd COMMENTS										
Location _	1221-12	249 Centre	Road, ar	nd 22	Talbo	t Avenue, Oakleigh South Proj. No. ENAUABTF00751AB					
Surface Ele	ev. <u>60</u> .	.8 m.	Total H	ole D	epth	5.0 m. North 5801034.75 m _{East} 333283.94 m.					
Top of Casi	ing _ <i>N</i>	4	Water I	Level	Initial	NA Static NA Diameter					
Screen: Dia NA Length NA Type/Size NA											
Casing: Dia											
Fill Material Rig/CoreExcavator/Excavator											
Drill Co Method											
Driller Log By _ <i>D. White</i> Date _26/5/16 Permit # _ <i>NA</i>											
Checked By	y				_ Li	cense No					
₽~	_ <u>_</u>	e ID	count dery hic		Slass	Description					
Depth (m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery Graphic	Log	USCS Class.	(Color, Texture, Structure)					
		<u> </u>			nS	Geologic descriptions are based on ASTM Standard D 24	87-93 and the USCS.				
					CLG	Fill: Gravelly CLAY; low plasticity, stiff, light brown.					
	0.2	TP44_0.2									
						Fill: Gravelly SAND; loose, black with some rubble, waste.	suspected foundry				
	0.5	TP44_0.5				waste.					
├ 1 	0.7	TP44_1.0									
-											
⊢ 2 ⊣	0.6	TP44 2.0									
		_			swg	with some green waste.					
7											
						Hard compacted layer.					
5											
[] _		TD44 0 5									
3 -	1.9	TP44_3.0									
<u>₹</u> -											
§ ⊢ 4 – ∥	1.7	TP44_4.0				End of investigation at 4.0 mbgs.					
						End of invodigation at 4.0 mbgs.					
2											
5											



Test Pit

TP45Page: 1 of 1

Project _	Huntinga	lale Develo	opmer	nt		Owner Talbot Road Finance Pty Ltd COMMENTS
Location	1221-1	249 Centre	e Roa	d, and 22	Talbo	t Avenue, Oakleigh South Proj. NoENAUABTF00751AB_
Surface E	Elev. <u>61</u>	.3 m.	_ Tot	al Hole D	epth	4.0 m. North 5801030.79 m _{East} 333320.89 m.
Top of Ca	asing _ <i>N</i>	Α	Wa	iter Level	Initia	Static Diameter
Screen: [Dia <u>NA</u>		Ler	ngth NA	1	
Casing: E	Dia <i>NA</i>		Ler	ngth NA	1	Type _ <i>NA</i>
Fill Mater	ial <i>Baci</i>	kfill				Rig/Core Excavator/Excavator
Driller _			Log	ву <u><i>D.</i></u>	White	Date <u>26/5/16</u> Permit # <u>NA</u>
Checked	Ву				Li	cense No
		212	Ħ		s,	
Depth (m.)	ΔÊ	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description
De C	PID (mdd)	Rec	low (Grag Lo	SCS	(Color, Texture, Structure)
		w %	⊞ "		S	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
├ o -	4			*****		Fills Omish at Darks account at a disease beauty beauty
•	12	TD45 0.2				Fill: Crushed Rock; compacted hard, brown/grey.
	1.2	TP45_0.2				Fill: Gravelly Clayey SAND; with bricks/rubble, loose, grey.
	6.1	TP45_0.5			sc	Fin. Gravery Grayey Salvo, with bricks/hubble, 1005e, grey.
	0.1	11 10_0.0				Fill: Silty SAND; grey, very loose, fine to medium grained.
						Time entry of the group, very recoon, mile to meanant grained.
,	2.6	TD45 1.0				
Γ' -	2.6	TP45_1.0				
						colour change to black.
						· ·
ļ .						
					SM	
├ 2 -	1.2	TP45_2.0				
<u>-</u>	\dashv					
5						
<u>-</u> 3 -	0.5	TP45_3.0				Fill: Silty SAND; loose, fine grained, white/light brown.
					SM	
<u>.</u>	1					
						Sandy CLAY; brighton group, low plasticity, firm, very sandy, medium to
L	0.7	TP45 4.0			CL	coarse sands.
[0.7	11545_4.0				End of investigation at 4.0mbgs.
<u> </u>						
	1					
i -						
5 -	1					
·	Ш	Ш				



TP46 Test Pit Page: 1 of 1 Project _Huntingdale Development Owner _Talbot Road Finance Pty Ltd COMMENTS Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB Surface Elev. 63.0 m. Total Hole Depth 3.0 m. North 5801189.85 mEast 333386.59 m. Top of Casing NA Water Level Initial NA Static NA ____ Diameter _____ Screen: Dia NA ____ Length *NA* ____ Type/Size *_NA*_ Casing: Dia NA Length NA Type NA Rig/Core Excavator/Excavator Fill Material Backfill Drill Co. _____ Method _____ ______ Log By _*J. Bei* ______ Date _______ Permit # _*NA* Checked By ___ ____ License No. __ Blow Count Recovery USCS Class. Description Graphic Log Depth (m.) (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS. 0 Fill: Gravelly SAND; fine to coarse grained sand, black, fine to coarse SW grained sub-angular gravel (bluestone), with some timber, metal, plastic, TP46-0.2 0.9 brick fragements, moist, dry. СН Fill: Sandy CLAY; high plasticity, brown, fine to coarse grained sand, moist, firm. TP46-0.5 Fill: SAND; fine to coarse grained sand, black, with some sandstone case, brown, moist, loose. 1 2.6 TP46-1.0 trace of cloth (fabric), plastics, moist, loose. SW 2 TP46-2.0 2.1 trace of cloth (fabric), plastics, brick fragments, moist, loose. 3 2.2 TP46-3.0 Terminated at 3.0 mbgs. 28/1/16



Test Pit

TP47Page: 1 of 1

Project _	Huntinga	lale Develo	opmen	nt		Owner _Talbot Road Finance Pty Ltd	COMMENTS
Location .	1221-1	249 Centre	e Road	d, and 22	Talbo	ot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB	
Surface El	ev60).5 m.	Tota	al Hole D	epth	2.0 m. North <u>5801183.92 m</u> East <u>333433.51 m.</u>	
						NA Static NA Diameter	
	_					Type/Size _ <i>NA</i>	
Fill Materia							
Drill Co.							
						Date _3/6/16 Permit # _NA	
						icense No.	
	·	П					
		GEI	Blow Count Recovery	U	ass.	Description	
Depth (m.)	PID (ppm)	Sample ID % Recovery	v Co	Graphic Log	USCS Class.	•	
	- 5	San R.R.	Blov	g	SC	(Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 24	87-03 and the LISCS
		_				Geologic descriptions are based on Ao TW Standard D 244	57-95 and the 6505.
- 0 -						Fill: Silty CLAY; medium to high plasticity, black, wit	h some organic
				\bowtie		matter, moist, firm.	in some organic
	0.6	TP46-0.2		\bowtie			
				\bowtie	СН		
† †	1.9	TP46-0.5					
						Fill: Silty CLAY; high plasticity, brown mottled grey,	trace of organic
				\bowtie		matter, moist, stiff.	adoo or organio
				\bowtie			
	24	TP47-1.0					
1	3.4	1P47-1.0		\bowtie			
				\bowtie			
				\bowtie	СН		
1/2							
5				\bowtie			
5							
				\bowtie			
=							
				\bowtie			
2							
§ 2 -	3.0	TP47-2.0		×××××		End of investigation at 2.0 mbgs.	
Š							
2							
2							
2							
3 -							



Test Pit **TP48**

Location Surface El Top of Cas Screen: D Casing: Di Fill Materia Drill CoDriller	1221-1: lev. <u>60</u> sing <u>Na</u> ia <u>NA</u> ia <u>NA</u>	249 Centre .9 m. A	e Road	d, and 22 tal Hole D ater Level ngth NA ngth NA g By J.	Talbo Depth Initia I I I I I I I I I I I I I I I I I I I	Owner	COMMENTS
Depth (m.)	(mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 248	
- 0 -		TP48_0.2			sw	Fill: Silty SAND; fine to medium grained sand, grey/ trace of organic roots, moist, loose, no odour.	black, low plasticity,
		TP48_0.5			CL	Fill: CLAY; low to medium plasticity, dark brown/blactorse grained sand, dry, stiff, no odour. Fill: CLAY; high plasticity, grey/brown/inter-bedded of	
1		TP48_1.0			СН	as above, becoming grey, moist, stiff.	Stange, ary, stim.
				(XXXXX)		End of investigation at 2.0mbgs.	
3							



Test Pit **TP49**

Project _	Huntingo	dale Develo	pment	t		Owner _Talbot Road Finance Pty Ltd	COMMENTS						
Location	1221-1	249 Centre	Road,	, and 22	Talbo	ot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB							
Surface E	Elev60).7 m.	Tota	l Hole D	epth	4.0 m. North <u>5801178.39</u> m _{East} <u>333528.57</u> m.							
						NA Static NA Diameter							
	_					Type/Size NA							
						Type <i>NA</i>							
		kfill											
	rill Co Method												
				Date <u>31/5/16</u> Permit # <u>NA</u>									
						icense No							
	1												
_		Sample ID % Recovery	Blow Count Recovery	<u>.</u> 2	ass.	Description							
Depth (m.)	PID (ppm)	eco	ν Ο δ	Graphic Log	SC	(Color, Texture, Structure)							
"		S Sar R	B B	g	USCS Class.	Geologic descriptions are based on ASTM Standard D 24	87-93 and the USCS.						
- 0 -	-					Fill: CLAY; high plasticity, dark brown/brown, with so	ome fine to coarse						
		TP49_0.2				grained sand, dark brown, trace of organic roots, mo							
		_											
ļ.,	4	TP49 0.5											
		_			011								
					CH								
4		TD40 4 0											
Γ'		TP49_1.0				becoming brown/orange at 1mbgs.							
						Fills City Of AV, high plantisity, interpolated layers	f high placticity along						
-	-					Fill: Silty CLAY; high plasticity, interbedded layers orange/brown/grey, moist, stiff.	or night plasticity clay,						
			I K										
<u> </u>	\mathbb{I}	TP49_2.0											
<u>_</u>													
7													
<u>-</u>	1												
<u>.</u>					CL								
					ML								
			₿										
<u>-</u> 3 −	1					becoming grey/dark brown at 3.0mbgs.							
Y C													
è													
-	\parallel												
2													
<u> </u>	4		¥			End of investigation at 4 Orches							
D						End of investigation at 4.0mbgs.							
0													
_													
5 -	7												
	ш	11				1							



Test Pit **TP50**

Location _ Surface El Top of Cas Screen: Di Casing: Di Fill Materia Drill Co Driller	1221-1. ev. <u>63</u> sing <u>N.</u> a <u>NA</u> a <u>NA</u> a <u>Back</u>	Owner Talbot Road Finance Pty Ltd Ot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB 4.0 m. North 5801143.63 mEast 333373.34 m. NA Static NA Diameter Type/Size NA Type NA Rig/Core Excavator/Excavator Date 31/5/16 Permit # NA icense No				
Depth (m.)	Old (mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
- 0 -	4.0	TP50_0.2			SM	Fill: Silty SAND; fine to coarse grained sand, dark brown, with some low to medium plasticity clay, red/mottled brown, trace of steel, asphalt (black), timber, concrete, wire and plastic, moist, loose, no odour.
	1.7	TP50_0.5				Fill: SAND; fine to coarse grained sand, white/yellow/black, trace of coarse grained asphalt, black, moist, loose, no odour.
- 1 -	0.8	TP50_1.0			sw	
						Fill: SAND; fine to coarse grained sand, black, trace of metal, plastic and shaped gaswork.
3	1.3	TP50_3.0			SW	
4 — 4 — — — — — — — — — — — — — — — — —	1.0	TP50_4.0		****		End of investigation at 4.0mbgs.
5 -						



Test Pit

TP51Page: 1 of 1

-						Owner _Talbot Road Finance Pty Ltd	COMMENTS
						ot Avenue, Oakleigh South Proj. NoENAUABTF00751AB_	
						2.0 m. North 5801137.91 m _{East} 333424.67 m.	
						NA Static NA Diameter	
Screen: D	ia <i>NA</i>		Ler	ngth NA	4	Type/Size NA	
						Type _ <i>NA</i>	
						Rig/Core Excavator/Excavator	
						Date Permit #	
Checked I	Ву				L	icense No	
			ŧ.		ς.	De a cointie o	
Depth (m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description	
De De	<u></u>	Rec	Jow (Gra	SCS	(Color, Texture, Structure)	
		0%	В		ŝ	Geologic descriptions are based on ASTM Standard D 246	37-93 and the USCS.
├ o -							
						Fill: SAND; fine to coarse grained sand, black, trace fragments, moist, loose, no odour.	of metal and timber
	1.1	TP51_0.2			sw	ragments, moist, 10030, 110 odour.	
	1.1	11751_0.2					
						Fill: Gravelly SAND; fine to coarse grained sand, bla	
						grained, sub-rounded gravels, trace of plastic and modour.	netal, moist, loose, no
–	0.8	TP51_0.5			sw	odoui.	
						Fill: Gravelly SAND; fine to coarse grained sand, bla	ack fine to coarse
						grained gravels with brick and sandstone, moist, loc	
⊢ 1 −	1.2	TP51_1.0			SW		
'							
						Fill: SAND; fine to coarse grained sands, white, gray plasticity clay, 1 tin (coke soft drink), plastic, metal p	y, yellow, trace of low
						loose, no odour.	ripe and rubber, moist,
-							
	1				sw		
5							
2							
5							
É							
<u> </u>	0.7	TP51_2.0				End of investigation at 2.0mbgs.	
						Lifu of fivestigation at 2.0ffbgs.	
أ							
-	1						
<u></u> 3 −							
3							



