

## REPORT ON ENVIRONMENTAL DUE **DILIGENCE REVIEW AND ADVICE**

# FORMER CLAYTON WEST PRIMARY SCHOOL, 10 ALVINA STREET, OAKLEIGH SOUTH, VICTORIA

Submitted to: Victorian Urban Development Authority Attention: Ms Jodi Kennedy Level 6, 120 Harbour Esplanade Docklands Victoria 3008

Report Number: Distribution:

097613052 001 R Rev0

x2 Coples - VicUrban

x2 Copies - Golder Associates Pty Ltd





## **Table of Contents**

1.0	INTROD	UCTION	, T
	1.1	General	. 1 .1
	4.0	Bookground and Aims of Assessment	. !
	1.3	Scope of Work	
2.0	SITE SE	TTING	.2
	2.1	Copyright Setting	. 4
	2.2	Site Tenggraphy and Drainage	
	2.3	Site Genloav	
3.0	DOCUM	ENTATION REVIEW AND SITE INSPECTION	3
	3.1	Share 4 and Phase 2 Environmental Site Assessment, Atma Environmental 2008 Administration of the Control of the	
	3.2	Talket Avenue Quarry	.,4
	3.3	Site Inspection and Underground Services	4
4.0	ASSES	CMENT ADDDOACH AND CRITERIA	., 5
	4.1	Assessment Approach	٠, ٠
	4.2	I and Beneficial Uses	., 0
5.0	SOIL A	2250NICHT	6
	5.1	Compa of Marke	0
	5.2	Call Campling	4,10
	5.3	Soil Analytical Laboratory Programme	(
6.0	GROU	ID CONDITIONS AND FIFE O MEASUREMENT RESULTS	7
	6.1	Pub purface Ground Conditions	.,. 1
	6.2	Apethotic Observations - Soil	O
	6.3	Underground Services	.,, 0
7.0	DISCU	PRION OF SOIL RESULTS	9
	7.1	Protection of Reneficial Lises - Soil Analysis Results	ษ
	7,1.1	Protection of the Environment	٠ ٢
	7.1,2	Protection of Human Health	ىك
	7.1.3	Aesthetics	ت م
	7,1.4	Buildings and Structures	. 14.
8.0	QA/Q0	ASSESSMENT AND RESULTS	.10
	8.1	Caparal	, , , ,
	8.2	QA/QC Summary	, 1 <b>u</b>
9.0	SUMM	ARY OF ASSESSMENT FINDINGS	. Tí
40.4	2 COMP	USIONS AND RECOMMENDATIONS	. 11
ŧ ₩,1	10.1	Retential Contamination Risks and Liabilities	. ! !
	10.2	Implications for the Proposed Site Redevelopment	. 11
		•	



## DUE DILIGENCE ASSESSMENT L FORMER CLAYTON WEST PS

11.0 LIMITA	ATIONS OF THIS REPORT12
TABLES	
Table 1: Site	Inspection Report
Table 2: Prot	ected Beneficial Uses of Land
Table 3: Sum	nmary of Subsurface Conditions Test Pits and Trenches8
APPENDICE	SS S
Appendix A:	Figures
Appendix B:	DPCD Reports
Appendix C:	Assessment Approach and Criteria
Appendix D:	Borehole and Test Pit Logs
Appendix E:	Analysis Results Tables
Appendix F:	Laboratory Analysis Certificates and Chain of Custody Forms
Appendix G:	Quality Assurance and Quality Control
Appendix H:	Limitations



### 1.0 INTRODUCTION

#### 1.1 General

Golder Associates Pty Ltd (Golder Associates) was engaged by the Victorian Urban Development Authority (VicUrban) to undertake an environmental due diligence assessment ('the Assessment') and provide advice in relation to the potential purchase of the former Clayton West Primary School at 10 Alvina Street, Oakleigh South, Victoria ('the Site'). The Assessment was undertaken in general accordance with the proposal P87613064 001 P Rev 0 from 9 February 2008. A Site Location Plan is included as Figure 1 – Site Location Plan in Appendix A.

## 1.2 Background and Aims of Assessment

It is understood that VicUrban is considering the purchase and redevelopment of the former Clayton West PS property located at Alvina Street, Oakleigh South for residential use. Prior to purchasing the site from the Department of Education and Early Childhood Development (DEECD) VicUrban needs to assess whether there are unresolved site contamination issues which need to be further addressed and potentially rectified.

Atma Environmental has completed a Phase 1 Environmental Site Assessment (ESA) in February 2008 and Phase 2 ESA in October 2008. These reports have been reviewed as part of this assessment.

At this stage we understand that the site is unlikely to require an Environmental Audit to be redeveloped for residential use as it was used as a sensitive land use in the past (primary school) and will remain a sensitive land use. This position will require clarification with the responsible Planning Authority.

Given the above, the aims of the Assessment were to:

- Identify potential contamination issues that may still exist at the Site and may impact upon the redevelopment process and proposed intended use of the Site;
- Reduce uncertainty that could still be associated with the contamination status of the Site to aid the land purchase process

### 1.3 Scope of Work

The scope of the due diligence work described in this document includes the following tasks:

- Task 1- Site Inspection and Documentation Review:
  - Review the Atma reports on the site in more detail;
  - Obtain information on the quarry to the south west of the site to assess its current and potential future status to evaluate its potential contamination impact on the site;
  - Via VicUrban, source and review plans of the former building on the site to assess the location and type of former underground services and also the potential location of footings; and
  - Undertake a site inspection, including an inspection of residual rubble associated with the former building areas.
- Task 2 Site Investigation:
  - Undertake excavation of five backhoe test trenches in the area of potential underground services to assess whether they remain and whether they are constructed of asbestos containing material (ACM);
  - Undertake excavation of eight backhoe test pits in the area of the former buildings to assess the thickness and quality of the overlying fill and assess the potential for significant building rubble;





# DUE DILIGENCE ASSESSMENT - FORMER CLAYTON WEST

- Undertake one test pit excavation into each of the two former UST pits to visually assess the fill
  used to backfill the pits and to take one sample from each pit to assist in assessment of the fill;
- Collection of six surface samples in the northern half of the site to assess for pesticides in soil. The soil sampling included one primary and one secondary duplicate for QA purposes;
- Collection of two specimen samples of fibre cement sheeting and four soil samples from the footprint of the main building and analysis for asbestos fibres, and
- Analysis of soil samples for the chemicals of interest at a NATA accredited laboratory.
- Task 3 Reporting
  - Provision of an assessment report that presents the findings and recommendations (if any).

#### 2.0 SITE SETTING

### 2.1 General Site Setting

As part of the assessment, a site walkover was undertaken on the 26<sup>th</sup> of February 2009. Details of the site inspection are summarised below in Table 1.

Table 1:	Site	Inspection Report
----------	------	-------------------

Site	10 Alvina Street, Oakleigh South
Title Details	Volume 8271 Folio 535 – Lot 1 on Title Plan 232530 and Lot 1 on Title Plan 232531
Area  Date of Inspection	Approximately 2.06 ha 26 February 2009
Location Current and Surrounding Land Use Activities	To the west of Alvina Street, Oakleigh South (refer to Figure 1).  The site is currently a vacant block of land, with the buildings and structures of the former primary school demolished. The site is bounded by cyclone fencing on the western side, and wooden fences on all other sides. The surrounding land use is mostly residential, with a former disused sand quarry on the south-western side of the site.
General Site Description All Previous Investigations	Refer Section 3.3  See Section 3 of this report:
	<ul> <li>Atma Environmental (February 2008) Phase 1 Environmental Site Assessment</li> <li>Atma Environmental (October 2008) Phase 2 Environmental Site Assessment</li> </ul>

## 2.2 Site Topography and Drainage

The site topography is general flat, with a slight slope of about 1-2% across the site towards the south-west. The lowest point of the Site is the south-western corner. It is likely that any surface water runoff would infiltrate within the Site due to the low slope, sandy soils and large vegetated areas.