Test Pit

TP52Page: 1 of 1

Project _F	Huntinga	lale Develo	opmer	nt		Owner Talbot Road Finance Pty Ltd	COMMENTS					
Location	1221-1	249 Centre	e Roa	d, and 22	Talbo	t Avenue, Oakleigh South Proj. No. ENAUABTF00751AB						
Surface El	ev. <u>61</u>	.7 m.	Tot	al Hole D	epth	<u>2.0 m.</u> North <u>5801131.33 m</u> East <u>333469.36 m.</u>						
Top of Cas	sing _ <i>N</i>	Α	Wa	ter Level	Initia	NA Static NA Diameter						
Screen: Di	a <i>NA</i>		Ler	ngth NA	١							
						Type <i>NA</i>						
Fill Materia												
Drill Co	Drill Co. Method											
Driller Log By Date Date Permit # NA												
Checked By License No												
	<u> </u>											
ے ا		Sample ID % Recovery	Blow Count Recovery	. <u>e</u>	USCS Class.	Description						
Depth (m.)	PID (ppm)	Jube	× 50	Graphic Log	SSC	(Color, Texture, Structure)						
		Sa R	용정	ا ق) NSC	Geologic descriptions are based on ASTM Standard D 2487	7-93 and the USCS.					
├ 0 ⊣						Fill: SAND; fine to coarse grained sand, black, trace	of plastic, cloth,					
				\bowtie	SP	coarse grained, asphalt, medium, loose, no odour.	- р , ,					
	1.3	TP52_0.2				Fill: SAND; as above, black/brown, trace of metal, rul	hher and sandstone					
						gravels coarse grained, moist, loose, no odour.	bbci and sandstone,					
	1.0	TP52_0.5										
	1.0	11 02_0.0										
├ 1 -	1.4	TP52_1.0		\bowtie								
					SP							
_												
Ť												
[]				\bowtie								
[
ġ E												
§ 2 -	1.7	TP52_2.0				End of investigation at 2.0mbgs.						
						or arrosagation at 2.0mbgo.						
\$												
×												
E 3 -												
3												



Test Pit **TP53**

Project _	Huntinga	lale Develo	pmer	nt		OwnerOwner
Location	1221-1	249 Centre	Roa	d, and 22	Talbo	t Avenue, Oakleigh South Proj. No. <u>ENAUABTF00751AB</u>
Surface El	lev. <u>62</u>	.0 m.	Tot	al Hole D	epth	<u>2.0 m.</u> North <u>5801122.89 m</u> East <u>333522.14 m.</u>
Top of Cas	sing _ <i>N</i>	A	. Wa	iter Level	Initial	Static Diameter
Screen: Di	ia <i>_NA</i> _		Ler	ngth NA	1	
Casing: Di	ia <i>_NA</i> _		Ler	ngth NA	1	Type _ <i>NA</i>
Fill Materia	al <i>_Bacl</i>	kfill				Rig/Core Excavator/Excavator
Driller			Log	ву <u></u> <i>J. I</i>	Bei	Date Permit #
Checked E	Зу				Li	cense No
			¥		ν,	D
Depth (m.)	PID (mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class	Description
De C	Id (d)	. Rec	low Reco	Gra	scs	(Color, Texture, Structure)
		01%	<u> </u>		ő	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
- o -				*****		Fills SAND: fine to ecoree grained and block trace of motel fragments
						Fill: SAND; fine to coarse grained sand, black, trace of metal fragments, plastic cups (white), brick, concrete and steel, brown coarse sand, asphalt
	0.4	TP53 0.2				gravels, moist, loose.
		_				
	1.1	TP53 0.5				
	1.1	1153_0.5				
					sw	
├ 1 -	0.3	TP53_1				as above, trace of glass fragments, plastics and metal pipes, moist, loose,
						no odour.
1/2						
<u>-</u> -						
[
<u>-</u>						Fills CLAV high placticity clay dark brown/grappe with fine to coorse
						Fill: CLAY; high plasticity clay, dark brown/orange, with fine to coarse grained sand, white/yellow, moist, firm, no odour.
					CH	
<u> </u>	1.1	TP53 2				
						End of investigation at 2.0mbgs.
,						
[3 -						
لـــــاذ						



Test Pit **TP54**

Project _	Huntinga	lale Develo	pmer	nt		OwnerOwner
						t Avenue, Oakleigh South Proj. No. <u>ENAUABTF00751AB</u>
Surface El	ev62	.2 m.	Tot	al Hole D	epth	<u>2.0 m.</u> North <u>5801094.53 m</u> East <u>333368.05 m.</u>
Top of Cas	sing _ <i>N</i>	A	. Wa	ter Level	Initial	Static Diameter
Screen: Di	ia <i>_NA</i> _		Ler	ngth NA	1	Type/Size _ <i>NA</i>
Casing: Di	a <i>NA</i>		Ler	ngth NA	1	Type _ <i>NA</i>
Fill Materia	al _Baci	kfill				Rig/Core Excavator/Excavator
Driller			Log	ву <u>Ј. І</u>	Bei	Date Permit #
Checked E	Зу				Li	cense No.
			_		ı,	
£ C	o ê	Sample ID % Recovery	Blow Count Recovery	p Pic	USCS Class.	Description
Depth (m.)	PID (ppm)	Recc	ow C	Graphic Log	CS	(Color, Texture, Structure)
		001%	<u>8</u> ~		NS	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
L 0 -						
"						Fill: SAND; fine to coarse grained sand, dark brown, with some coarse grained sand, sub-rounded trace of organic roots and dry clay, high
					sw	plasticity, moist, loose, no odour.
	8.3	TP54_0.2				F 3, 3,
						Fill: SAND; fine to coarse grained sand, brown, moist, loose, no odour.
				\bowtie		
†	2.4	TP54_0.5			sw	
- 1 -	0.7	TP54_1.0				Fill: Silty Sandy CLAY; high plasticity clay, brown, light grey, interbedded with fine grained sand, white with some coarse grained sandstone gravels, moist, loose, no odour.
-					CL	
1/2					ML	
5						
2						
<u>g</u>						
§ 2 -	1.0	TP54_2.0			\parallel	End of investigation at 2.0mbgs,
						End of invodigation at Elonibys,
200						
) - -						
2						
3 -						
5						



Test Pit **TP55**

Project _	Huntinga	lale Develo	opmer	nt		Owner	COMMENTS
						t Avenue, Oakleigh South Proj. No. ENAUABTF00751AB	
Surface El	ev. <u>63</u>	2.0 m.	Tot	al Hole D	epth	2.0 m. North 5801082.59 m _{East} 333412.11 m.	
Top of Cas	sing _ <i>N</i>	Α	. Wa	ter Level	Initial	Static Diameter	
Screen: Di	ia <i>_NA</i> _		Ler	ngth NA	1	Type/Size NA	
Casing: Di	a <i>NA</i>		Ler	ngth NA	1	Type <i>NA</i>	
Fill Materia	al _Baci	kfill				Rig/Core Excavator/Excavator	
Driller			Log	ву <u></u> <i>Ј. і</i>	Bei	Date	
Checked E	Зу				Li	cense No	
		212	±		Š.	.	
Depth (m.)	PID (mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class	Description	
De C	교현	Rec	Jow o	Gra	SSS	(Color, Texture, Structure)	
		01%	B L		š	Geologic descriptions are based on ASTM Standard D 246	87-93 and the USCS.
⊢ 0 −				××××		Fill: SAND; fine to coarse grained sand, black, trace	of organic rocks and
					sw	coarse grained gravel, low plasticity clay, moist, loos	
	0.6	TP55 0.2					
		_				Fill: Clayey SAND; fine to coarse grained sand, brown plasticity clay, fragments of concrete, brick, plastics	
						no odour.	, - ,
	1.0	TP55 0.5					
	1.0	11 00_0.0					
1	0.7	TP55_1.0			SC		
÷							
2							
				\bowtie			
						Fill: Building Rubble; brick, concrete, metal, plastic	glasses with black
Si Si Si S						sands, trace of ACM , moist, loose, no odour.	g
§ 2 -	2.9	TP55_2.0			$\ \cdot\ $	End of investigation at 2.0mbgs.	
2							
100							
0							
3 -							
3 -							



Test Pit

TP56Page: 1 of 1

Project H	luntingd	ale Develo	pmer	nt		Owner Talbot Road Finance Pty Ltd	COMMENTS
						t Avenue, Oakleigh South Proj. NoENAUABTF00751AB_	
Surface Ele	ev. <u>63</u>	.9 m.	Tot	al Hole D	epth	3.3 m. North <u>5801078.22 m</u> East <u>333458.38 m.</u>	
						Static Diameter	
Screen: Dia	a <u>NA</u>		Ler	ngth NA	4	Type/Size NA	
Casing: Dia	a <i>NA</i>		Ler	ngth NA	A		
						Rig/Core Excavator/Excavator	
						Date <u>30/5/16</u> Permit # <u>NA</u>	
						cense No.	
	<u> </u>						
		Sample ID % Recovery	Blow Count Recovery	<u>.</u>	USCS Class.	Description	
Depth (m.)	PID (ppm)	nple (eco)	> 00 00 00 00 00 00 00 00 00 00 00 00 00	Graphic Log	SC	(Color, Texture, Structure)	
		S Sa	용點	9	nsc	Geologic descriptions are based on ASTM Standard D 2487	'-93 and the USCS.
├ 0 				XXXXX		Fill: SAND; fine to coarse grained sand, dark brown,	trace of coarse
					SW	grained gravels, moist, loose, no odour.	ados or ocurso
	0.4	TP56_0.2				Fill: SAND; fine to coarse grained sand, grey/light bro	own, trace of coarse
						grained gravel, dry, loose, no odour.	
F	0.6	TP56_0.5					
	0.5	TP56_1.0			sw		
'						as above, trace of glass fragments and plastics (blac	K).
.							
						Fill: Building Rubbles; brick, concrete, metals with gr	ravelly SAND - fine to
		TDEC 0.0				coarse grained, brown/dark brown, fine to coarse gra	
	0.3	TP56_2.0				loose, no odour.	
 							
						Fill: Sandy CLAY/SAND; fine grained sand, grey/brow	vn/white mixed with
						sandy clay, brown interbedded with white/yellow, low clay, fine to medium grained sand, trace of brick fragi	
						ciay, fine to mediam grained sand, trace or brick magi	menta, moiat, 100ac.
⊩ 3 	0.5	TP56_3.0					
				\bowtie			
						End of investigation at 3.3mbgs.	
}							
i							
<u> </u>							



Test Pit

TP57Page: 1 of 1

Project _	Huntingo	lale Develo	opmer	nt		e Development OwnerTalbot Road Finance Pty Ltd COMMENTS										
Location	1221-1	249 Centre	e Road	d, and 22	Talbo	ot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB										
Surface El	lev. <u>62</u>	2.0 m.	Tot	al Hole D	epth	2.0 m. North <u>5801075.88 m</u> East <u>333505.01 m.</u>										
						I _NA Static _NA Diameter										
Screen: D	ia <i>NA</i>		Ler	ngth NA	١	Type/Size _ <i>NA</i>										
						Type NA										
Fill Materia																
	Orill Co.															
Driller			Log	Date <u>30/5/16</u> Permit # <u>NA</u>												
Checked E	Зу				_ L	icense No										
£ ○	۾ ا	Sample ID % Recovery	Blow Count Recovery	ie E	USCS Class.	Description										
Depth (m.)	PID (ppm)	Secondary	ov C	Graphic Log	38.0	(Color, Texture, Structure)										
		<u> </u>	픮		nSí	Geologic descriptions are based on ASTM Standard D 24	87-93 and the USCS.									
						Fill: SAND; fine to coarse grained sand, trace of coa	arse grained gravels,									
						dry, loose, no odour.										
	2.7	TP57_0.2		\bowtie												
-	1.1	TP57_0.5														
					SW											
L 1 -	1.8	TP57_1.0														
'	1.0	11-37_1.0				fragments of timber and brick, dry, loose, no odour.										
÷				\bowtie												
2																
						Fill: Clayey SAND; fine to coarse grained sand, brow	wn, medium to high									
5						plasticity clay, dry to moist, loose.	,									
					sw											
					٥٧٧											
<u> </u>																
2 -	0.4	TP57_2.0				End of investigation at 2 0mbss										
		_				End of investigation at 2.0mbgs.										
5																
77																
[3 -																
<u>تــــــا</u> د																



Test Pit **TP58**

Project _	Huntingd	ale Deve	lopmer	nt		OwnerOwner COMMENTS
Location _	1221-12	249 Centi	re Roa	d, and 22	Talbo	t Avenue, Oakleigh South Proj. No. ENAUABTF00751AB
Surface El	ev. <u>60</u> .	.4 m.	_ Tot	al Hole D	epth	North North
Top of Cas	sing N	4	_ Wa	iter Level	Initial	Static Diameter
						Type/Size _ <i>NA</i>
Casing: Di	a <u>NA</u>		_ Ler	ngth NA	1	Type _ <i>NA</i>
						Rig/Core Excavator/Excavator
Drill Co				M	ethod	
Driller			_ Log	ву <u></u> <i>Ј. і</i>	Bei	Date <u>30/5/16</u> Permit # <u>NA</u>
Checked E	Ву				Lic	cense No
		>	+		s,	
£ ∵	ΔÊ	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description
Depth (m.)	PID (ppm)	Rec	ow (Grag Lo	SOS	(Color, Texture, Structure)
		\ \omega \\	<u> </u>		SN	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
\vdash 0 \dashv						
						Fill: Sandy CLAY; dark brown, low plasticity, dry, no odour.
					CLS	
						Fill: Sandy CLAY; dark brown with fine to coarse grained gravels, low
						plasticty, dry.
					CLS	
					CLS	
⊢ 1 −						Fill: Clayey SAND; orange interbedded yellow, fine to coarse grained,
						sub-rounded gravels, low to medium plasticity.
						,
1						
=					00	
					SC	
=						
G						
§ 2 -					\parallel	Fill: Silty CLAY; high plasticity, soft, grey/light brown.
					CL ML	y , G
						End of investigation at 2.2 mbgs.
						Lita of hivestigation at 2.2 mbgs.
6						
<u> </u>						
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<u></u> 3 −						
لـــــاذ						



Test Pit TP59

TP59Page: 1 of 1

Project _Huntingdale Development		OwnerTalbot Road Finance Pty Ltd COMMENTS
		Avenue, Oakleigh South Proj. No. <u>ENAUABTF00751AB</u>
Surface Elev. 63.8 m. Total Hole	Depth	North North
		Static Diameter
· · · · · · · · · · · · · · · · · · ·		Type/Size _ <i>NA</i>
		Type <i>NA</i>
Fill Material Backfill		Rig/Core Excavator/Excavator
Drill Co.	/lethod	
		Date Permit #
Checked By	Lic	cense No
Depth (m.) PID (ppm) Sample ID % Recovery Recovery Graphic Log	ass.	Description
Depth (m.) PID (ppm) Sample ID % Recovery Recovery Graphic Log	USCS Class.	(Color, Texture, Structure)
Sar Sar] SC	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
	-	Coolegio decompliano di o bacca cim lo im ciandara 5 2 107 de di a di o deces.
├ 0 -	$\parallel - \parallel$	Fill: CLAY; high plasticity, dark brown with a fine to coarse grained sand
0.3 TP59 0.2		and gravels (building rubbles, brick and terracotta tile, asphalt), dry, no
	3	odour.
- 0.2 TP59 0.5	CH	and the second Street Little
	1	as above, no building rubble.
		Fills Olesson CANIDs for a to accompany and a search about the law.
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1]	Fill: Clayey SAND; fine to coarse grained sand, dark brown with low plasticity clay, trace of brick gravels, asphalt, and glass fragments, dry, no
1 0.4 TP59_1.0		odour.
	sc	
├	}	
	1	
	$\ \ $	
2 — 0.6 TP59_2.0	$\parallel \parallel \parallel$	Fill: SAND; fine to coarse grained sand, dark brown/light green with
:		asphalt gravels, brick, slight sewer odour.
	sw	
<u> </u>		Fills Creveles bluestone cobbles angular blue/deat/ brown resist
		Fill: Gravels; bluestone cobbles, angular, blue/dark brown, moist.
8		Fill: CLAY; high plasticity, dark brown, trace of brick, asphalt, glasses
2 3 - 1.1 TP59_3.0		fragments.
[] J '.'	CH	
	$\ \ $	Fill: SAND; fine grained sand, white, moist, loose, no odour.
	SW	
[a	\parallel	End of investigation at 4.0mbgs.



Test Pit TP60

TP60Page: 1 of 1

Project _Huntingdale Development		OwnerTalbot Road Finance Pty Ltd COMMENTS
Location 1221-1249 Centre Road,	and 22 Talbo	ot Avenue, Oakleigh South Proj. No. <u>ENAUABTF00751AB</u>
Surface Elev. 62.4 m. Total	Hole Depth	3.0 m. North 5801019.42 m _{East} 333470.08 m.
		NA Static NA Diameter
Screen: Dia NA Lengt	th <i>NA</i>	Type/Size _ <i>NA</i>
		Type _ <i>NA</i>
		Rig/Core Excavator/Excavator
Drill Co.	Method	
Driller Log E	_{By} _ <i>J. Bei</i>	Date <u>30/5/16</u> Permit # <u>NA</u>
Checked By	Li	cense No.
Depth (m.) PID (ppm) Sample ID % Recovery	Graphic Log USCS Class.	Description
PID (ppm) (ppm) Manual	Graphic Log SCS Class	(Color, Texture, Structure)
Sal % Re	g S	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
		Fill: Sandy CLAY; medium plasticity, dark brown, fine to coarse grained
		sand, trace of timber fragments.
3.3 TP60_0.2	CLS	
		Fill: Gravelly SAND; fine to coarse grained sand, dark brown/white, fine
- 3.7 TP60_0.5		to coarse grained, sub-angular gravels with brick and timber fragments, dry,
		loose.
	SWG	
├ 1		Fill: SAND; fine grained, light brown, dry, loose.
		Tim. Garas, file grained, fight brown, dry, 1000c.
	sw	
F -		
		Fill: SAND; coarse grained, sub-rounded sand, white/brown/black, with
	‱ sw ∥	some concrete and steel fragments, dry, loose, no odour.
<u> </u>	XXX 317	
5 2 − 1.7 TP60_2.0		Fill: CLAY; high plasticity, dark brown with fine to coarse grained sand,
		white, wet, no odour.
,		
	‱ сн∥	
§		
5 — 3 — 1.3 TP60_3.0		File (Constitution of Order)
		End of investigation at 3.0mbgs.
<u></u>		



Test Pit **TP61**

Location _ Surface Ele Top of Cas Screen: Dia Casing: Dia Fill Materia Drill Co Driller	1221-1. ev. <u>62</u> ing <u>N.</u> a <u>NA</u> a <u>NA</u> Back	OwnerTalbot Road Finance Pty Ltd				
Depth (m.)	PID (mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
- 0 -	2.4	TP61_0.2			SWG	Fill: Gravelly SAND; fine to coarse grained sand, dark brown, fine to coarse grained, sub-angular gravels. (Bluestone), dry. Fill: Building Rubbles; fragments of brick, concrete, steel, metal, trace of
	3.1	TP61_0.5			SW	plastics and fine to coarse grained sand, dark brown. Fill: SAND; fine to coarse grained sand, pale brown/grey, trace of coarse grained gravels (bluestone), dry, loose, no odour. Fill: Building Rubbles; same as above, wet, dense, no odour.
- 1 \	2.6	TP61_1.0				riii. Building Rubbies, Same as above, wet, dense, no ododi.
					СН	Fill: CLAY; high plasticity, dark brown, trace of brick, concrete fragments, wet, no odour.
2 - 20/1/10 ENAMADI 10/1/20/1/20/1/20/1/20/1/20/1/20/1/20/1	1.0	TP61_2.0		*****		End of investigation at 2.0mbgs.



Test Pit

TP62Page: 1 of 1

Project _F Location _ Surface Ele Top of Cas Screen: Dia Casing: Dia Fill Materia Drill Co Driller Checked B	1221-1. ev. <u>63</u> sing <u>N.</u> a <u>NA</u> a <u>NA</u> Back	COMMENTS					
Depth (m.)	OIA (mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 246	37-93 and the USCS.
- 0 - - 1 -	0.3 1.4 3.6	TP62-0.2 TP62-0.5			СН	Fill: Sandy CLAY; high plasticity, dark brown, fine to trace of plastic, timber, brick, metal and asphalt frag trace of pvc tube, plastic tub (black), moist, firm.	coarse grained sand, ments, moist, stiff.
7 20/11/0 ENAVABITOOTI 120/11/2 1 20/11/2 1 20/11/2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5.1	TP62-2.0			CH	Fill: Sandy CLAY; high plasticity, brown mottled oral grained sand, with some fine to coarse grained grav pipe, moist, firm. Fill: GRAVEL; coarse grained, sub-angular gravel. Refusal at 2.5 mbgs.	nge, fine to coarse el, sub-angular, metal,
						reducat at 2.0 mbgs.	



Test Pit TP63

TP63Page: 1 of 1

•			relopment Owner Talbot Road Finance Pty Ltd COMMENTS ACM-3 concrete sheet sample								
						Avenue, Oakleigh South Proj. No. <u>ENAUABTF0075TAB</u> TP63-5.0 soil sample for					
						Type/Size NA					
						Type _ <i>NA</i>					
						Rig/Core Excavator/Excavator					
Drill Co.				Meth	hod						
						Date <u>6/6/16</u> Permit # <u>NA</u>					
Checked I	Ву				. Lic	cense No					
		이를	t ,		SS.	Description					
Depth (m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery Graphic	60	USCS Class						
ا ۾ ج	L G	Sam 6 Re	Slow Gra	_ §	SCS	(Color, Texture, Structure)					
				_ =	⊃∥	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.					
├ 0 −	1			\bowtie		Fill: Sandy CLAY; high plasticity, brown/dark brown, fine to coarse					
	0.5	TP63-0.2				grained sand, with some organic matter, trace of asphalt and brick					
				∭ c	СН	fragments, moist, stiff.					
	1.5	TP63-0.5		XXII ~	.	fragments of rubber and plastic, dry, firm.					
L 1 -	3.0	TP63-1.0				Fill: Gravelly Clayey SAND; fine to coarse grained sand, brown, medium					
'						to high plasticity clay, dark brown/black, fine to coarse grained gravel, with					
						some organic matter, asphalt gravel, and brick fragments, moist, stiff.					
-											
2 -	1.0	TP63-2.0									
				\bigotimes s	sw						
				XXII							
) L/											
12/4											
<u>-</u> 3 −	2.3	TP63-3.0									
곳 -				\bowtie							
ゴ <mark> </mark>											
<u>-</u>	1			\bowtie							
D B					\dashv	Fill: Clayey SAND; fine to coarse grained sand, dark brown, medium					
<u> </u>	1.7	TP63-4.0		\bowtie		plasticity clay, with some metal pipe, brick fragements, sandstone case					
	'.'	11 00-4.0				(brown, pale), trace of acm concrete sheet.					
AQAE				∭s	sw						
Ž	1			XXI	.						
9/16											
788											
§	1	TP63-5.0			\dashv	Terminated at 5.0 mbgs.					
Ĭ N											
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\											
<u>‡</u> ⊢ 6 −											
ರ	ll	I									



Test Pit **TP64**

Project _	Huntingo	dale Devel	opmer	nt		Owner _Talbot Road Finance Pty Ltd	COMMENTS			
Location	1221-1	249 Centre	e Roa	d, and 22	Talbo	ot Avenue, Oakleigh South Proj. NoENAUABTF00751AB				
Surface El	lev. <u>61</u>	.9 m.	_ Tot	al Hole D	epth	<u>2.0 m.</u> North <u>5800974.54 m</u> East <u>333455.31 m.</u>				
Top of Cas	sing _ <i>N</i>	Α	_ Wa	iter Level	Initia	I NA Static NA Diameter				
Screen: D	ia <i>NA</i>		Ler	ngth NA	4	Type/Size _ <i>NA</i>				
Casing: Di	ia <i>NA</i>		Ler	ngth NA	4					
						Rig/Core Excavator/Excavator				
						l				
Driller Log By _ <i>J. Bei</i> Date _6/6/16 Permit # _ <i>NA</i>										
						icense No.				
	·									
ے		Sample ID % Recovery	Blow Count Recovery	<u>.</u>	USCS Class.	Description				
Depth (m.)	PID (ppm)	mple (eco	Ŏ Š	Graphic Log	SSC	(Color, Texture, Structure)				
		Sal R	eg a	9	nsc	Geologic descriptions are based on ASTM Standard D 248	37-93 and the USCS.			
- 0 -						Fill: Gravelly Clayey SAND; fine to coarse grained s	and dark brown, low			
						plasticity clay, fine to coarse grained gravel, with so	me concrete, brick, tile,			
	0.3	TP64-0.2				timber, glass fragments, trace of organic matter, mo	ist, loose.			
	1.6	TP64-0.5			SW					
	1.0	1704-0.5								
				\bowtie						
						Fill: Gravelly Sandy CLAY; medium to high plasticity				
<u> </u> 1	2.4	TP64-1.0				fine to coarse grained sand, fine to coarse grained of fragments, trace of organic matter, moist, firm.	graver, trace of brick			
74,7					СН					
-										
<u> </u>										
ğ					$\vdash\vdash$	Fill: Building Waste; medium to high plasticity, dark	hrown/hlack fine to			
2 -	0.6	TP64-2.0			\vdash	coarse grained sand, burnt timber, concrete cobbles				
						fragments, plastic, and some sandy clay.				
5						Terminated at 2.0 mbgs.				
Í										
97 .										
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E 3 -										
3										



ENAUABTF00751AB, GPJ

28/1/16

Drilling Log

TP65 Test Pit Page: 1 of 1 Project __Huntingdale Development ______ Owner __Talbot Road Finance Pty Ltd COMMENTS Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB Surface Elev. 62.3 m. Total Hole Depth 5.0 m. North 5800963.81 mEast 333507.35 m. Top of Casing NA Water Level Initial NA Static NA ____ Diameter _____ Screen: Dia NA ____ Length *NA* _____ Type/Size NA Fill Material _Backfill Rig/Core _Excavator/Excavator _____ Method ___ Drill Co. ______ Log By _*J. Bei* _____ Date _*6/6/16* ____ Permit # _*NA* ___ Checked By __ __ License No. __ Blow Count Recovery USCS Class. Description Graphic Log Depth (m.) (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS. 0 SW Fill: Silty SAND; fine to coarse grained sand, dark brown, low plasticity, 0.3 TP65-0.2 moist, loose. Fill: Clayey SAND; fine to coarse grained sand, brown/orange, medium plasticity clay, orange/brown, trace of brick, tile, timber fragments and some SW 0.6 TP65-0.5 organic matter, moist, dry. Fill: Building Waste; timber, concrete, brick, synthetic fibrous materials, TP65-1.0 0.4 wire, plastic, metal, with some clayey sand, fine to coarse grained, grey/brown, medium to high plasticity, dry, loose. 2 TP65-2.0 Fill: Building Waste; timber, concrete, brick, synthetic fibrous materials, wire, plastic, metal, with some clayey sand, fine to coarse grained, grey/brown, medium to high plasticity, dry, loose. 3 0.1 TP65-3 0 0.3 TP65-4.0 Fill: Building Waste; timber, concrete, brick, synthetic fibrous materials, wire, plastic, metal, with some clayey sand, fine to coarse grained, grey/brown, medium to high plasticity, dry, loose. Fill: SAND; fine to medium grained sand, black/grey, trace of clay, high SW 0.1 TP65-5.0 plasticity, brown sandstone case, dry, loose. Terminated at 5.0 mbgs.



3

Drilling Log

TP66 Test Pit Page: 1 of 1 Project __Huntingdale Development ______ Owner __Talbot Road Finance Pty Ltd COMMENTS Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB Surface Elev. 61.5 m. Total Hole Depth 2.0 m. North 5800942.37 mEast 333343.57 m. Top of Casing NA Water Level Initial NA Static NA Diameter _____ Screen: Dia NA ____ Length *NA* _____ Type/Size *NA*__ Casing: Dia NA Length NA Type NA Fill Material Backfill Rig/Core Excavator/Excavator Drill Co. _____ Method _____ ______ Log By _*J. Bei* _____ Date __7/6/16 ____ Permit # _*NA* ___ Checked By __ __ License No. __ Blow Count Recovery **USCS Class** Description Graphic Log Depth (m.) (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS. 0 Fill: Sandy CLAY; medium to high plasticity, dark brown/brown, fine to coarse grained sand, trace of siltstone gravel, brick and asphalt fragments, CH moist, stiff. 1.1 TP66-0.2 Fill: Gravelly Sandy CLAY; high plasicity, dark brown clay, fine to coarse grained sand, fine to coarse grained gravel, with some bluestone cobbles, trace of timber, brick, and asphalt fragments, moist, firm. TP66-0.5 0.8 СН Fill: Gravelly SAND; fine to medium grained sand, grey/blue, fine to coarse frained gravel, trace of metal, concrete, and brick fragments, moist, TP66-1.0 SW Fill: SAND; fine to medium grained, black, with some concrete, brick, metal, rags, and plastic fragments, moist, loose. SW ENAUABTF00751AB,GPJ 2 0.6 TP66-2.0 Termianted at 2.0 mbgs.