### 2.3 Site Geology

The 1:63,360 geological Melbourne Map sheet indicates that the property is located over the Brighton Group Formation with Tertiary age sediments consisting of non-marine sands, sandy clay, silt and gravel, as well as shelly silty sands and ferruginous sand.





# DUE DILIGENCE ASSESSMENT - FORMER CLAYTON WEST

# 3.0 DOCUMENTATION REVIEW AND SITE INSPECTION

# 3.1 Phase 1 and Phase 2 Environmental Site Assessment, Atma Environmental 2008

Atma Environmental has completed a Phase 1 Environmental Site Assessment (ESA) in February 2008 and Phase 2 ESA in October 2008, with both of the reports being made available to Golder Associates. A summary of the findings of the two reports is provided below:

Site History: The site was privately owned and the northern section of the site used as a market garden area until 1960, when the property was bought by the Crown. The main school buildings were constructed shortly afterwards. Over the next years the outlying classrooms were constructed, and the sports oval in the southern part of the site added. All buildings and structures were demolished in mid 2008.

Contamination Assessment: Atma Environmental conducted a soil sampling and analysis program in September 2008. Potential sources of contamination identified by the Phase 1 site assessment included:

- Imported fill used for landscaping purposes;
- Potential leakage from two underground fuel storage tanks identified;
- A potential market garden that may have existed in the northern section of the site.

Given the outcomes of Phase 1 assessment, a soil investigation was undertaken by Atma as well as the removal and validation of two underground storage tanks as part of the Phase 2 ESA. The 32 sampling locations were placed in a loose grid over the majority of the Site (refer to Figure 2, Appendix A). No obvious visual or olfactory signs of contamination were identified, and all soil results complied with the applicable NEPM HIL-A for residential use in the two discrete and 16 composite samples analysed. Based on the findings of the analytical results from the soil samples collected, Atma concluded that the site did not contain contaminant levels potentially "harmful to human health" for the proposed residential landuse. Atma did indicate that acidic soil conditions on some areas were found that may impact on plant growth. A groundwater investigation was not considered warranted by Atma given the soil sampling results.

A review of both the Phase 1 ESA and the Phase 2 ESA by Golder Associates Identified the following Issues that warranted further consideration:

- The choice by Atma of using composite soil sample analysis method is not considered appropriate for an assessment of this type. While the results did indicate a low risk of contamination, some uncertainty regarding the potential for pesticide contamination on the northern part of site, which had been used as a market garden, remained;
- The sand quarry to the immediate south west of the site appears not to have been considered as part of the assessment;
- The potential past use of the northern part of the site as a market garden may have lead to an increased risk of nitrate contamination of the groundwater beneath the site. This would lead to a low impact on the use of the land but would become a more significant potential risk if an Environmental Audit is required for the site and groundwater is required to be assessed;
- The ESA included no documentation as to the status of underground services on the site and the potential for them to be made of asbestos containing materials (ACMs). Sites of this era in particular commonly have water pipes made of ACMs, and underground services may remain in the ground after demolition of the above ground structures;
- Whilst the validation of the tank removal has been documented, there is no documentation of the soil used to fill the tank pits and also the geotechnical conditions under which the soil was placed. The fate



a -



#### DUE DILIGENCE ASSESSMENT : FORMER CLAYTON WEST PS

of the sampled soils from the tank pits and the source of the soils used to backfill the pits had not been documented; and

Demolition of the site often leads to trenches being created from which footings have been removed. Quite often, these trenches are just backfilled with rubble from the demolition. In addition, a small amount of demolition rubble is often left over the site in the area of demolished buildings. In both cases, the rubble present an aesthetic issue for the proposed residential use as well as a geotechnical issue for deeper areas. Removal of this material can lead to increased costs for the developer.

The Issues identified in the review of the Atma ESAs are addressed in the following sections of this report.

#### 3.2 Talbot Avenue Quarry

To the immediate south west of the site is the inactive Talbot Avenue sand quarry. The Planning Property Report for the quarry, which is listed as 22 Talbot Avenue, available on the Department of Planning and Community Development (DPCD) website, shows that the quarry is currently listed as a Special Use Zone – Schedule 2 (SUZ2) for extractive industry.

The DPCD Property Report lists 23 individual parcels as belonging to the property, with the PPCD Planning Map showing a residential subdivision in the northern part of the quarry which includes the extension of Talbot Avenue and Alvina Street into the new development. The DPCD reports are attached as Appendix B.

The head of the town planning department of the City of Monash, Margaret Davis, advised that the part of 22 Talbot Avenue adjoining the site is currently zoned SUZ2, and that this classification will not be changing for the foreseeable future. This part of the Talbot Avenue quarry has issues with sand slimes and uncontrolled fill which need to be resolved prior to rezoning. However, a future use as a landfill is not permissible due to the lithology and groundwater at the site, and a future rezoning would either be medium to high density residential or commercial use. Ms. Davis also advised that the information on the PPCD Planning Map was incorrect, and that a future development would not consist of small, individual lots.

Given this, it is unlikely that the Talbot Avenue site presents an unacceptable contamination risk to the site now or in the foreseeable future in its current state.

## 3.3 Site Inspection and Underground Services

As part of the assessment, a site walkover was undertaken on the 26<sup>th</sup> of February 2009. The site is currently a vacant block of land, with the buildings and structures of the former primary school demolished. The site is bound by cyclone fencing on the western side, and wooden fences on all other sides. The surrounding land use is mostly residential, with a former disused sand quarry on the south-western side of the site.

A footpath connects the site with Scotsburn Avenue to the east, and both the fence blocking the footpath and the main gates of the site have been damaged and partly removed, with evidence of regular foot traffic evident across the site.

Weeds, grasses and some small trees (5 to 10 metres in height) cover the site, with a number of higher oak and eucalyptus trees (10 to 15 m in height) along the boundaries of the site. Associated with the recent demolition of the buildings on the site, some very minor amounts of small building rubble can be seen within the footprint of the former buildings. The rubble seems to be restricted to the surface of the site, and is coin to hand sized with some fibre cement sheet fragments also evident.

The pits of the former UST have been backfilled, with no indication of their locations visible.

An inspection of the site for evidence of remaining underground services showed:

- A large steel pipe of about 20 cm diameter is visible in a shallow pit to the north of the former building. This pipe probably was part of the fire hydrant system.
- A small PVC drain pipe protruded from the ground to the west of the former main building.





# DUE DILIGENCE ASSESSMENT - FORMER CLAYTON WEST

- The water mains, visible in an above ground section in the western part of the site adjacent to Alvina Street, have been disconnected, with the mains pipe evidently still in situ within the site.
- Fragments of earthen ware pipes from the drain/sewer system were scattered among the remaining building rubble within the footprint of the main building.
- No fibre cement pipe fragments were found.

# 4.0 ASSESSMENT APPROACH AND CRITERIA

### 4.1 Assessment Approach

The soil assessment sampling strategy implemented was generally consistent with the design principles of Australian Standard AS4482.1 – 2005 "Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds" (AS4482.1 – 2005) and AS4482.2 – 1999 "Guide to the Sampling of Potentially Contaminated Soil, Part 2: Volatile substances" (AS4482.2, 1999) for the sampling and investigation of potentially contaminated soils.

Based on the review of the Atma Phase 1 and Phase 2 ESA, potential contaminants of interest remaining to be assessed were found to be organochlorine pesticides in the area of former market garden activity, as well as assessment of the soil quality of the material used to backfill the former tank pits.

Investigation locations within the area of former market gardening activity were positioned in a grid across the northern part of the site, and the backfilled former UST locations excavated and sampled.

### 4.2 Land Beneficial Uses

Indicators and objectives for protection of beneficial uses of land are set out in the State Environment Protection Policy (Prevention and Management of Contamination of Land) (Land SEPP).