Test Pit **TP67**

TP67Page: 1 of 1

Project _	Huntingo	dale Devel	Development Owner Talbot Road Finance Pty Ltd COMMENTS								
Location	1221-1	249 Centr	e Road, and	d 22 Tall	ot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB						
Surface E	Elev62	2.0 m.	_ Total Ho	le Depth	2.0 m. North _5800928.98 m _{East} _333397.99 m.						
Top of Ca	asing _ <i>N</i>	Ά	_ Water Le	evel Initi	al <u>NA</u> Static <u>NA</u> Diameter						
Screen: [Dia <i>NA</i>		Length	NA	Type/Size _ <i>NA</i>						
					Rig/Core Excavator/Excavator						
					d						
Driller			Loa By	J. Bei	Date Permit #						
Checked By License No											
	T T	1		П							
_		Sample ID % Recovery	Blow Count Recovery Graphic	ass.	Description						
Depth (m.)	PID (ppm)	ll du eco	low Coun Recovery Graphic	Log USCS Class.	(Color, Texture, Structure)						
		Sar R	Blo G		Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.						
	-				Coologio doconpuono dio bacca cinno nin clandara b 2107 co ana tino doco.						
- 0 -	4				Fill: CLAY; high plasticity, pale brown/yellow, with some coarse grained						
					siltstone gravel (extremely weathered), brown/yellow, trace of brick, and						
	0.3	TP67-0.2		₩ сн	timber fragments, moist, stiff.						
				$\boxtimes ldoor$							
				\bowtie	Fill: Gravelly Clayey SAND; fine to coarse grained sand, dark brown, low to medium plasticity, fine to coarse grained gravel, with some bluestone						
	1.2	TP67-0.5			cobbles, trace of brick, and concrete fragments, moist, loose.						
] 1.2	1767-0.5									
				\bowtie							
<u> </u>	2.8	TP67-1.0									
				₩ sw							
1/4/1/				\bowtie							
7											
<u>.</u>	1										
휡				\bowtie							
2 =											
				$\not\!$	Fill: Gravelly SAND; fine to medium grained sand, black, fine to coarse						
ABC				∭ sw	grained gravel, with some timber (burnt), concrete, brick, metal pipes,						
5 - 2 -	1.9	TP67-2.0		$\boxtimes $	bluestone cobbles, and rags, moist, loose.						
- I					Termianted at 2.0 mbgs.						
A A											
Ž II											
1/16											
787											
- Yek	1										
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A A											
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TP68 Test Pit

Page: 1 of 1 COMMENTS

Project _Huntingdale Development _____ Owner _Talbot Road Finance Pty Ltd Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB Surface Elev. 60.8 m. Total Hole Depth 2.0 m. North 5800916.64 mEast 333448.43 m. Top of Casing NA Water Level Initial NA Static NA Diameter _____ Screen: Dia <u>NA</u> Length <u>NA</u> _____ Type/Size *_NA*__ Casing: Dia __NA _____ Length __NA _____ Type __NA Fill Material Backfill Rig/Core Excavator/Excavator ____ Method _____ Drill Co. Driller _____ Log By _*J. Bei* Date ______ Permit # _*NA*

Checked I	Зу				Li	cense No
Depth (m.)	(mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.
- 0 -	2.1	TP68-0.2			СН	Fill: Sandy CLAY; high plasticity, dark brown, fine to coarse grained sand, trace of siltstone gravel (brown/yellow), metal, timber, concrete, and brick fragments, moist, firm.
ENAUABTF00751AB.GPJ IT_CORP.GDT 12/4/17	3.3	TP68-1.0			SW	Fill: SAND; fine to coarse grained sand, brown/red, with some high plasticity clay, dark brown, brick, timber, metal, and concrete fragments, dry, loose.
COFFEY ENVIRONMENTS Rev: 28/1/16 ENAUABTF007514	3.0	TP68-2.0				Terminated at 2.0 mbgs.



Test Pit TP69

TP69Page: 1 of 1

	-						OwnerTalbot Road Finance Pty Ltd	COMMENTS	
							ot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB		
							3.0 m. North 5800926.27 m _{East} 333499.43 m.		
							I Static Diameter		
							Type/Size NA		
							Type <u>NA</u>		
							Rig/Core Excavator/Excavator		
	Drill Co				Me	ethod			
							Date <u>6/6/16</u> Permit #		
	Checked E	Ву					icense No		
				± ≺		SS.	Description		
	Depth (m.)	PID (ppm)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	·		
	۾ ۾		Sam % Re	3low Rec	Gre	SCS	(Color, Texture, Structure)	27.00	
							Geologic descriptions are based on ASTM Standard D 24	37-93 and the USCS.	
	- 0 -						Fill: SAND; fine to medium grained sand, brown/gre	v trace of fine	_
			TD00 0 0				grained gravel, some organic matter, trace of clay, le		
		0.3	TP69-0.2			SW	moist, loose.		
		0.8	TP69-0.5						
							Fill: Silty SAND; fine to medium grained sand, grey,	with some plastic	_
							tubes (black), metal, wire, concrete, and brick fragm	ents, dry, loose.	
	- 1 -	1.7	TP69-1.0						
						SW			
							Fill: Clayey SAND; fine to coarse grained sand, brow	vn/yellow, medium	_
/ L/t							plasticity clay, orange/brown, with some timber, met	al, brick, concrete, tiles,	
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Ż	- 3 -	2.1	TP69-3.0			SW	Fill: Clayey SAND; fine to coarse grained sand, black clay, orange/brown, with some timber, metal, brick,	concrete, tiles, plastic	Γ
91/1							and paper fragments, moist, loose.		
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Test Pit

TP70Page: 1 of 1

Project _F	Huntinga	lale Devel	Development Owner Talbot Road Finance Pty Ltd COMMENTS							
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	_ =	Sar R	B Re	้อ	JSC	Geologic descriptions are based on ASTM Standard D 24	87-93 and the USCS			
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⊢ 0 ⊣						Fill: Silty SAND; fine to coarse grained sand, black,	low plasticity, moist			
					SW	¬ loose.	low plasticity, moist,			
	3.3	TP70-0.2				Fill: Sandy CLAY; high plasticity, dark brown, fine to	coarse grained sand,			
					СН	trace of coarse grained gravel, siltstone gravel (brow	vn), brick, and concrete			
						fragments, moist, firm.				
				\bowtie		Fill: Sandy CLAY; high plasticity, orange/brown, fine				
	0.9	TP70-0.5		\bowtie		sand, trace of brick, and concrete fragments, bluest stiff.	one coddies, moist,			
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						coarse grained sand, timber, concrete cobbles, reo,				
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Test Pit **TP71**

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Depth (m.)	PID (mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 248	37-93 and the USCS.
- 0 -	0.9	TP71-0.2			СН	Fill: Gravelly Sandy CLAY; medium to high plasticity coarse grained sand, fine to coarse grained gravel, timber, and metal fragments, moist, firm.	
- 1 - 124/1/	0.7	TP71-0.8			sw	Fill: SAND; fine to medium grained sand, red/brown, cobbles, timber, brick, metal, pvc pipes and rubber f	
7 28/1/16 ENAUABI FUU/SI AB.GPJ 11_CC	0.3	TP71-2.0				Terminated at 2.0 mbgs.	
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Test Pit **TP72**

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Depth (m.)	OIA (mdd)	Sample ID % Recovery	Blow Count Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.				
- 0 -	2.0	TP72-0.2			СН	 Fill: Sandy CLAY; high plasticity, dark brown, fine to coarse grained sand, trace of concrete cobbles, brick fragments, and sandstone gravel (brown), moist, stiff. Fill: Building Waste; fine to coarse grained sand, red/brown, coarse grained gravel, timber, plastic, metal, concrete, brick, and rags, gravelly sand. 				
1 -	2.2	TP72-1.0				Fill: Building Waste; fine to coarse grained sand, red/brown, coarse grained gravel, metal pipes, glasses, rubber, gravelly sand.				
2 - 3	3.6	TP72-2.0			СН	Fill: Sandy CLAY; high plasticity, dark brown/grey, fine to coarse grained sand, moist to wet, firm. Terminated at 2.2 mbgs.				



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Drilling Log

TP73 Test Pit Page: 1 of 1 Project __Huntingdale Development ______ Owner __Talbot Road Finance Pty Ltd COMMENTS Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB Surface Elev. 60.4 m. Total Hole Depth 2.0 m. North 5800873.77 mEast 333479.78 m. Top of Casing NA Water Level Initial NA Static NA Diameter _____ Length NA Type/Size NA Screen: Dia NA Casing: Dia NA Length NA Type NA Fill Material Backfill Rig/Core Excavator/Excavator Prill Co. Method _____ Log By *J. Bei* Date <u>7/6/16</u> Permit # <u>NA</u> ____ License No. __ Checked By ___ Blow Count Recovery Description Graphic Log Depth (m.) (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS. 0 Fill: Sandy CLAY; high plasticity, brown, fine to coarse grained sand, trace of coarse grained gravel, brick, and concrete fragments, bluestone cobbles, metal pipe, moist, stiff. 1.3 TP73-0.2 СН TP73-0.5 16 Fill: Gravelly Clayey SAND; fine to coarse grained sand, dark brown, medium to high plasticity clay, fine to coarse grained gravel, trace of concrete, reo, metal, bluestone boulders, and timber (burnt), moist, loose. 3.0 TP73-1.0 SW 2 2.4 TP73-2.0 Terminated at 2.0 mbgs.



Test Pit

TP74Page: 1 of 1

Project Huntingdale Development Owner Talbot Road Finance Pty Ltd COMMENTS														
Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB														
Surface Ele	ev. <u>60</u>	.5 m.	Tot	al Hole D	epth	<u>2.0 m.</u> North <u>5800835.38 m</u> East <u>333353.34 m.</u>								
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		N/%	<u> </u>		8	Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS.								
├ 0 -				XXXXX		Fill: Sandy CLAY; medium to high plasticity, dark brown, fine to coarse								
						grained sand, trace of coarse grained gravel, some grass, orangic matter,								
	3.0	TP74-0.2			СН	trace of brick, timber, and plastic fragments, moist, firm.								
	2.2	TP74-0.5				Fill: Sandy CLAY ; high plasticity, brown/yellow, fine to coarse grained sand, trace of siltstone gravel (brown), moist, stiff.								
	2.2	11 74-0.5			СН	Sand, trace of shistorie graver (blown), moist, still.								
						Fill: Sandy CLAY; high plasticity, dark brown, fine to coarse grained sand,								
						trace of concrete, brick, timber, and plastic fragments, moist, firm.								
1 1	2.0	TP74-1.0												
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						Fill: CLAY; high plasticity, black, with some fine to coarse grained sand,								
NO.					СН	medium plasticity, trace of brick, concrete, tile fragments, moist, soft.								
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Test Pit

TP75Page: 1 of 1

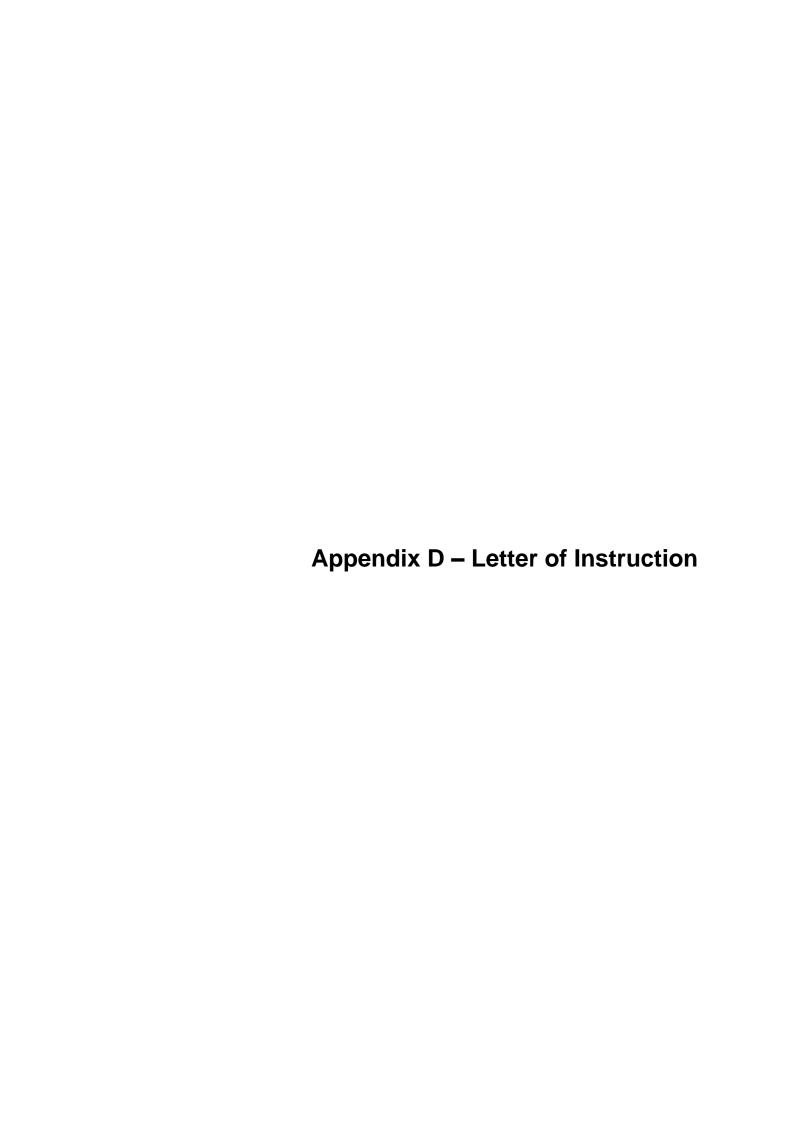
Project _	Huntinga	COMMENTS												
Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB														
Surface Elev. 60.6 m. Total Hole Depth 4.3 m. North 5800831.46 mEast 333403.60 m.														
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		J			ر	Geologic descriptions are based on ASTM Standard D 246	57-93 and the 0505.							
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	0.9	TP75-0.2			SW	compressed vegetation, brick, concrete, and metal f								
						Fill: Sandy CLAY; high plasticity, brown/yellow, fine	to coarse grained							
_	1.7	TP75-0.5			СН	sand, trace of brick, concrete,, metal, timber, and tile								
						Fill: Clayey SAND; fine to coarse grained sand, brow	vn, high plasticity							
├ 1 -	2.6	TP75-1.0				clay, brown/yellow, trace of fine to coarse grained gr								
						(brown), timber, brick, and tile fragments, moist, loos	se.							
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<u> </u>	1.3	TP75-2.0												
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						Fill: CLAY; high plasticity, black, with some fine to c	oarse grained sand							
<u>-</u>						orangic matter, glass, timber, plastic, and brick fragi	ments, moist, soft.							
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§ <u>∑</u>	.					Fill: Building Waste; brick, concrete, boulders, reo,	timber metals along							
						rags.	umber, metals, glass,							
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Drilling Log

TP76 Test Pit Page: 1 of 1 Project _Huntingdale Development Owner _Talbot Road Finance Pty Ltd COMMENTS Location 1221-1249 Centre Road, and 22 Talbot Avenue, Oakleigh South Proj. No. ENAUABTF00751AB Surface Elev. 60.1 m. Total Hole Depth 2.0 m. North 5800825.61 mEast 333459.15 m. Top of Casing NA Water Level Initial 2 2.0 m. Static NA Diameter Screen: Dia NA ____ Length NA ___ Type/Size NA _____ Type <u>NA</u> Casing: Dia NA Length NA Fill Material Backfill Rig/Core Excavator/Excavator _____ Method ___ Drill Co. _____ Log By _*J. Bei* ______ Date _7/6/16 ____ Permit # _*NA*___ Checked By ___ __ License No. __ Blow Count Recovery USCS Class. Description Graphic Log Depth (m.) (Color, Texture, Structure) Geologic descriptions are based on ASTM Standard D 2487-93 and the USCS. 0 Fill: Sandy CLAY; high plasticity, brown/orange, fine to coarse grained sand, with some organic matter, moist, soft. 1.3 TP76-0.2 СН Fill: SAND; fine to coarse grained sand, grey, with some low plasticity TP76-0.5 clay, trace of concrete cobbles, timber, brick, and metal fragments, dry, 20 becoming red/brown, dry, loose. SW 1.6 TP76-1.0 Fill: SAND; fine to coarse grained sand, grey, with some low plasticity SW clay, trace of concrete cobbles, timber, brick, and metal fragments, dry, Fill: Building Waste; timber, tube, metal, concrete, brick, rags, plastic. ENAUABTF00751AB.GPJ IT CORP.GDT 2 ∑ Terminated at 2.0 mbgs.