It is understood that VicUrban plan to develop the Site for a low to medium density residential use. The Land SEPP outlines Land Use Categories and specifies beneficial uses which are be protected for land use categories.

Table 2 below summarises the adopted land use categories and the relevant beneficial uses for low and medium density residential use.



نہ کا



# DUE DILIGENCE ASSESSMENT - FORMER GLAYTON WEST

#### Table 2: Protected Beneficial Uses of Land

Beneficial Use To Be Protected  Maintenance of Ecosystems:	or Sensitive Use = Medium	Any Beneficial Use
Natural Ecosystems	×	✓
Modified Ecosystems	✓	✓
Highly Modified Ecosystems	✓	✓
Human Health Buildings and Structures		
Aesthetics Production of food, flora and fibre	<b>✓</b>	

The Land SEPP outlines indicators and objectives for land, based on the relevant beneficial uses which are described in detail in Appendix C of this report.

#### 5.0 SOIL ASSESSMENT

#### 5.1 Scope of Works

The soil assessment fieldwork was undertaken on 3 March 2009 and comprised the excavation of ten test pits (TP1 to TP8, UST1 and UST2), and five test trenches using a rubber tyred backhoe. The pits and trenches were excavated to a depth of generally 1 m below ground level (mbgl) with exception of the test pits UST1 and UST2 at the former UST locations, which were excavated to a depth of 2.4 mbgl (see Figure 3).

Prior to earthworks commencing, a Dial Before You Dig search for underground services at the site and a site inspection were conducted. As no plans of the former buildings were available, aerial photographs of the buildings were used to locate the five test trenches for the underground services assessment.

Additionally, surface soil samples were taken for pesticide analysis from six locations (BH1 to BH6) within the northern part of the site. Four surface soil samples (AS1 to AS4) were also taken from the footprint of the main building and analysed for the presence of asbestos fibres, together with two fibre cement sheet fragments found on site.

A representative from Golder Associates observed the work, logged the sub-surface conditions and nominated locations for the collection of samples. The soil profile was logged and visual or olfactory evidence of contamination (if any) was noted. One sample per location was collected in the fill soils of locations UST1 and UST2, and one sample per location at BH1 to BH6.

### 5.2 Soil Sampling

Soil sampling was undertaken in general accordance with Golder Associates standard sampling protocols and in general accordance with the requirements of AS4482.1 – 2005 including the collection and laboratory analysis of duplicate samples at a minimum rate of one primary duplicate for every 20 primary samples. Secondary duplicate samples were also collected. Primary samples were inspected and ranked for the presence of visual or olfactory evidence of contamination.

The following quality control procedures were also conducted during the field investigation:

- Tracking of sample movements using CoC documentation;
- use of NATA registered laboratories for chemical analyses; and



Assessment of performance of internal laboratory control tests.

Soil samples were collected in jars which were capped with Teflon lined lids supplied by the laboratory. The jars were labelled immediately and stored in a chilled cool-box. The samples were then dispatched to the laboratory accompanied by chain of custody (CoC) documentation. Sampling equipment was washed between sampling locations and, where necessary, between sampling depths to minimise the possibility of cross-contamination.

Primary samples were submitted to the nominated primary laboratory, Ecowise Environmental (Ecowise), which is registered by the National Association of Testing Authorities (NATA) for the analyses performed. One secondary sample was submitted to ALS Laboratory Group which is also registered by NATA. Asbestos analysis was performed by the asbestos and synthetic mineral fibre laboratory Identifibre Pty Ltd.

A description of the soils encountered and samples collected is recorded in the field logs presented in Appendix D. A plan of the soil assessment sample locations is presented as Figure 2 – Soil Assessment Locations in Appendix A.

## 5.3 Soil Analytical Laboratory Programme

The soil chemical analytical schedule included the analysis for a range of contaminants previously identified as being the contaminants of interest. Samples taken from the former market garden area in the northern part of the site were tested for organochlorine pesticides (OCP). Soil samples taken from the two test pits at the former UST locations were analysed for the contaminants listed in EPA Publication 448.3 (Classification of Waste) Table 2, including:

- Metals (including arsenic, cadmium, copper, lead, mercury, nickel, tin, selenium, silver, zinc)
- Organochlorine pesticides (OCP)
- Total petroleum hydrocarbons (TPH)
- Benzene, Ethylbenzene, Toluene and Xylene (BTEX)
- Polycyclic aromatic hydrocarbons (PAH)
- Polychlorinated blphenyls (PCB)
- Phenols
- # Fluoride

Two specimen samples and four soil samples were also analysed for the presence of asbestos fibres. The final analyses selected for each sample is shown in the soil samples CoC documentation included in Appendix D.

# 6.0 GROUND CONDITIONS AND FIELD MEASUREMENT RESULTS

## 6.1 Sub-surface Ground Conditions

The subsurface conditions encountered on the Site during Golder Associates field assessment are presented in the soil logs in Appendix B along with a summary of the Notes and Abbreviations used and the Method of Soil Classification.

A description and summary of the main subsurface units encountered in the boreholes drilled as part of this investigation is provided below.



Ü



# DUE DILIGENCE ASSESSMENT - FORMER CLAYTON WEST

#### Unit 1 - FILL( Sand)

Fill soils were generally encountered in the area of the former buildings and consisted of reworked homogenous fine grained grey sands with minor amounts of brick and tile fragments and gravel.

The fill soils in the area of the former buildings were found to extend to depths of approximately 0.4 to 0.7 mbgl, and were often associated with drainage pipes. In the former tank pits the fill soils were observed to a depth of 1.8 to 1.9 mbgl. The fill soils typically exhibited no visible evidence of contamination and no non-natural odours were identified.

#### Unit 2 - SAND (Inferred Brighton Group Sediments)

In all test pits, underlying the Unit 1 fill in some areas, but generally present below surface grass, dark brown to grey, fine grained, homogenous sand was encountered. The dark brown colour was associated with organic material in the surface layer and generally turned grey to light grey within 0.3 metres from the surface. These sediments are inferred to belong to the tertiary Brighton Group.

The Unit 2 material was encountered at depths ranging from about surface level to 1.9 mbgl.

#### Unit 3 -SAND (Inferred Brighton Group Sediments)

In the two UST test pits, yellow medium grained sands were encountered at depth of 1.9 to 2.4 mbgl. These sediments are inferred to belong to the tertiary Brighton Group. Both UST test pits were terminated in this unit at a depth of 2.4 mbgl.

Table 3 present summaries of the subsurface units encountered in the test pits and trenches and their respective depth intervals.

Table 3: Summary of Subsurface Conditions Test Pits and Trenches

e profit de despris			and the state of t
	Unit	Description	Unit Depth Interval (m)
A Complete Constitution of the Constitution of	<b>1</b> 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	FILL (Grey Sand)	0.0 = 0.7 (1.9)
	2	Grey SAND	0.0 – 1.9
e opene og det en	2	Yellow SAND	1.9 – 2.4*

<sup>\*</sup>In the UST test pits

The subsurface materials encountered during the field investigation are generally consistent with the published geological information for the area.

#### 6.2 Aesthetic Observations - Soil

Visual and olfactory assessment of the soil samples was undertaken as described in Section 5.1, soil descriptions are presented in the soil logs included as Appendix D. The fill soils typically exhibited no visible evidence of contamination and no non-natural odours were identified. Within the footprint of the former buildings, minor amounts of residual building rubble were observed.

### 6.3 Underground Services

Aerial photographs of the former buildings were used in conjunction with Dial Before You Dig information and site observations to locate the test trenches for the underground services assessment.

An inspection of the site for evidence of remaining underground services showed a large steel pipe of about 20 cm diameter in a shallow pit to the north and a small PVC drain pipe protruding from the ground to the west of the former main building.