20 July 2017

By email:

Phil.Sinclair@coffey.com

Nick.Woodford@coffey.com

Phil Sinclair Principal Scientist Coffey Level 1, 436 Johnston St Abbotsford VIC 3067



Norton Rose Fulbright Australia ABN 32 720 868 049 Level 15, RACV Tower 485 Bourke Street MELBOURNE VIC 3000 AUSTRALIA

Tel +61 3 8686 6000 Fax +61 3 8686 6505 GPO Box 4592, Melbourne VIC 3001 DX 445 Melbourne nortonrosefulbright.com

Direct line +61 3 8686 6068

Email

rory.oconnor@nortonrosefulbright.com

Your reference:

Our reference:

2849696

Dear Mr Sinclair

Monash Planning Scheme Amendment C129 Land: 1221-1249 Centre Road, Oakleigh South

We act for Sterling Global in Planning Panels Victoria (PPV) in Monash Planning Scheme Amendment C129.

1 Background

- 1.1 On 2 August 2016, Urbis, on behalf of Sterling Global, submitted a planning scheme amendment request to the City of Monash (**Council**) to rezone the land at 1221-1249 Centre Road, Oakleigh South (**Land**) from Special Use Zone Schedule 2 and General Residential Zone Schedule 2 to Comprehensive Development Zone Schedule 2, and to add an incorporated document to the planning scheme in the form of a comprehensive development plan (**Amendment C129**).
- 1.2 As you are aware, the Land comprises the former Talbot Avenue Quarry, and the Proposal will facilitate the future renewal and transformation of the Land to a master-planned residential community.
- 1.3 The planning scheme amendment request was originally accompanied by a section 96A application for a planning permit in December 2014 (**Permit Application**), however the Permit Application was subsequently withdrawn due to concerns from the Council regarding the environmental assessment of the Land. The Council's position is that the appropriateness of the proposed residential use of the site cannot be confirmed before a full environmental assessment has been undertaken.
- 1.4 Amendment C129 has been listed for hearing on the following dates:
 - (1) Directions Hearing 6 July 2017; and
 - (2) Panel Hearing 8 August 2017 for 4 days.
 - (3) Sterling Global has been listed to present its case at PPV on Wednesday, 9 August 2017

APAC-#49736547-v1

2 Your engagement

- 2.1 Our client wishes to engage you to:
 - (1) review the background materials in the enclosed brief;
 - (2) confer with instructing solicitors and counsel, Joanne Lardner, where necessary;
 - (3) prepare an expert report which addresses:
 - (a) site contamination issues, including:
 - (i) a summary of historical use and development of the Land;
 - (ii) a summary of any contamination issues associated with the Land, the environmental assessments undertaken to date and any recommendations made:
 - (iii) your opinion as to whether the Land can be made suitable to accommodate sensitive uses and, if so, what measures are required to be implemented;
 - (iv) your opinion as to whether it is appropriate and reasonable to delay the requirement for a Statement of Audit until after Amendment C129, citing any relevant examples of similar matters you have been involved in;
 - (v) your opinion as to whether it is appropriate or necessary for the SESP and ESA to be approved by Council prior to the lodgement of any planning permit application, citing any relevant similar examples you have been involved in; and
 - (b) your understanding of the conclusions reached by Coffey Geotechnics concerning geotechnical issues on the site;
 - (c) your response to the submissions of agencies and other parties to the Council in respect of the Amendment, as relevant to your area of expertise; and
 - (4) appear at the Public Hearing of this matter on 9 August 2017 for the purpose of presenting your expert opinion concerning these matters and attend a site inspection with the Panel on 10 August 2017.
- 2.2 The Panel has requested the circulation of expert reports relating to environmental matters by 28 July 2017.

3 The Land

- 3.1 The Land is:
 - partly in the General Residential Zone Schedule 2 (GRZ2) and partly in the Special Use
 Zone Schedule 2 (SUZ2);
 - (2) subject to the Environmental Audit Overlay (EAO);
 - (3) located on the north-eastern corner of Huntingdale Road and Centre Road, Oakleigh South;
 - (4) comprised of an irregularly shaped parcel, approximately 18.79 hectares in area;
 - (5) currently accessed from Huntingdale Road and Centre Road, with no connections in place to the surrounding local street network;

NORTON ROSE FULBRIGHT

- (6) the site of the former Talbot Avenue Quarry. Historically, sand quarrying operations on the land have been accompanied by associated uses, including concrete batching in the 1960s, and landfill operations during the 1970s and 1990s. The Land has been inactive for several decades. The quarry void is located in the southwest portion of the Land;
- (7) subject to a degree of soil, landfill gas, groundwater, quarry surface water and quarry sediment contamination, as set out in the Site Environmental Strategy Plan prepared by Coffey, a copy of which is included in the enclosed brief of documents;
- (8) subject in part to Covenant 1909682 (Lot 1 TP 803687U) requiring that no extractive activities be undertaken within 10 feet of the southern boundary of the lot;
- (9) subject to a number of Section 173 Agreements regarding the cessation of quarrying activities on various parts of the Land;
- (10) located within the Monash National Employment and Innovation Cluster as defined in Plan Melbourne;
- (11) surrounded by the following interfaces:
 - (a) North the Land is directly abutted by Davies Reserve, including an athletics track and local pavilion. The northern boundary of the Land also abuts the rear boundary of residential allotments fronting Sinclair Street. The residential allotments are within an established GRZ1 residential area;
 - (b) East the Land abuts an existing residential area characterised by single and double-storey brick dwellings with landscaped local streets. The former Clayton West Primary School, recently zoned for residential purposes, is to the northeast of the land;
 - (c) South the Land abuts an existing townhouse development which fronts Centre Road. The Land also abuts a site on the corner of Huntingdale Road and Centre Road over which a permit for a five-storey apartment complex has been granted. Clarinda Primary School is also to the south of the site on the opposite side of Centre Road;
 - (d) West Huntingdale Road lies to the immediate west of the Land. The Huntingdale Golf Club lies opposite the Land on the other side of Huntingdale Road. Further along Centre Road to the west is a Bunnings and which is located alongside a larger employment precinct.



4 Amendment C129

- 4.1 As per the Explanatory Report, Amendment C129 seeks to make the following changes to the Monash Planning Scheme:
 - (1) 'Rezones the land at 1221-1249 Centre Road, Oakleigh South from part Industrial 1 Zone Schedule 2 and General Residential Zone Schedule 2 to the Comprehensive Development Zone Schedule 2.
 - (2) Introduces Schedule 2 of the Comprehensive Development Zone to the Monash Planning Scheme.
 - (3) Makes a minor correction to the boundary of the existing Environmental Audit Overlay to incorporate the whole of 1221-1249 Centre Road, Oakleigh South, within the Overlay.
 - (4) Amends Clause 21.04 and Clause 22.04 within the Local Planning Policy Framework to refer to urban renewal sites, including the subject land.
 - (5) Amends Schedule 81.01 (Incorporated Document) to include the Comprehensive Development Plan.'
- 4.2 The Explanatory Report details the reasons for Amendment C129 as follows:

'The Amendment is required because the use of the land for extractive industry and landfill purposes ceased over 20 years ago. The site has remained dormant since that time, and is in need of rehabilitation to improve the environmental condition of the site and enable a new urban use to be established. The current Special Use Zone – Earth and Energy Resources Industry - is no longer an appropriate zone for the site. Similarly the existing current residential zoning of the western part of the site should be changed to allow the environmental issues and constraints to be planned and managed in an appropriate way across the whole of the site.

However, until a full environmental assessment is undertaken, it cannot be confirmed whether the preferred use of the site – as a residential precinct with some mixed uses, and open space areas – is appropriate.

The rezoning to a Comprehensive Development Zone (CDZ) will allow the site to be considered for residential or other suitable urban uses. The CDZ will provide sufficient confidence to the land owner that the land can be used for some form of urban use. This will enable the completion of the environmental assessments and the undertaking of required levels of environmental works appropriate to the potential future uses. The proponent has prepared a Comprehensive Development Plan that identifies opportunities for an integrated residential development on the site.

The site is within an Environmental Audit Overlay and the requirements of the Overlay will need to be satisfied before any residential use or development on the site can commence. The Comprehensive Development Zone contains provisions to address the work required by the EAO in a staged manner. It is considered that the Amendment can proceed with a Comprehensive Development Plan based on preliminary assessments undertaken by the proponent. The proposal also provides for alternative uses should it not be possible to develop the land for residential purposes or other sensitive uses. The planning application process would require further details to be submitted to Council for consideration and this process would involve public consultation. The Schedule to the CDZ sets out issues that are to be addressed as part of the planning permit stage.'

5 Staged approach to remediation

5.1 A key facet of Amendment C129 is the proposed staged approach to remediation, which delays the completion of the environmental audit until prior to the commencement of redevelopment. This approach has been sought to provide the Applicant with certainty about the rezoning, and to allow planning permits to be issued for a range of uses, and to provide flexibility to progressively remediate the site to standard that suits the proposed uses.

5.2 To that end, the exhibited Schedule 2 to the Comprehensive Development Zone provides triggers for the provision of an SESP and ESA for permit applications for a sensitive use or for buildings and works to facilitate a sensitive use:

'3.2 Application requirements

Planning applications must include the following steps:

- A Site Environmental Strategy Plan (SESP): An application must include a Site Environmental Strategy Plan (SESP) for assessment by the responsible authority.
- Environmental Site Assessment: An application must include an Environmental Site Assessment (ESA) by a suitably qualified environmental consultant. This must be endorsed by an environmental auditor appointed under the Environmental Protection Act 1970. The endorsement must confirm that the ESA and SESP are consistent and adequately seek to address and manage the residual site contamination issues from the past land uses.

Planning applications can be staged across the site and must include an SESP for the site and an ESA pertaining to the relevant stage.'

3.4 Permit Conditions

A planning permit for a sensitive use (residential use, child care centre, pre-school centre or primary school) must contain the following conditions.

- Before the use permitted commences, the owner of the land must provide either:
 - A certificate of environmental audit must be issued for the land in accordance with Part IXD of the Environment Protection Act 1970, or
 - An environmental auditor appointed under the Environment Protection Act 1970 must make a statement in accordance with Part IXD of that Act that the environmental conditions of the land are suitable for the sensitive use.
- Before the use permitted commences the owner of the land must enter into and execute a Section 173 Agreement for the ongoing management of the site in accordance with the requirements of the certificate of environmental audit or the statement of audit and any conditions of permit use/operations.

5.4 Permit Conditions

Requirement

A planning permit for development that facilitates a sensitive use (residential use, child care centre, pre-school centre or primary school) must contain the following conditions.

- Before the construction or carrying out of buildings and works in association with a sensitive use commences, the owner of the land must provide either:
 - A certificate of environmental audit must be issued for the land in accordance with Part IXD of the Environment Protection Act 1970, or

- An environmental auditor appointed under the Environment Protection Act 1970 must make a statement in accordance with Part IXD of that Act that the environmental conditions of the land are suitable for the sensitive use.
- Before the construction or carrying out of buildings and works in association with a sensitive use commences the owner of the land must enter into and execute a Section 173 Agreement for the ongoing management of the site in accordance with the requirements of the certificate of environmental audit or the statement of audit and any conditions of permit use/operations.'
- 5.3 Under the exhibited Schedule 2 to the Comprehensive Development Zone, decision guidelines for permit applications for the use of land, subdivision and buildings and works also require consideration to be given to any SESP and ESA.

6 Submissions

- 6.1 The following submissions were received in response to the public exhibition of Amendment C129 between 2 February 2017 and 3 March 2017:
 - (1) Victorian Planning Authority;
 - (2) Environmental Protection Authority;
 - (3) South East Water:
 - (4) City of Kingston;
 - (5) Michael Bunter;
 - (6) Angelo Valente;
 - (7) Colin David Owen; and
 - (8) Anthony Phillip Sammut.
- 6.2 The submissions from the VPA and EPA addressed issues relating to site contamination, environmental assessment and remediation, and are discussed in further detail below.
- 6.3 We also note that the submission of Angelo Valente raises issues relating to potential disruption to surrounding residents as a result of remediation activities, and risks relating to future development on the Land as a consequence of the use of fill.

7 VPA Submission

- 7.1 The VPA's submission provides in-principle support for the Proposal, subject to certain recommendations. Among other things, the VPA's submission recommends that the Site Environmental Strategy Plan (**SESP**) and the Environmental Site Assessment (**ESA**) be required to be conducted and approved prior to the lodgement of a planning permit.
- 7.2 The VPA's submission states the following in relation to contamination, environmental assessment and remediation:

'The VPA supports a staged approach to planning and developing the site to manage the complexities and issues associated with contaminated land. From a process point of view the VPA submits that the following approaches may enhance the function of the draft provisions and achieve a coordinated approach:

- The Overall Development Plan (ODP) requirement within sub-clause 2.0 of the proposed Schedule 2 to the Comprehensive Development Zone (CDZ) should include the mandatory information under each of the sub-headings listed in Appendix A to this correspondence. This approach would reduce the ambiguity of the requirements and ensure the information necessary to assess the suitability of ODP;
- That the ODP should be sequenced to occur prior to the preparation of any planning application. Thus wording to the effect of '...the ODP must be approved prior to lodging an application for a planning permit'. This would ensure that an agreed development plan is in place before planning applications are prepared to provide more certainty. The VPA recommends that a time frame for considering the ODP should be included in this provision;
- The Site Environmental Strategy Plan (SESP) and the Environmental Site Assessment (ESA) should be conducted prior to the planning permit application stage. All references to 'applications' or 'planning applications' within sub-clause 3.2 should be amended so that the text refers to 'the Overall Development Plan'; and

8 EPA Submission

- 8.1 The EPA submission records that the EPA is generally supportive of Amendment C129, however the EPA raises issues regarding the management of contamination on the land.
- 8.2 The EPA Submission states:

...,

The site at 1221-1249 Centre Road, Oakleigh South was formerly used as a quarry and a landfill and therefore is considerably contaminated.

Council previously commissioned a Review of Environmental Matters at the site prepared by Senversa to provide an assessment of the environmental reports and arrangements to date. This report provides a useful overview to demonstrate the environmental risks of the development. The report highlights a number of environmental risks and longer term logistical risks at the site. These being and not limited to:

- In-ground infrastructure to manage landfill gas and leachate and the responsibility and payment for the ongoing management of these
- Restrictions suggested managing risks to residents vs Housing density plans (i.e. limiting digging past a defined depth).

EPA emphasises to Council that this land rezoning proposal presents the above risks. It is imperative that these risks associated with development of landfill sites are appropriately managed through the rezoning and development approvals to protect future land uses, human health and safety.

EPA understands that the proposed amendment will apply the existing Environmental Audit Overlay to incorporate the whole of the land within the Overlay and includes the land shown in the 'Former Talbot Quarry and Landfill Comprehensive Development Plan 2016' map as exhibited as an Incorporated Document within the Monash Planning Scheme.

The EPA advises Council that it is generally supportive of the proposed Planning Scheme Amendment and application of the Comprehensive Development Zone (CDZ) applied to 1221-1249 Centre Road, Oakleigh South.

EPA supports the staged approach to the environmental audit of the Development Site, allowing the site to be rezoned with the support of an Environmental Site Assessment (ESA) and Site Environmental Strategy Plan (SESP), and requiring a section 53X Audit as a condition of any future planning permit for a sensitive use.

However, EPA wishes to advise Council that this approach may send a false message to Developers/Land Owners that contaminated land sites can eventually be developed for a sensitive use, which may not be the case depending on the findings of the section 53X audit. EPA reinforces this message to Council to ensure that the CDZ does allow for consideration of a range of commercial and other non-sensitive uses, as Council proposes.

8.3 With respect to the application of *Ministerial Direction No. 1 – Potentially Contaminated Land*, the EPA states its position as follows:

Application of Ministerial Direction No.1:

It is EPA's view that addressing the requirements of Ministerial Direction No.1 through a staged approach of applying the CDZ through a land rezoning process is appropriate, on the basis that a section 53X audit will be required as part of any future planning permit condition allowing sensitive uses on the Development Site.

As this approach is not strictly in accordance with Ministerial Direction No.1, EPA wishes to emphasise to Council that the General Practice Note requires responsible authorities to be satisfied that the level of contamination will not prevent the use of the site, if they make the decision to not require an environmental audit as early as possible in the planning process.

EPA advises Council that EPA can provide support to Council to make this assessment, when/if reports are available for review. The critical item is that an audit is completed prior to construction that determines that the site is or can be made suitable for the appropriate level of proposed accommodation.

Please contact our Planning Assessment Officer, Andrew Scott on 1300 372 842 if you wish to discuss this matter further.

9 Council's Position

9.1 Two Council Officer's Reports were prepared in relation to Amendment C129 and put before the Council on 27 September 2016 and 30 May 2017.

- 9.2 The 27 September 2016 Officer's Report supported Amendment C129, including the proposed staged approach to remediation, and the Council resolved to request approval from the Minister to prepare and exhibit Amendment C129.
- 9.3 Subsequent to the receipt of submissions in response to the exhibition of Amendment C129, a revised Council Officer's Report was prepared and put before the Council at its meeting on 30 May 2017.
- 9.4 In the 30 May 2017 Council Officer's Report, the Council notes the concerns raised around the timing of the SESP and ESA, and the lack of information regarding the status of contamination on the Land. The 30 May 2017 Officer's Report proposes amendments to the exhibited version of Amendment C129, as summarised in the below table.
- 9.5 Key proposed changes are the insertion of a requirement to prepare an Overall Development Plan (**ODP**) prior to lodgement of a permit application, and the requirement for the SESP and ESA to be lodged with the ODP.

Stage	Exhibited process	Potential Alternative Process
Amendment C129 Rezoning land from SUZ to CDZ	Draft SRS/SESP	Draft SRS/SESP
Overall Development Plan – required in zone	Not included —Basic plan included in CDZ with rezoning	CDZ sets out detail for ODP No permit until ODP approved. Includes requirement for ESA/SESP to be signed off concurrently
SESP/ESA	Lodged with permit	Lodged with ODP prior to any permit application or permit issue
Permit	Requires audit as a permit condition	In accordance with ODP and SRS/SESP Requires audit as a condition
Permit Condition	Works/use not commenced until Audit complete	Works/use not commenced until Audit complete

9.6 The Panel has requested the submission of expert reports relating to environmental matters by 28 July 2017.

10 Brief of documents

- 10.1 Enclosed with this letter of instructions is a brief of documents relevant to the Amendment.
- 10.2 We confirm that you have copies of the relevant environmental assessments that have been undertaken for the Land.
- 10.3 Please contact us if you require further information.

11 Client details, further information and site inspection

11.1 Please arrange for your fee estimate and accounts to be provided directly to our mutual client at the following address:

Brandon Yeoh Development Director Sterling Global Level 50 Rialto South Tower, 525 Collins St Melbourne VIC 3000 E-mail: brandon.yeoh@sterlingglobal.com.au

12 Confidentiality

- 12.1 This letter and enclosed documents and all future communications between us and between you are confidential (**Confidential Information**), and are subject to a claim for privilege and must not be disclosed without our consent or the consent of our client.
- 12.2 The duty of confidentiality will continue beyond the conclusion of your instructions.
- 12.3 If you are obliged by law to disclose Confidential Information, it is not a breach of this engagement if you first give written notice to us of that obligation, if you can do so without breach of any law.
- 12.4 You must return all documents and other media, including copies, which contain Confidential Information to us. You must delete all electronically stored material immediately when requested to do so by us.
- 12.5 You must take all steps necessary to maintain Confidential Information and notes in strictest confidence.

13 Change of opinion

13.1 If for some reason, you change your opinion after delivering your report, please advise us as soon as possible. If that change is material, a supplementary report will need to be prepared, which explains the reasons for the change in your opinion.

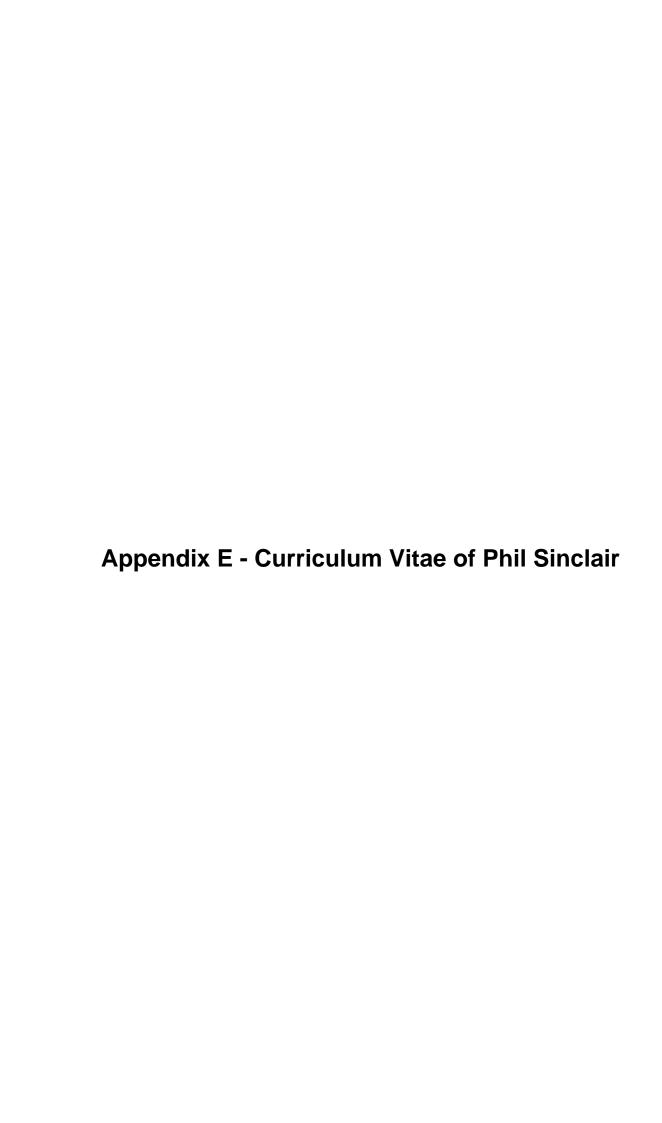
Should you require any further information, please call Tom Ellicott on (03) 8686 6142 or contact Rory O'Connor on (03) 8686 6068.

Yours faithfully

Rory O'Connor Special Counsel

Norton Rose Fulbright Australia

Partner: Sally Macindoe





Our people

Phil Sinclair M App Sc, B Sc (Hons), Chartered Chemist

Principal Environmental Scientist Site Contamination Auditor



I apply my knowledge of soil and groundwater contamination to help my clients complete their land development and infrastructure projects. Bringing my knowledge of a number of disciplines to due diligence and infrastructure projects has benefitted government and private clients.

I've enjoyed assessing challenging environmental problems for more than 40 years in the government sector and consulting practice. My early role combined water, soil, sediment & air sampling across Gippsland, Victoria and testing of water, soil and sediment samples. Then I researched suspended sediment (Monash) and land and water issues in a catchment management context (CSIRO). I joined Coffey from EPA Victoria where I headed the Contaminated Sites Team and learnt a lot from helping develop a number of policies in Victoria, including the contaminated land management policy.

I am an approved Contaminated Sites Auditor in Victoria (more than 100 audits) and Queensland, and have completed 18 audits in South Australia; always bringing an outcome-focused approach to the work, while keeping auditing principles central to it. I was accredited as an auditor in Western Australia from 2010 until 2011 but did not continue in that role for commercial reasons.

I've worked with many unusual soil and groundwater contaminants; such as explosives, phthalates, and photographic chemicals. My background in aquatic chemistry has also helped many of my clients with their projects.

I am active in keeping the Victorian Chapter of the Australian Contaminated Land Consultants Association up to date on regulatory affairs and environmental audit issues.

Qualifications

- Master of Applied Science, Water Studies Centre, Chisholm IT (now Monash University) Victoria, 1986.
- Bachelor of Science (Honours), Monash University, Victoria, 1974.

Professional memberships

- Royal Australian Chemical Institute (RACI)
 Chartered Chemist.
- Victorian Planning and Environmental Law Association (VPELA) – member.
- Urban Development Institute of Australia (UDIA) – Victorian Chapter - Coffey representative.

Areas of expertise

- Environmental auditing
- Environmental chemistry
- Contamination assessment.
- Statutory and environmental planning

My expertise in **environmental auditing** is demonstrated by the successful completion of a large number of audits in two states. I was also recognised as a Third Party Reviewer in Queensland until the recent changes in the contaminated land system in that state introduced environmental auditing.



My expertise in **environmental chemistry** is demonstrated by:

- the range of contaminants I have been involved in or have overseen the assessment (including risk assessment) and clean up of as shown in the project descriptions in this resumé;
- the early years in my career involving laboratory analysis of liquid and solid environmental (chemical, physico-chemical and biological) samples and environmental sampling of water, wastewater and air;
- while at EPA, overseeing the conduct of testing of soil, sediment, water and air in the EPA laboratory when Acting Manager Scientific Services;
- designing and reviewing assessment programs for soil, surface water and groundwater for a broad range of clients and project objectives;
- directing, interpreting and applying fate and transport assessments for many site contaminants amendable to degradation, transformation and natural attenuation.

Examples are a chromium VI clean up and assessment completed in Woodville, South Australia which I oversaw in an environmental auditor role, isotopic analysis used to discriminate between nitrogen in groundwater of biogenic and industrial (thermodynamic) origin, landfill gas and hydrocarbon attenuation, phthalate assessment and degradation in soil being remediated, overseeing the development of site-specific criteria for PAHs and assessing and interpreting PCB and dioxin-like PCBs on a former transformer manufacturing site.

• My expertise in **statutory and environmental planning** is demonstrated by being an expert witness at the Victorian Civil and Administrative Tribunal and providing planning panels with specific advice in relation to approvals of potentially contaminated sites.

I was recently project director for the assessment of a state government development site and a private due diligence site where the Environment Protection and Biodiversity Conservation Act 1999 applied due to the presence of endangered plant and animal species.

I have been accepted as suitably experienced to assess disposal of dredged sediment under the Commonwealth Environmental Protection (Sea Dumping) Act 1981.

I have extensive experience interacting with statutory planners in Victoria and South Australia; particularly in achieving acceptable conditions in Statements of Environmental Audit. Recent examples include; Monash (Oakleigh South development), Wodonga (Junction Place development), Kingston (Cavanagh Street, Cheltenham), Hume; (a due diligence for land near Melbourne airport and Emu Parade Jacana).

I am a member of the Victorian Planning and Environmental Law Association.

Description of experience

I have a detailed understanding of the sampling and testing guidelines applicable to site contamination. In my laboratory roles, I was involved in collecting samples for chlorophyll, biochemical oxygen demand and microbiological analysis, so developed a very good understanding of the need for the precautions needed to prevent sample contamination and importance of careful storage.

In considering biodegradation of groundwater contaminants, it has become important to sample test and interpret the microbiological status of groundwater; in particular in relation to chlorinated hydrocarbons. I am familiar with the procedures used and general aspects of the interpretation of dehalococcoides RNA test results.

I have designed, implemented and overseen quality assurance programs and quality control testing on hundreds of contaminated site investigations; and reviewed similar numbers of programs implemented by others. A strong interest of mine is ensuring that this aspect of the assessment program is reviewed in a timely way and the findings are not interpreted in generically but site specifically. I also have a strong interest in trend analysis particularly as it applies to cessation of groundwater monitoring programs.

The range of site I have been involved in as an officer of EPA, while completing hundreds of site assessments and environmental audits as a consultant and during my early career visiting and sampling sites with a range of polluting processes means I have the ability to identify a broad range of sources of pollution.



Career summary

• 2009-present

Principal Environmental Scientist, Leader - Audit Specialist Practice, Coffey.

2005-2009

Principal Environmental Scientist, Chair of Council of Principals, Service Development Manager, Coffey.

• 2000-2005

Principal Environmental Scientist, Coffey.

1997-2000

Associate Environmental Scientist, Coffey.

1995-1997

Environmental Auditor (Contaminated Land), Victorian Environment Protection Authority.