# Due diligence assessment - Former Clayton Wes

A total of five test trenches were excavated in locations likely to contain services or where remnant serices had been observed (see Figure 3).

Only short lengths of remaining steel and PVC pipes were found in those locations, with underground services generally removed during the demolition of the structures on site. The section of steel pipe observed had been cut to a length of approximately 2 m, with the section remaining in place due to a tree growing on top of it.

Fragments of earthen ware pipes from the drain/sewer system were scattered among the remaining building rubble within the footprint of the main building, further indicating that the sewer and drainage system on site had been removed during the demolition.

### 7.0 DISCUSSION OF SOIL RESULTS

# 7.1 Protection of Beneficial Uses - Soil Analysis Results

The analytical results for soil analysis undertaken at the Site are summarised in Table 1, Appendix E. Laboratory certificates for soil results are presented in Appendix F.

### 7.1.1 Protection of the Environment

Samples from all six locations in the northern part of the site (BH1 to BH6) laboratory tested for organochlorine pesticides complied with the NEPM EIL adopted criteria, as did the soils from the two former UST locations (UST1 and UST2), which were tested for a range of contaminants as listed in EPA Publication 448.3, Table 2.

This is also consistent with the 2 discrete and 16 composite samples tested by Atma Environmental over the site which all complied with the NEPM EIL criteria.

#### 7.1.2 Protection of Human Health

Samples from all eight assessment locations were found to be below the applicable NEPM HIL A guidelines.

- No exceedences of the HIL A guidelines have been reported for any of the soil samples analysed, with all analysis results below the criteria threshold.
- Asbestos fibres were detected in both of the two fibre cement sheeting samples taken from within the footprint of the former main building and analysed for asbestos, with chrysotile, amosite and chrocidolite asbestos identified in the samples. Soil samples taken at four locations within the footprint of the main building and tested for asbestos did not contain asbestos fibres, indicating that the use of asbestos fibre cement sheeting in the construction of the former building and the residual ACM fragments on site is likely to have had a low impact on the soil quality on site.

This is also consistent with the 18 samples tested by Atma Environmental over the site which all complied with the NEPM HIL A criteria.

#### 7.1.3 Aesthetics

Fill was generally observed to a depth ranging between 0.3 m to 1.0 m and consisted mostly of reworked homogenous local grey sands, with only minor traces of brick and tile fragments identifying them as fill. The fill soils typically exhibited no visible evidence of contamination and no non-natural odours were identified. No areas of buried rubble were identified in any of the eight test pits and five test trenches excavated.

Within the footprint of the former buildings, minor amounts of remaining building rubble, which was also indentified in the Atma site assessment, was observed on the surface.



ß

F



# DUE DILIGENCE ASSESSMENT - FORMER CLAYTON WEST

#### 7.1.4 Buildings and Structures

Low levels of pH in soil were found at two of the three locations tested by Atma Environmental, with the lowest level at pH 4.8 and the highest level at pH 6.9. The low levels of pH are likely to be related to the Brighton Group soils underlying the site, and should be considered in the design of future structures on site.

### 8.0 QA/QC ASSESSMENT AND RESULTS

#### 8.1 General

A data quality assurance program was implemented as part of the assessment work. The main aspects of the data quality assurance relate to the collection of quality control samples and generation of internal laboratory quality control data to support the reported results and the assessment of laboratory results.

The field work for this investigation was carried out in general accordance with Golder Associates' Environmental Field Manual, conducted under the Golder Associates' Quality System which operates in accordance with AS/NZS ISO 9001:2000.

The quality of the laboratory data generated was supported with appropriate laboratory quality control samples and assessed using standard methods. Quality control samples consisting of internal spikes, duplicates and method blanks were analysed as part of the laboratory quality assurance/quality control (QA/QC) program.

#### 8.2 QA/QC Summary

The QA/QC objectives and results are presented in Appendix I. The achieved QA/QC completeness of 100% is above the overall completeness objective of 95%. Based on this, it is considered that the overall data quality generated during the assessment of soils by Golder Associates is of sufficient quality upon which to base decisions for this assessment.

#### 9.0 SUMMARY OF ASSESSMENT FINDINGS

No exceedences of the health investigation levels (HIL) A (i.e. residential scenario with access to soil) guidelines or the ecological investigation levels (EIL) have been reported for the eight soil samples analysed by Golder Associates and the eighteen soil samples analysed by Atma Environmental, with all analysis results well below the criteria threshold. No asbestos fibres were detected in any of the four soil samples taken from the footprint of the former building and analysed for asbestos, indicating that the use of asbestos fibre cement sheeting in the construction of the former building is likely to have had a low impact on the soil quality on site...

A preliminary comparison of the analysis results from the two former UST pits with current off-site disposal classification guidelines (*EPA Publication 448.3 Classification of Wastes*, EPA May 2007) has shown that the material meet the adopted criteria for the proposed medium density residential use of the site.

It should be noted that while no asbestos fibres were detected in the tested soil samples, two fibre cement sheet fragments, chosen randomly from the coin to hand size fragments present on the surface within the footprint of the former building, did contain chrysotlle, amosite and chrocidolite asbestos. These fragments most likely represent residual ACM fibre cement sheeting used in the construction of the buildings.

The underground services on site have generally been removed during the demolition works. The minor sections of piping remaining are expected to have only a low impact on the proposed development.





# DUE DILIGENCE ASSESSMENT : FORMER CLAYTON WEST

## 10.0 CONCLUSIONS AND RECOMMENDATIONS

Golder Associates was engaged by the VicUrban to undertake an environmental due diligence assessment and provide advice in relation to the potential purchase of the former Clayton West Primary School at 10 Alvina Street, Oakleigh South, Victoria. The purpose of the assessment was to reduce the risk of contamination liabilities associated with the purchase of the site. The conclusions and implications for the proposed site redevelopment from the assessment are outlined below.

## 10.1 Potential Contamination Risks and Liabilities

Based on the findings of this assessment it is Golder Associates' opinion that the site presents a low contamination risk to human health and environment for medium-density residential use.

The soil chemical concentrations in the areas tested were all found to be less than onsite (health) criteria for residential use of the site and onsite (ecological) criteria.

Minor amounts of remaining small building rubble were observed within the footprint of the former buildings. The amount and nature of the rubble conforms to what can be expected to remain after properly managed demolition works, and in our opinion, does not represent an unacceptable aesthetic issue for the site. However, ACM containing fibre cement sheeting fragments are scattered over the surface of the former building footprint. These fragments should be collected by a licensed asbestos removalist, disposed offsite in accordance with State regulations and the building footprint areas be given a certificate from an occupational hygienist confirming that the area is free of visible asbestos.

The Talbot Avenue quarry site was found to be unlikely to present an unacceptable contamination risk to the site in the foreseeable future.

The findings of this assessment suggest the site is unlikely to present a significant contamination liability to VicUrban for the proposed residential use, due to the overall low risk and nature of the soil condition.

## 10.2 Implications for the Proposed Site Redevelopment

The implications for the proposed site development are as follows:

- No further assessment of soils is considered necessary to support this contamination due diligence assessment.
- No assessment of groundwater is considered necessary to support this contamination due diligence assessment due to the absence of contaminants in the soils on site.
- Remaining ACM fragments within the footprint of the former buildings should be collected by a licensed asbestos removalist, disposed offsite in accordance with State regulations and the building footprint areas be given a certificate from an occupational hygienist confirming that the area is free of visible asbestos.
- 4) If excess soils are to be disposed off site, these soils are likely to be classified as "Fill Material", based on the data provided in the Atma reports and our soil assessment. However, testing of the actual material to be disposed offsite would need to be undertaken in accordance with EPA Publication 1178 with classification in accordance with EPA Publication 448.3.

At this stage we understand that the site is unlikely to require an Environmental Audit to be redeveloped for residential use as it was used as a sensitive land use in the past (primary school) and will remain a sensitive land use. This position will require clarification with the Planning Authority. Should an Environmental Audit be required, an Environmental Auditor appointed to the site may have a different opinion to Golder and require further assessment of the site. This would be likely to include an assessment of groundwater quality at the site.



G

15



# DUE DILIGENCE ASSESSMENT - FORMER GLAYTON WEST

### 11.0 LIMITATIONS OF THIS REPORT

Your attention is drawn to the document - "Limitations", which is included in Appendix H of this report. The statements presented in this document are intended to advise you of what your realistic expectations of this report should be. The document is not intended to reduce the level of responsibility accepted by Golder Associates, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing.





# Report Signature Page

**GOLDER ASSOCIATES PTY LTD** 

Chris Weber

Senior Environmental Scientist

tan Kluckow Principal

CW/IMK/cw

A.B.N. 64 006 107 857

j:\env\2009\097613052\carrespondence out\097613052 001 r rev0 final.doc



# **APPENDIX A**

## **Figures**

- 1) Site Location Plan
- 2) Atma Environmental Approximate Soil Sampling Locations 2008
- 3) Soil Sampling and Test Pit Locations



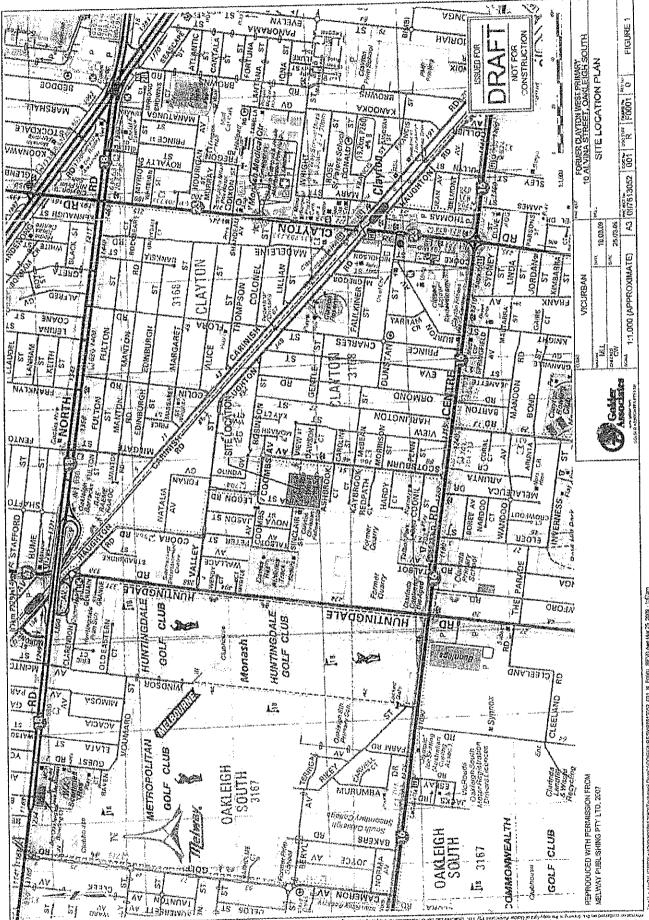
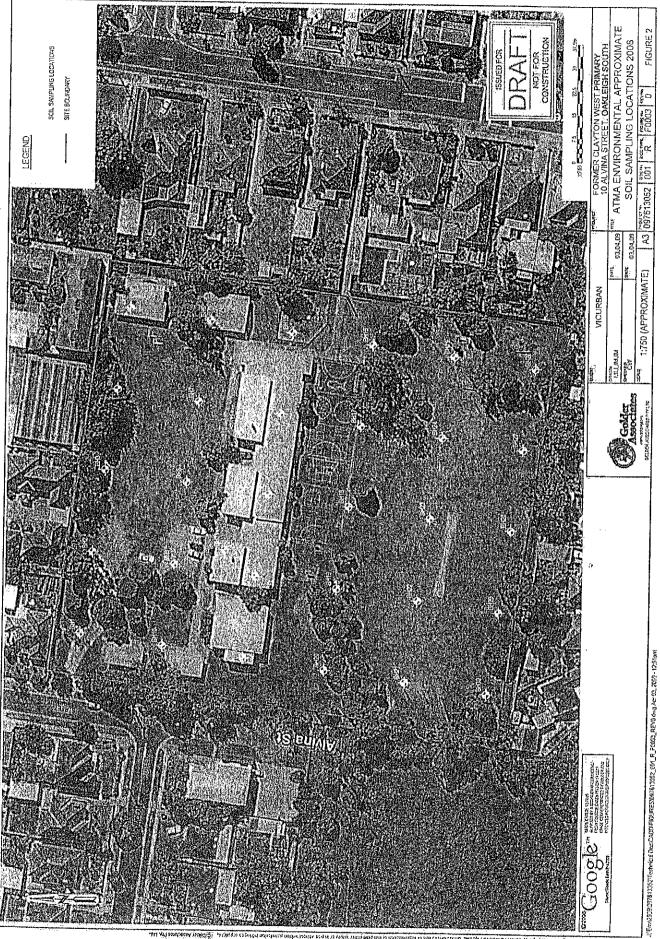
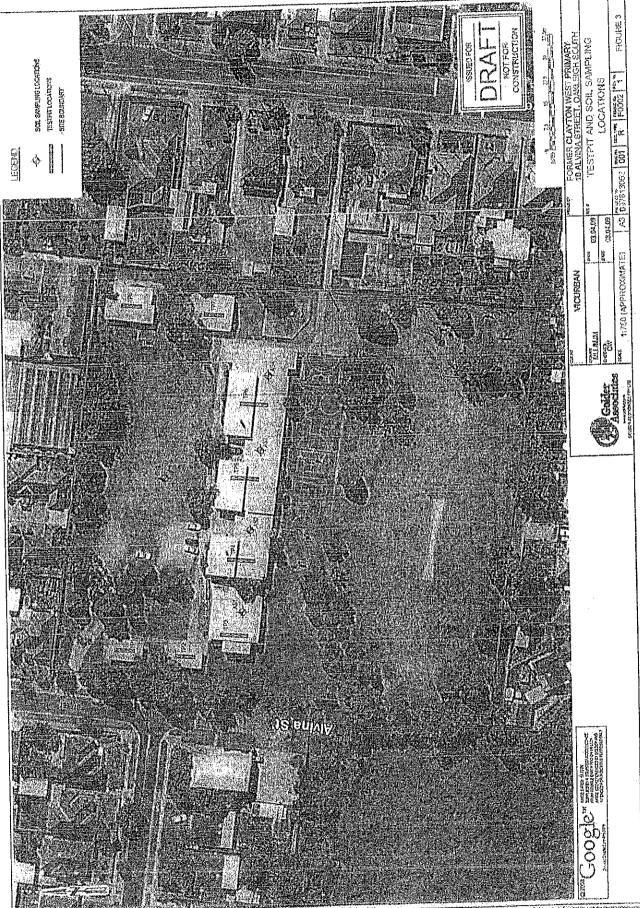


Fig. 1-1-14001 COSTE 1400 SECTION AND THE COST ADDITIONS OF THE SECTION OF THE FOLIO SECTION AND TO THE SECTION OF THE SECTION





SHANKERONS RESERVANCE OF THE CONTROLL OF PRICE, FOUR FOUR FOUR FOUR FOUR FOUR STORMS STORMS

# APPENDIX B

**DPCD Reports** 



# Property Report from www.land.vic.gov.au on 04 March 2009 11:05 AM

Address: 22 TALBOT AVENUE OAKLEIGH SOUTH 3167

Lot and Plan Number: This property has 23 parcels. See table below.

Standard Parcel Identifier (SPI): See table below.