• 1994-1995

Environmental Chemistry Unit, Senior Consultant, Victorian EPA.

1988-1994

Various roles including Chemicals Management and Emergency Response, Acting Manager, Contaminated Sites Unit, Consultant, Control Officer, Scientific Officer, EPA Victoria.

- 1987-1988 Travel overseas.
- 1985-1987

Laboratory Manager, CSIRO Division of Water and Land Resources, Canberra.

1984-1985

Scientific Officer, State Chemistry Laboratory, Victoria (Soil Science Section).

1980-1984

Master of Applied Science Candidate, Water Studies Centre, Chisholm Institute of Technology.

1974-1980

Scientific Officer, LaTrobe Valley Water and Sewerage Board Traralgon, Victoria.

Relevant project experience

Boeing Aerostructures Australia (BAA), Section 53V environmental audit, Fishermans Bend, Victoria (2014 - 2015)

Project Director, Environmental Auditor

- BAA engaged Coffey and me to prepare a Section 53V audit of its aerostructure manufacturing site in Fishermans Bend, Victoria. Eight separate groundwater investigation areas were identified across the site and in some cases these extended off-site.
- Key features of the audit were the assessor's use of direct data collection and modification of the investigative program and approaches in response to the data collected. In the audit role, we were able to support this approach, by having an very good understanding of the geology and limitations of the methodologies employed and from our thorough understanding of the conceptual site model/s.
- The rapport we developed with the BAA project team and outcome-focussed approach resulted in a pragmatic and practical environmental audit report delivered in the time required by BAA. The report addressed all regulatory and key stakeholder concerns and enabled BAA to confidently plan its approach to further assessment and remediation.

Outcome: A Section 53V environmental audit report which found there was no unacceptable risk to key on and off-site receptors. Comment was also provided on the groundwater monitoring and management plan; which was fit for purpose subject to refinement of trends and pathway analysis.

Department of Justice (DoJ), Ravenhall Prison Project, Victoria – Project Approvals Support (2013 - 2014)

Project Director

To enable a public private partnership to develop this former Defence rocket testing range for a prison complex, Coffey completed the investigation and oversaw contamination clean up in a very limited time. Unexploded ordinance, explosive wastes and endangered species (plants and animals) posed challenges for investigative works.



 Three phases of site contamination assessment, a single geotechnical investigation phase and two phases of hazardous materials assessment and removal, plus oversight of demolition and stockpile removal were completed between late 2013 and July 2014 when the independent environmental audit was completed by others.

Environmental Audit - Elizabeth Street, Coburg, Kodak Australasia, Australia

Completed the audit (in 2014) of this large former industrial site in a northern suburb (Coburg) of Melbourne. Production of chemicals used to produce photographic film occurred at the site for more than 40 vears. Soil contamination due to silver. hydrocarbons, solvents and asbestos, groundwater contamination by solvents, metals and nitrates and potential impact of impacted groundwater on nearby surface waters were issues for the audit. There were a large number of potential contaminants that needed to be assessed and have acceptance criteria developed prior to completion of the audit. Part of a landfill encroaches on the western portion of the site.

Outcome: Statements of Environmental Audit (SoEA) allowing sale and redevelopment of the site for a mix of industrial, open space and residential uses.

John King, PCB site assessment and remediation, High Street, Thomastown (Current)

Project Director.

- In a due diligence program for sale of part of John King's property, the presence of PCB-contaminated soil was identified
- Under Phil's direction, the site history was updated and a program of PCB assessment commenced with the goal being to delineate and remediate PCBcontaminated soil on the portion of the site under sale. A notification to EPA under the Notifiable Chemicals Order was required and an independent auditor verified EIP was prepared. Further assessment, including consideration of dioxin-like PCBs and PCB- contaminated soil clean up then commenced. The presence of asbestos containing material has complicated the remediation. Initially, soil was relocated, stockpiled and managed on the portion of the site not for sale to enable sale and

development works to proceed. A range of remediation options have been implemented for the stockpiled soil; including thermal destruction and landfilling. Completion of PCB remediation is anticipated in 2017.

Sterling Global / Sinclair Brook – Geotechnical and Environmental Services, Development of former landfill and quarry – South Oakleigh (Current)

Project Director.

- This project involves planning for and designing the geotechnical and environmental components of the rehabilitation of this former quarry and landfill in South Oakleigh.
- Key contributions have been liaising with the appointed auditor, the clients planning consultants and Council engineers and planners to obtain approvals.
- Integrated geotechnical and environmental backfill design for the quarry component is the critical part of the project has been completed.
- Early development works are underway.

Former Albion Explosives Factory at Cairnlea, Defence, Australia (1997 – 2015)

- Auditor.
- Defence has remediated the former Albion Explosives Factory, located approximately 15km west of Melbourne CBD, now developed as the suburb of Cairnlea by its partner Victorian Urban Renewal Authority (Places Victoria). Of the 180 ha under audit by Coffey, 160 ha has been developed to date.

The site was used for almost 50 years for the manufacture of explosives prior to closure in 1986. Manufacturing activities are known to have impacted upon the potential uses of the land with elevated concentrations of a broad range of contaminants, including explosives; such as trinitrotoluene (TNT), dinitrotoluene (DNT), mononitrotoluene (MNT), RDX and carbamite and precursor and breakdown products such aniline-related chemicals and nitrates, and metals; such as copper, mercury and lead. Disposal of waste chemicals and products at burning grounds and through infiltration galleries resulted in contamination of soil, rock and groundwater; mainly by nitrogen-containing



chemicals, including explosives and their residues.

Coffey was appointed by Defence to conduct the environmental audit of 180 ha of land.

Key areas where Coffey contributed to the assessment program were:

- Validation of data from earlier phases of assessment.
- Use of two auditors early in the audit to allow completion of first stage deliverables.
- Strategies for assessment of underground service lines.
- Allowance for localised results exceeding criteria, where these could be accepted as "outliers".
- Inclusion of statistical and spatial assessment of contaminant concentrations in the decision making process.
- Separation of environmental and engineering design objectives, particularly for the on-site repository.
- Project Approach: The project approach
 was to form an integrated team with the
 client; assessor and remedial contractor to
 ensure the project ran quickly and
 efficiently during the remediation stage
 while still meeting all the requirements of
 the EPA Audit system. Sufficient time and
 effort was spent during the planning stages
 of the project to form and agree a project
 specification that supported the proposed
 landuses at the site.
- Outcomes: Certificates of Environmental Audit issued for areas where low density residential use has occurred. Statements of Environmental Audit were issued for areas where other less sensitive uses have occurred or are planned.

Environmental Audit – Cheltenham, R. Corporation, Australia (2010 - 2011)

Environmental auditor for a redevelopment of a former solid inert landfill for medium and high density residential use required completion of an environmental audit to ensure the site was suitable for the development i.e. that human health and the environment were not currently at risk or would not be put at risk by the proposed development. This was the first successfully completed s53X audit of a

former landfill in the post-Cranbourne (Brooklands Green) era.

Key contributions to the project included ensuring that:

- The construction method, whether onground slab or piled structure
 (eventually adopted), did not result in addition landfill gas reaching the surface and prevent residential use of the site.
- The site conceptual model was enhanced through the gathering of additional site-specific information, particularly in locations where piling was to occur
- The landfill gas assessment and mitigation methods were compliant with then relatively new EPA guidelines.
- The post-audit human health and environmental management requirements were robust.

Hospital Extension projects – Northern suburbs of Melbourne, Northern Health, Australia

- Project Director.
- Coffey provided geotechnical and environmental services for the Department of Human Services for the extension of a major suburban hospital in northern Melbourne onto land next to a landfill.

Coffey assessed the occurrence of landfill gas (LFG), installed and sampled gas wells, modelled LFG transport, assessed the risk and located and help integrate a cold-spray applied membrane LFG barrier into the design of the extension. The work was subject to a successful environmental audit by others allowing use of the extension subject to a management plan.

In 2013, a new building was planned for this site. Coffey provided detailed design advice for landfill gas mitigation.



Environmental Audit - Northcote, Joshua Pitt Leather Works, Australia (2005 - 2008)

• This was an environmental audit of a former leather works site in an inner urban and mainly residential setting completed prior to sale and redevelopment of the property. The leather works produced tanned leather for a range of uses including for the iconic Sherrin Australian Rules footballs and Kookaburra cricket balls. Predominantly naturally-derived organic tanning agents were used, although bleaching agents and solvents were also used. The main issue for the audit was the presence of groundwater contaminated with a chlorinated solvent which originated from off-site.

Outcome: Statement of Environmental Audit allowing medium density residential use.

A submission to a planning panel was provided post-audit in 2009. Coffey is providing post-audit verification services for the Gadd Street project.

Environmental Audits – Former Gasworks Horsham and Castlemaine, SP AusNet, Australia (2005 - 2015)

These were environmental audits of a former manufacturing gasworks sites in the rural cities of Horsham and Castlemaine. Victoria. At Horsham, contaminated soil was present to depths of approximately 10m and impacts on groundwater extended off-site, the most significant being due to nitrate. The auditor's CUTEP submission to EPA Victoria resulted in a determination which allowed groundwater monitoring to cease. At Castlemaine, there were two residences on a boundary of the site, which meant assessment of off-site impacts due to contaminant vapour formed part of the audit. Ongoing groundwater monitoring is required at Castlemaine.

Outcomes: Statement of Environmental Audit allowing commercial / industrial use of the sites, subject to management plans.

Environmental Audit – Nepean Highway, Mentone, Nylex Limited, Australia (2006 -2007)

 This former Nylex plastic product manufacturing factory was audited in 2006 / 2007. Issues for the audit were the assessment and remediation of phthalatecontaminated soil and groundwater which had leaked from numerous underground storage tanks and services. Site-specific criteria for a range of phthalates were developed and adopted. The auditor's CUTEP submission to EPA Victoria resulted in a determination which allowed groundwater treatment to cease.

Outcomes: CoEA for proposed residential land and SoEA for commercial use land.

Environmental Audit – Dandenong, Grocon, Australia (2009 - 2010)

 As part of the redevelopment of the Dandenong CBD, the builder cleared the site to construct an eight storey building to provide up-to-date accommodation for a range of government sector service providers.

Former uses of the site include a showground, mortuary, homestead and residences workshop/compound and commercial properties (including restaurant and function centre). Underground fuel storage tanks were present on and adjacent to the property.

Outcome: Certificate of Environmental Audit.

Environmental Audit supported accommodation, Melbourne, Grocon, Australia (2009 - 2010)

• This was the first project of its type in Victoria and was completed on a not-forprofit basis. The constructed building provided 131 studio apartments and 30 two-bedroom apartments for low-income earners and those at risk of long-term homelessness. Partners in the project were: the Victorian Government, Yarra Community Housing and HomeGround Services. Past uses included galvanised iron and timber merchants, a farrier shop, furniture manufacturing, engineering shop, a motor body builder, medical practice and a plumbing supplies store.

Outcome: Statement of Environmental Audit allowing the high-density residential use.



Environmental Audit - Wyndham Street, Shepparton, Calnob Pty Ltd, Australia (2003 - 2005)

 This former Bonlac butter factory was audited in 2004 / 2005. Issues for the audit were locating former underground storage tanks, describing groundwater flow which was complicated by a sewer traversing the site, defining hydrocarbon contamination of groundwater and obtaining a CUTEP determination.

Outcome: The Statement of Environmental Audit (SoEA) issued for the site indicated it was suitable for the proposed commercial development. There was remnant groundwater contamination at the site and the SoEA contained a condition that groundwater was not to be used other than for clean up or monitoring. An Environmental Management Plan was also required as a condition of the SoEA.

A recommendation to cease groundwater monitoring was provided in 2009, after a 'risk-to-the-environment' audit was completed.

Environmental Audit - Noble Park, BASF Australia Pty Ltd, Australia (

• This was an environmental audit of an industrial site as part of the sale due diligence procedures; BASF was on-selling the site. The site had produced plastic additives and animal feed supplements. BASF required completion of the audit within a tight timeframe; which was met, with audit reporting occurring approximately 24 hours after receipt of the assessor's final ESA report. Issues considered were the presence of underground storage tanks and their potential impact on groundwater quality and an electricity sub-station in the centre of the site.

Environmental Audit, - Dawson Street – Brunswick, Hoffman Brickworks Pty Ltd, Australia (1999/2001)

 Conducted the audit of a 2.9 hectare portion of this former Brickworks site adjacent to parkland constructed over a 25 metre deep quarry. Filling of the quarry with municipal waste occurred over the period commencing in the late 1940's. Issues for the audit were retention of contaminated soil at depth beneath roadways and protection of infrastructure maintenance workers. Challenges included gaining agreement from Council on conditions related to roadways and land bordering the adjacent Gilpin Park, which were to be resumed by Council after completion of the development and setting acceptance criteria consistent with the proposed layering and future uses of the site.

Outcome: Statement of Environmental Audit for Lots A-D (residential use area).

Environmental Audit, Hythe Street Pughole, Ridleyton SA, Adelaide Civil Pty Ltd, Australia

Conducted the Environmental Audit for this 0.27 hectare site which was a former pughole (clay-winning pit) in Ridleyton Adelaide, SA. This site was a 6 metre to 7 metre deep "quarry". Waste placed in the pughole after closure included metal wastes, lime waste and concrete and construction materials. Remediation by stabilisation and encapsulation was proposed. The auditor's requirements included the construction of a 2 metre thick base-liner, installation of groundwater quality monitoring bores and controlled construction of a surface clay cap. Wastes from within the pughole were mixed with lime-waste and stabilised to achieve low contaminant mobility.

Outcome: Restricted Use, Medium Density Residential.

Assessment and Auditing Advice, Forbes Gasworks, Australia

Provision of assessment and auditing advice on the audit of a NSW Gasworks site to Coffey's NSW-based auditor. For this site, site history and assessment checklists against NSW EPA and ANZECC/NHMRC documentation were prepared to provide the auditor with confidence that the assessment (by others) was sufficient and satisfactory.

Environmental Audit of former depot – St Albans Road, Sunshine West, City West Water, Australia (2009 - 2010)

 This was an Environmental Audit of a 13 ha head office and depot complex in Sunshine West. The site was used as a machinery and vehicle depot, contained a refuelling depot and was briefly used for drying of spoil removed from water utility works. Prior to use by water authorities, the site was used by agricultural machinery manufacturers.



A key issue was confirmation of an earlier clean up of the underground storage tank pits associated with the fuel depot.

Outcomes: Certificate of Environmental Audit for Area B located in the northeastern part of the site and Statement of Environmental Audit for Area A located in the south western part of the site.