Local Government (Council): MONASH Council Property Number: 231908

Directory Reference: Melway 78 K2

#### Parcel Details

E OIL COLL		Town Description	SPI
Lot/Plan or Crown Description	SPI	Lot/Plan or Crown Description	23\LP12090
Lot 10 LP12090	10\LP12090	Lot 23 LP12090	24\LP12090
Lot 11 LP12090	11\LP12090	Lot 24 LP12090	25\LP12090
Lot 12 LP12090	12\LP12090	Lot 25 LP 12090	26\LP12090
Lot 13 LP12090	13\LP12090	Lot 26 LP12090	27\LP12090
Lot 14 LP12090	14\LP12090	Lot 27 LP12090	28\LP12090
Lot 15 LP12090	15\LP12090	Lot 28 LP12090	29\LP12090
Lot 16 LP12090	16\LP12090	Lot 29 LP12090	30\LP12090
Lot 18 LP12090	18\LP12090	Lot 30 LP12090	31\LP12090
Lot 19 LP12090	19\LP12090	Lot 31 LP12090	33\LP12090
	20\LP12090	Lot 33 LP12090	R1/LP12090
Lot 20 LP12090	21\LP12090	Lot R1 LP12090	11313
Lot 21 LP12090	22\LP12090		
Lot 22 LP12090		<del></del>	

#### State Electorates

Legislative Council: SOUTH EASTERN METROPOLITAN (2005)

Legislative Assembly: CLAYTON (2001)

Rural Water Business: Southern Rural Water Metro Water Business: South East Water Limited Melbourne Water: inside drainage boundary

Power Distributor: UNITED ENERGY DISTRIBUTION (Information about choosing an electricity retailer)

#### Planning Zone Summary

Planning Zones:

RESIDENTIAL 1 ZONE (R1Z)

SCHEDULE TO THE RESIDENTIAL 1 ZONE SPECIAL USE ZONE - SCHEDULE 2 (SUZ2)

SCHEDULE TO THE SPECIAL USE ZONE - SCHEDULE 2

Planning Overlay:

ENVIRONMENTAL AUDIT OVERLAY (EAO)

ENVIRONMENTAL AUDIT OVERLAY (EAO)

Planning scheme data last updated on 26 February 2009.

A planning scheme sets out policies and requirements for the use, development and protection of land. This report provides information about the zone and overlay provisions that apply to the selected land. Information about the State, local, particular and general provisions of the local planning scheme that may affect the use of this land can be obtained by contacting the local council or by visiting Planning Schemes Online

This report is NOT a Planning Certificate issued pursuant to Section 199 of the Planning & Environment Act 1987.

To obtain a Planning Certificate go to Titles and Properly Certificates

To view planning zones, overlay and heritage information in an interactive format visit Planning Maps Online

For other information about planning in Victoria visit www.dpcd.vic.gov.au/planning

Copyright @ - State Government of Victoria

Disclaimer: This content is provided for information purposes only. No claim is made as to the accuracy of authenticity of the content. The Victorian Government does not accept any liability to any person for the information provided. Read the full disclaimer of www.land.vic.gov.au/disclaimer.





Area Map



Copyright © State Government of Victoria

Disclaimer: This content is provided for information purposes only. No claim is made as to the accuracy or authenticity of the content. The Victorian Government does not accept any liability to any person for the information provided. Read the full disclaimer at <a href="https://www.land.vic.gov.au/disclaimer">www.land.vic.gov.au/disclaimer</a>.



22-TALBOT-AVENUE-OAKLEIGH-SOUTH-BASIC-PROPERTY-REPORT

# **Planning Property Report**

From www.dpcd.vic.gov.au/planning on 04 March 2009 11:06 AM

Address: 22 TALBOT AVENUE OAKLEIGH SOUTH 3167

Lot and Plan Number: Lot 10 LP12090

This property has a total of 23 parcels.

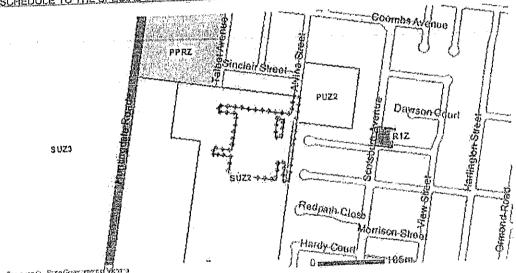
For full parcel details search for this address at Property Reports and get a free Basic Property Report.

Local Government (Council): MONASH Council Property Number: 231908

Directory Reference: Melway 78 K2

### Planning Zones

RESIDENTIAL 1 ZONE (R1Z) SCHEDULE TO THE RESIDENTIAL 1 ZONE SPECIAL USE ZONE - SCHEDULE 2 (SUZ2) SCHEDULE TO THE SPECIAL USE ZONE - SCHEDULE 2



ৈচন্দ্ৰন <del>হোৱা</del>	O San Gale more e year				
					R12 - Residential 1
*** · · · ·	- Lamand		INII - Industrial 1	1	822 - Residential 2
Zones	s Legend	-	IN22 - Industrial 2		R3Z · Residential 3
F1	17 · Business 1		1N3Z · Industrial 3		RAZ - Rural Activity
Property Co.			LDRZ · Low Density Residential	20020000	
Languard	27 - Business 2	*********	MUZ - Mixed Usa		RCZ - Rural Conservation
	32 - Business 3	15026	PCRZ - Public Conservation & Resource		RDZ1 - Road - Category 1
B B	42 - Business 4	10.000	now in the day from language		RDZ2 - Road - Category 7
B 8	52 • Business 5	33			RLZ - Rural Living
Πc	A · Commonwealth Land		PPRZ - Public Park & Recreation		RUZ · Rurel
	CZ - Capital City		PUZ1 - Public Use - Service & Utility		SUZ - Special Use
ARTERIA C	DZ - Comprehensive Development		PUZZ · Public Use · Education	***************************************	
200			PUZ3 · Public Use · Health Community		TZ - Township
	Z1 - Deckland	ļ	PUZ4 - Public Use - Transport		UFZ - Urban Ploodway
# [T]	RZ · Environmental Rural	-	PUZS - Public Use - Cemetery / Crematorium		UGZ - Urban Growth
F	Z · Farming	<u></u>			
一 一 百	IWAZ - Green Wedge A		PUZE Public use total development	-+43 57\$	Urban Growth Boundary
b	WZ · Green Wedge		PUZ7 - Public Use - Other Public Use		

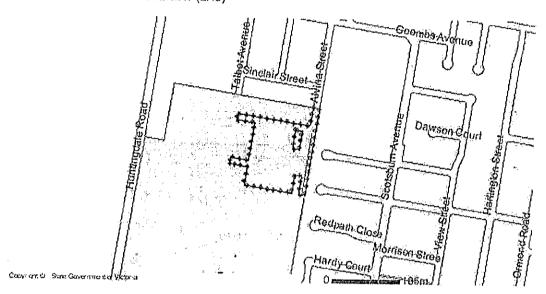
Copyright © - State Government of Victoria
Disclaimer: This content is provided for information purposes only. No claim is made as to the accuracy or authenticity of the content. The Victorian Government does not accept any liability to any person for the information provided. Read the full disclaimer at <a href="https://www.land.vic.dov.au/disclaimer">www.land.vic.dov.au/disclaimer</a>



22-TALBOT-AVENUE-OAKLEIGH-SOUTH-PLANNING PROPERTY-REPORT

#### Planning Overlay

**ENVIRONMENTAL AUDIT OVERLAY (EAO) ENVIRONMENTAL AUDIT OVERLAY (EAO)** 



_					
Ove	rlays Legend		Erosion Management		Public Acquisition
	Airport Environs	4	Floodway		Restructure
	City Link Project	T.	Heritage		Road Closure
$Z\!Z$	Design & Development	22	Incorporated Plan		
$\mathbb{Z}$	Design & Development (Part)		Land Subject to Inundation	-	Significant Landscape
	Development Contributions Plan		Land Subject to inundation & Floodway		Special Building
	Development Plan		Melbourne Airport Environs 1		State Resource
	Environmental Audit	*****	Melbourne Airport Environs 2		Vegetation Protection
	Environmental Significance		Neighbourhood Character		Wildfire Management

Note: due to overlaps some colours on the maps may not match those in the legend.

### **Further Planning Information**

Planning scheme data last updated on 26 February 2009.

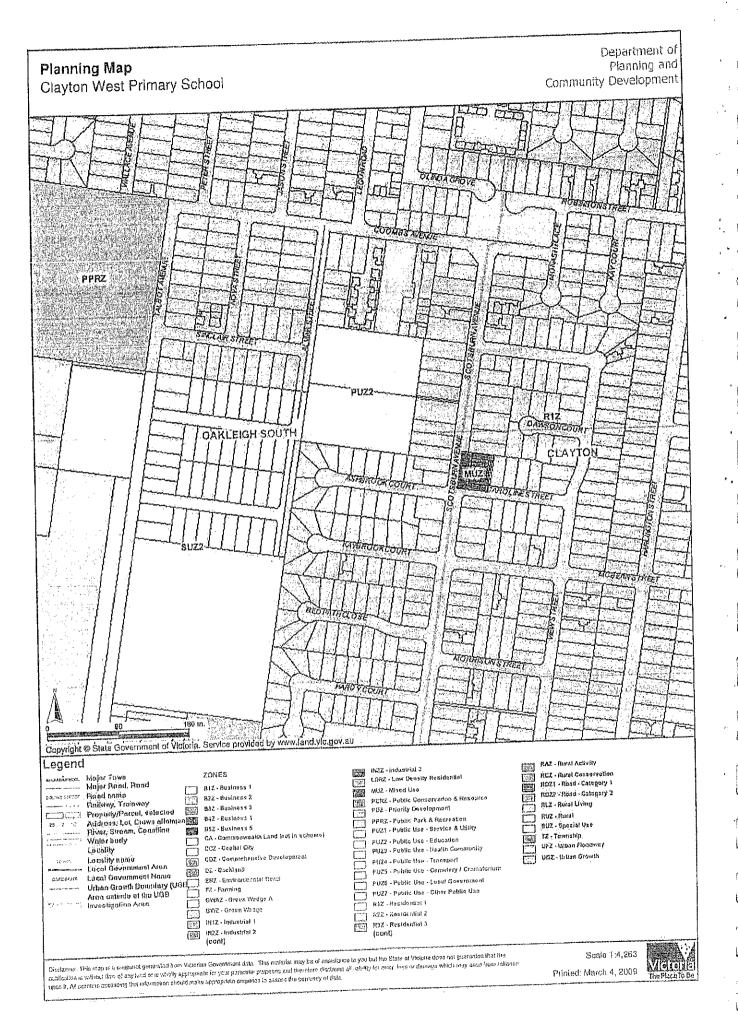
A planning scheme sets out policies and requirements for the use, development and protection of land. This report provides information about the zone and overlay provisions that apply to the selected land. Information about the State, local, particular and general provisions of the local planning scheme that may affect the use of this land can be obtained by contacting the local council or by visiting Planning Schemes Online

This report is NOT a Planning Certificate issued pursuant to Section 199 of the Planning & Environment Act 1987, To obtain a Planning Certificate go to <u>Titles and Property Certificates</u>

To view planning zones, overlay and heritage information in an interactive format visit Planning Maps Online For other information about planning in Victoria visit www.dpcd.vic.gov.au/planning

Copyright © - State Government of Victoria
Disclaimer: This content is provided for information purposes only. No claim is made as to the accuracy or
authenticity of the content. The Victorian Government does not accept any liability to any person for the
information provided. Read the full disclaimer at <a href="https://www.land.vic.gov.au/disclaimer">www.land.vic.gov.au/disclaimer</a>







# **APPENDIX C**

Assessment Approach and Criteria

## Assessment Approach and Criteria

#### SOIL ASSESSMENT CRITERIA - BENEFICIAL USES 1.0

The Land SEPP outlines indicators and objectives for land, based on the relevant beneficial uses. The sections below describe the criteria that will be applied for the beneficial uses relevant to this Site.

#### SOIL ASSESSMENT 1.1

Reference will be made to the National Environment Protection Council (NEPM) Ecological Investigation Levels (EILs) for the protection of the beneficial use of Maintenance of Ecosystems. The criteria outlined in the NEPM are based on a natural ecosystem, although it should be noted that the Site environment reflects a modified ecosystem. For the assessment of ecosystems, the EiLs are referred to in the first instance as a screening tool to identify potential issues, as the EILs are generally set for minimally modified urban ecosystems. In some instances, natural background concentrations of elements may also be in excess of EILs. The NEPM guidelines recommend the development of site specific EILs should this be necessary, such as where significant excursions above the guidelines are consistently encountered. As such, it is important to note that the presence of concentrations of contaminants above the EILs is not necessarily indicative of a risk to the environment.

#### Human Health 1.2

Reference will be made to the NEPM Health Investigation Levels Scenario A (NEPM HIL A). These investigation levels set out concentrations of contaminants for the protection of human health in a standard residential land use setting.

In the absence of readily usable guidelines for petroleum hydrocarbon components as listed in NEPM, the New South Wales EPA "Contaminated Sites: Guidelines for Assessing Service Station Sites", 1994 (NSW EPA, 1994) for total petroleum hydrocarbons (TPH), have been adopted.

In assessing a single population or data set against the NEPM HILs, where exceedences of criteria are observed, the following statistical guidelines can be applied:

- The arithmetic mean of the level of each contaminant is below the relevant HiL;
- The standard deviation is less than half the relevant HiL; and 1
- No individual sample records a concentration in excess of 2.5 times the relevant HIL.

#### Buildings and Structures 1.3

The objective for buildings and structures is to ensure that contamination does not cause the soil to be corrosive, and so affect the integrity of building materials. Potential impact to this beneficial use can be assessed by a review of physical parameters such as pH and sulphate.

#### **Aesthetics** 14

The objective for aesthetics requires that any contamination in the soil "must not cause the land to be offensive to the senses of human beings". In our experience, this is usually taken to mean the presence of waste material (e.g., metal fragments, coke, ash etc), discoloured soil or odours that are not acceptable in accessible areas of soil.





DUE DILIGENCE ASSESSMENT - FORMER CLAYTON WEST PS

# APPENDIX D

**Borehole and Test Pit Logs** 



# REPORT OF TEST PIT: AS1-AS4

CLIENT:

PROJECT:

Fmr Clayton West Primary School Clayton West

POSITION:

SURFACE RL: m DATUM: AHD

PIT DEPTH: 0.10 m

SHEET: 1 OF 1

MACHINE: CONTRACTOR:

LOGGED: TFS

DATE: 3/3/09 DATE: 19/3/09

OCATION: Clayto OB NO: 09761	n West 3052		PIT DEPTH: 0.10 m BUCKET TYPE: Field Material Descript		CHECKED	: CW DATE: 19/3/09
EXCAVATION RESISTANCE WATER (metres)	Sampling SAMPLE OR FIELD TEST	GRAPHIC LOG USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE	CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS
1.0 O. 0.10  1.0 O. 0.10  2.5 O. 0.10		GRAF LOG	FILL - SAND, grey, line grained, homogeneous, small brick and tile fragments  TEST PIY DISCONTINUED @ 0.10 m	OW	000	
2.5						

This report of test pit must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes.