Environmental Audit - 750 Collins Street - Grocon Constructors, Australia

A Statement of Environmental Audit was issued for this 0.8 hectare site in Collins Street, Melbourne Docklands. Past uses of the site included rail yard use, freight storage and car-parking. The proposed use was commercial within a multi-storey building covering the site. An auditorapproved site management plan allowed early works at the site to proceed prior to completion of the audit. In 2007/08, a reaudit was required as child care use was proposed for part of the ground floor of the property.

Outcome: SoEA allowing commercial use (2006) and after the re-audit; and SoEA allowing commercial and child care uses (2008).

Environmental Audit - Bullarto Road, Skye, Charles Lloyd Property Group, Australia

 This was a "one step" audit where, apart for limited assessment and clean up around the former locations of the farm house and outbuildings the auditor collected the primary contamination information for the site

Outcome: A Certificate of Environmental Audit was issued.

Environmental Audit – Parkside Gardens, Shepparton, VicUrban (now Places Victoria), Australia

 This project involved the audit of the former Shepparton International Village site and adjoining land, and included assessment of sediments in the pond surrounding the village. There were aesthetic limitations to soil on some parts of the site.

Outcomes: The SoEA allowed residential use subject to aesthetic limitations. After sorting and removal of aesthetically unacceptable material in 2007/08, a CoEA was issued.

Environmental Audits – Former Council Depot, Dandenong, VicUrban (now Places Victoria), Australia

 This was the audit of two parcels of a former Council works depot site that was affected by storage of construction materials, street sweepings and municipal wastes. A stormwater treatment plant was located on the site.

Waters Management Plan - Ferro-Manganese Smelter - Bell Bay, Tasmania, Temco Samancor - BHP-Billiton, Australia

 Coffey conducted a review of the management of waste water streams at Temco's Bell Bay plant. As well as providing the basis for a management plan and policies, this project assessed the potential implications of introduction and application of the ANZECC (2000) guidelines on the current and future water management at the site and in particular, waste water discharges from the plant.

A number of system improvements were identified and categorised for short, medium or long-term action. These included: review of wash down procedures, preparation of mass-balances, further delineation of groundwater quality, assessment of potential reuse of fume dam solids, and investigation of potential low water use production methods.

Conducted the initial site visit / walkover and staff interviews, peer review of the report and liaised with Coffey's subconsultant; WSL Consultants Pty Ltd.

Brisbane River and Moreton Bay, Queensland, Port of Brisbane, Australia

- Project reviewer for Coffey's reporting.
- This study involved vibro-coring the estuarine and sea-bed sediments within a defined area in the field for physical and chemical laboratory analysis. A report was prepared by Coffey staff outlining the results of field work and laboratory testing and providing comment on their significance with regard to relevant environmental guidelines.

Comparison was made of sediment contamination with sediments from port environments elsewhere in Australia. Much of this additional information was provided which enabled an improved assessment of the significance of the sediment contamination to be made in the report.



Canaipa Passage, Queensland, Queensland Transport, Australia

 Project reviewer for this study that involved vibro-coring the sea-bed sediments within a defined area in the field for physical and chemical laboratory analysis. A report was prepared by Coffey staff outlining the results of field work and laboratory testing and providing comment on their significance with regard to relevant environmental guidelines.

Rosslyn Bay, Queensland, Queensland Transport, Australia; And Karragarra W's, Queensland, Australia

 Project reviewer. These studies involved vibro-coring the sea-bed sediments at defined locations, using a differential GPS, for field and laboratory analysis.
 Laboratory analysis included mono-, diand tri-butyl tins. Reports were prepared by Coffey staff outlining the results of field work and laboratory testing and providing comment on their significance with regard to relevant environmental guidelines.

Coomera River, Queensland Transport, Australia

 Project reviewer for this initial phase of work. This study involved vibro-coring the river-bed sediments at defined locations, using a differential GPS, for field and laboratory analysis. This study had a particular emphasis on acid sulphate soils, which are common to the region. A report was prepared by Coffey staff outlining the results of field work and laboratory testing and providing comment on their significance with regard to relevant environmental guidelines.

This project led to further work involving vibro-coring at two sites on the banks of the Coomera River for spoil disposal. Field and laboratory analysis were undertaken to determine the suitability of these sites for acid sulphate soil disposal. Coffey staff prepared an additional report providing comments and recommendations on the disposal of acid sulphate soil at these locations.

West Gate Bridge Bund Spoil Disposal Options, VicRoads, Australia

- Project Manager.
- Phase I of the project involved a survey of and preparation of indicative costings for contaminated sediment disposal options; the spoil being associated with enlargement of the bund protecting Pier 12 of the West Gate Bridge. Phase II involved the preparation of advice to VicRoads on contract clauses relating to environmental management of spoil dredging, treatment and disposal.

Corio Channel Environmental Effects Statement, Environment Protection Authority (Vic), Australia

Part of the Environmental Effects
 Statement Working Group for the major dredging projects that has occurred in Victoria, the Corio Bay channel improvement. Primary contribution to the Working Group was in the assessment of sediment contamination status.

Bass Strait Benthic Survey, Museum of Victoria / Victorian Marine Science Association, Australia

- Assisted Dr Gary Poore of the Museum of Victoria and the Victorian Marine Science Association in the conduct of a 7-day Bass Strait benthos sampling program.
- Acted as assistant to the marine scientists assessing marine organisms dredged for the floor of Bass Strait.

Masters Thesis, Monash University / EPA (Vic), Australia

 Completed a Master of Applied Science at the Water Studies Centre supervised by (now) Professor Barry Hart. The Master's Thesis was titled "The Transport of Pollutants by Suspended Sediment in the Yarra River" and was also supervised by VicEPA senior staff. This work included assessment of Yarra River estuary suspended sediments and bioassay work to assess the phosphorus bioavailability of the suspended sediment bound phosphorus.



Inner south-eastern suburbs –capital city location, Land Development Authority, Australia

- Project Director.
- An Australian state government authority engaged Coffey to complete a due diligence of four properties it was proposing to assume responsibility for from another agency. One of the properties had been a major gas manufacturing plant and had been remediated and subject to audit, though with ongoing management conditions. Another was a Commonwealth agency's facility with many small-scale potentially contaminating activities; also under audit. Coffey reviewed available information for the four sites, prepared remediation and liability cost estimates for each site for a range of future uses.

Completion of S53V audit of a transport corridor adjacent to a former gasworks, rural Victoria.

- S53V audit completed as a requirement of a clean up notice issued by EPA Victoria on land adjacent to a former regional gasworks. Assessment of adjacent land under audit identified that contamination extended onto a transport corridor.
- The audit confirmed that contamination posed an unacceptable risks for some site uses and that a Clean Up Plan prepared by others was appropriate to manage the risks associated with the contamination.

Completion of S53V audit of solid inert waste dumping at a utility site, Thomastown

 To comply with a Clean Up Notice issued by EPA Victoria, the site owner was required to complete a 'condition of the environment' audit (soil, groundwater and surface water) because a tenant had accepted and disposed of mixed industrial waste, including asbestos containing materials. The site was located immediately adjacent to a waterway

The auditor approved the remediation action plan, site environmental management plan, assessed its implementation and whether the clean up activities themselves had contributed to contamination of soil, groundwater and surface water.

Outcome: The uses of the site for commercial and industrial purposes were not impacted by soil or groundwater contamination. Groundwater and surface waters were not impacted by the waste that had been placed at the site or by the clean up activities. Recommendations related to ongoing site management were also provided.

EPA Emergency Response Team, EPA (Victoria), Australia

- Managed EPA's 24-hour Emergency Response Team in 1993 and 1994.
- Joined EPA's response team in 1991 after completing a Hazardous Materials Training Course with the Victorian Country Fire Authority.
- Attended more than 80 incidents on behalf of EPA between 1991 and 1996. These incidents ranged from factory fires, tyre fires, chemical and pesticide spills, road accidents involving hazardous materials, gas and hazardous vapour leaks.
- Advised the combat agency (usually the fire service) at the scene of incidents of the priorities for action, together with other agencies, advice on "combat" procedures that would protect the environment and with others that would protect human health.
- Responsible for initiating clean-up of a suburban electroplating factory where bulk acids, cyanide complexes and other hazardous materials had been abandoned. The state of the factory at the time of the inspection was such that it posed a serious hazard to nearby residents and to students at a tertiary and further education complex that was adjacent to the site.

Expert Opinion, Phillips Fox Lawyers, Australia

- Provided expert opinion to Phillips Fox for a consulting company and its professional indemnity insurer involved in litigation with a construction company. The construction company made claims about the quality of work conducted by the consulting company at a former health facility site.
- Provided advice focussed on whether the environmental site assessment work conducted was of a reasonable standard. The case proceeded to settlement.



Expert Opinion, Madgwicks Solicitors, Australia

 Provided expert opinion to Madgwicks on behalf of a client who owned a service station site in suburban Melbourne. The client was concerned that the lessee had affected the value of his property by not taking adequate actions to prevent contamination / pollution at the site due to leaking fuel tanks. The case proceeded to settlement.

Expert Opinion, Jerrard & Stuk Lawyers, Australia

 Provided expert opinion to Jerrard & Stuk's client, the owner of a former service station site in Tasmania. The property owner required an opinion about the adequacy of environmental site assessment work conducted in 1992.

Expert Witness Statements and environmental oversight, EPA (Victoria), Australia

- Preparation of expert witness statements for potential prosecution cases involving chemical spills and soil contamination.
- Representing EPA at emergency incidents to provide environmental oversight of clean ups and emergency agency responses to incidents.

Publications

Redevelopment of the Former Kodak
 Manufacturing and Distribution Plant in the
 heart of suburban Melbourne -Challenges
 for a system of Environmental Audit; in
 Environmental Geotechnology and Global
 Sustainable Development 2008,
 Proceedings of the 9th International
 Symposium on Environmental
 Geotechnology and Global Sustainable
 Development; Eds. Albert T. Yeung and
 Irene M.C Lo.

Authors: Michael Main and Phil Sinclair.

 Third-Party auditing of the Assessment and Remediation of Four Rural Manufacturing Gasworks, Victoria, Australia; in a special edition of Land Contamination and Reclamation Vol 14 (2) titled International Symposium and exhibition on the redevelopment of manufactured gas plant site, 4-6 April 2006.

Authors: P Sinclair, S Richards & F Howe.

 Integrating the Development and Auditing of Cairnlea, the Former Albion Explosives Factory, Environmental Geotechnics.
 Proceedings of the 2nd Australia & New Zealand Conference on Environmental Geotechnics, Newcastle, November 2001,

Authors: Sinclair P, Creek A & Marshall T.

 Trace metals in suspended particulate matter from the Yarra River, Australia. Hydrobiologia 176/177: 239-51 (1989).

Authors: Sinclair P L, Beckett R & Hart B T.

 The transport of pollutants by suspended sediment in the Yarra River. Report to the Environment Protection Authority (Victoria).

Authors: Sinclair P L, Hart B T & Beckett R.

 The nature and bioavailability of particulate phosphorus presented at the Australian Water and Wastewater Association conference, May 1983.

Authors: Hart B T, Beckett R, Sinclair P L, Weston B A, Smalls I C and Shaw S.

 Pollution from recreational boating in the bays and arms of the Gippsland Lakes.
 Ministry for Conservation - Environmental Studies Series Publication No. 268.

Author: Sinclair P L.

Presentations

- EcoForum 2016. Successful, safe housing development on a polluted planet Authors: Phil Sinclair, Stephen Cambridge, Dr Sarah Richards, Nick Woodford
- EcoForum 2016. Should we have independent verification of contaminated site clean up?
- Clean Up 2015. Data Quality Issues Assessor and Auditor perspectives.
- Clean Up 2013. Landfill Gas & Development Approvals: Regulatory Requirements in Australian Jurisdictions; 17 September 2013.
- ALGA Forum. Post Closure Site Management forum. – 4 August 2010. An Auditor's Perspective - 'Post Closure' Site Management.
- VPELA / ALGA Planning and Contaminated Land Seminar. Audit Practice – Yesterday, Today, Tomorrow; 16 March 2010.



- EcoForum 2010 conference, Sydney;
 Management Plans for Remnant Site
 Contamination Practical Application of the
 Principles of Sustainable Development. Co-author with Tony Scott; 23 February 2010.
- CRC CARE Clean Up 09 Conference, Adelaide, September 2009. Co-author with Tim Marshall. How to Avoid Explosive Situations on Contaminated Sites – Lessons Learnt from the Albion Explosives Site, Melbourne.
- CRC CARE Clean Up 09 Conference, Adelaide, September 2009. Co-author with Anna Cochrane and Kate Fairway. Landfill gas control measures for building protection incorporating a cold sprayapplied methane-proof membrane.
- EcoForum 2009, Sydney, April 2009. Coauthor with Michael Main. Use of Nitrate Nitrogen Isotopic Signature to Determine Source of Nitrate Pollution in Groundwater. Presented by Michael Main.
- CRC CARE Clean Up 07 Conference, Adelaide, June 2007. Co-author with Casey O'Farrell and Sarah Richards of presentation Naphthalene analysis in water samples – are we detecting it all?
 Presented by Sarah Richards.
- CRC CARE Clean Up 07 Conference, Adelaide, June 2007. Co-author with John Throssell of presentation Aesthetics and Groundwater Clean Up Remediation and Auditing of a Foreshore Residential Property Southern Victoria. Presented by John Throssell.
- Siena University, Italy and Wessex Institute of Technology. Brownfields 2004 – Assessment, Rehabilitation and Development. The former Albion explosives factory: cordite and TNT to suburban dream. Principal author, coauthors: Tim Marshall & Adam Creek, 15 June 2004.
- NATO-CCMS (North Atlantic Treaty Organization – Committee for the Challenges of Modern Society). Pilot Program - Evaluation of Demonstrated and Emerging Technologies for Treatment of Contaminated Land and Groundwater. Presentation Contaminated Land Auditing in Victoria, Australia - A Risk Sharing System. 13 September 2001.

- Urban Development Institute of Australia, South Australian Chapter; Contaminated Land Auditing 19 April 2001.
- Institute of Engineers Australia and Risk Management Society, Melbourne (June 1997).
- Australian Geomechanics Society: "Contaminated Land and the ANZECC/NHMRC Guidelines" (April 1997).
- Auditor Induction Course, Melbourne (April 1997).
- Introduction to Statutory Environmental Auditing, South Australian Workshop, Adelaide (July 1996).
- First International Conference on Contaminants and the Soil Environment in the Australia-Pacific Region, Adelaide (February 1996).
- Australian Chamber of Manufacturers: Seminar Series, Melbourne (April 1996, March 1997).
- Australian Chamber of Manufacturers/Australian Water and Wastewater Association: Contaminated Sites Conference: New Laws, Guidelines and Remediation Technologies, Sydney (December 1995).

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