GAP gINT FN. F01e RL2



## REPORT OF TEST PIT: BH1-BH6

PROJECT:

VicUrban

Fmr Clayton West Primary School

LOCATION: JOB NO:

Clayton West 097613052

POSITION:

SURFACE RL: m DATUM: AHD

PIT DEPTH: 0.15 m

SHEET: 1 OF 1

MACHINE:

CONTRACTOR:

LOGGED: TFS DATE: 3/3/09

	JOB NO: 097613052							BUCKET TYPE: CHECKED: CW DATE: 19/0						
		<del></del>	Exca	cavation Sampling					·	Field Material Descr	iptic	-		
	METHOD	RESISTANCE	WATER	DEPTH (metros)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG		SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE	ঠ	STRUCTURE AND ADDITIONAL OBSERVATIONS	
-				0,0					Г	SAND, dark brown, fine grained, homogeneous	Ī	T		<del></del>
RA SECT. EXCEPTION 1. TO A SECT.	WETHOL	ESISTA	N	(Seargeur) 0 (Sear	DEPTH RL.	SAMPLE OR FIELD TEST	RECOVE	GRAPHIC GRAPHIC		SAND, dark brown, fine grained, homogeneous TEST PIT DISCONTINUED @ 0.15 m	MOISTURE	COMSISTE	STRUCTURE AND ADDITIONAL OBSERVATIONS  no adour/staining	
······································			3.		This	e e e e e e e e e e e e e e e e e e e	al h	Load					· ***	

This report of test pit must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes.

GAP gINT FN, F01e RL2



# REPORT OF TEST PIT: TP1-TP8

CLIENT:

VicUrban

SHEET: 1 OF 1 MACHINE:

POSITION:

CONTRACTOR:

LOGGED: TFS

DATE: 3/3/09

SURFACE RL: m DATUM: AHD Fmr Clayton West Primary School PROJECT: PIT DEPTH: 1.00 m DATE: 19/3/09 Clayton West CHECKED: CW LOCATION: BUCKET TYPE: 097813052 JOB NO: Field Material Description Sampling Excavation STRUCTURE AND ADDITIONAL OBSERVATIONS MOISTURE CONSISTENC DENSITY Symbol SOIL / ROCK MATERIAL DESCRIPTION GRAPHIC SAMPLE OR FIELD TEST DEPTH (metres) USC S DEPTH BL No oqour/staining FILL - SAND, grey to light grey, fine grained, homogenous, minor brick and tile fragments, gravel 0.0 No odour/staining SAND, grey to light grey, fine grained, homogenous 0,30 0.5 TEST PIT DISCONTINUED @ 1,00 m Fill depths variable between 0.2 to 0.4m bgl 1.02 THE CALDS OF CPL 19/03/2009 4/25/50 PM 1,5 DOCHGINTI097613952 001.429. 2.5 CAPE, THURWING UP GLB FULL PAGE

This report of test pit must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes.

GAP giNT FN. F01e



## **REPORT OF TEST PIT: TR1-TR5**

CLIENT:

VicUrban

POSITION:

SHEET: 1 OF 1

PROJECT:

Fmr Clayton West Primary School

MACHINE;

LOCATION:

Clayton West

SURFACE RL: m DATUM: AHD

CONTRACTOR: LOGGED: TFS DATE: 3/3/09

JOB NO:

097613052

PIT DEPTH: 1.00 m BUCKET TYPE:

CHECKED: CW D

DATE: 19/3/09

f	Excavation Sampling					Sampling		T					IECKED: CW DATE: 19/3/	)9
		T	7	<u> </u>	T		T_	-	T-	Field Material Descr				
	METHOD	EXCAVATION RESISTANCE	WATER	O DEPTH (metres)	<i>ОЕР</i> ТН RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS	
				0.0						FILL - SAND, grey to light grey, fine grained,homogeneous, gravel in some locations		<u> </u>	No odour/siaining	
	The state of the s			0.5	0.70					SAND, grey to light grey, fine grained, hornogeneous			No odour/staining	
		Ī		=		i	ŀ							
-	+	-	-	1:0	1.00					TEST PIT DISCONTINUED @ 1.00 m Fill depths variable 0.4-0.7m		_		
				4								ĺ		
S .				+						No fill in TR1 & TR3; Copper pipe in TR2; PVC pipe & concrete pipe in TR4; Steel pipe in TR5;		ĺ		
A A				4						Steel pipe in TR5;				
no-keona								ļ	ļ					
2			1:	1.5-										
			-								İ			
3				-				Ì			İ			
				-										
				1										
			2	2.0-										
				1										
				1				1						
				4	ļ									
				1										
-			2	.5-										
				1										
													İ	
				-										Ц
				1										4
-	.l	<u>ــا</u> ــ	-l- <u>3</u> ,	0I	Thla	eport of test oft mus	استال معالم	ا اسا المحمد	نيد الم موروا	The same size and the same same same same same same same sam	_ _	1_		_

This report of test pit must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider geotechnical properties or the geotechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes.

GAP gINT FN, F01e RL2



# REPORT OF TEST PIT: UST1

CLIENT: PROJECT: VicUrban

POSITION: Fmr Clayton West Primary School

SURFACERL: m DATUM: AHD PIT DEPTH: 2.40 m

SHEET: 1 OF 1

CHECKED: CW

MACHINE:

CONTRACTOR: LOGGED: TFS

DATE: 3/3/09 DATE: 19/3/09

Clayton West LOCATION: BUCKET TYPE: IOP NO: 097613052

JOB NO: 097613	3052	BUCKET TYPE:  Field Material Description						
Excavation	Sampling		STRUCTURE AND					
METHOD ESCAVATION REGISTRACE WATER DEPTH (metres)	SAMPLE OR SEED TEST OF	GRAPHIC LOG USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION  SOIL / ROCK MATERIAL DESCRIPTION  STRUCTURE AND ADDITIONAL OBSERVATIONS  OBSERVATIONS					
0.5 — 1.00 C C C C C C C C C C C C C C C C C C			FILL: light grey, roose, tine grained, homogeneous SAND, brick, tile, cleth, gravel inclusions (0.0-0.5m)  SAND, brick, tile, cleth, gravel inclusions (0.0-0.5m)  SAND, yellow, madium grained, medium density  TEST PIT DISCONTINUED @ 2.40 m					
2.5								
	This report of test pit renvironmental purposimater	must be rea es only, wi tals encour	ead in conjunction with succompanying notes and abbreviations. It has been prepared for each inconjunction with succompanying notes and abbreviations. It has been prepared for each inconjunction with succompanying notes and abbreviations. It has been prepared for each inconjunction with succompanying notes and abbreviations. It has been prepared for each inconjunction with succompanying notes and abbreviations. It has been prepared for each inconjunction with succompanying notes and abbreviations. It has been prepared for each inconjunction with succompanying notes and abbreviations. It has been prepared for each inconjunction with succompanying notes and abbreviations. It has been prepared for each inconjunction with succompanying notes and abbreviations.					



## REPORT OF TEST PIT: UST2

CLIENT:

VicUrban

POSITION:

SHEET: 1 OF 1

PROJECT:

Fmr Clayton West Primary School

MACHINE:

LOCATION:

Clayton West

SURFACERL: m DATUM: AHD

CONTRACTOR:

JOB NO:

097613052

PIT DEPTH: 2.40 m

LOGGED: TFS

DATE: 3/3/09

	JOB NO: 097613052								BUCKET TYPE;			CHECKED: CW DATE: 19/3/0			
	Excavation Sampling					Sampling	····	Field Material Desc						10.0	
	METHOD	EXCAVATION RESISTANCE	WATER	O DEPTH (metres)	ОБЛН RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION		CONSISTENCY	STRUCTUR ADDITION OBSERVAT	E AND NAL 'IONS	
H. J. Company of the			1	0.6	1.50				9	FILL - SAND, light grey, fine grained, homogeneous, brick, tile, gravel inclusions (0.0-0.5m)  AND, yellow, medium grained, medium density			no odour/staining		
															1
<del></del> -	المارية . المارية .		L-3:0		This r	eport of test pit mu	J	road le	L	Numerica with a second		1_			

This report of test pit must be read in conjunction with accompanying notes and abbreviations. It has been prepared for environmental purposes only, without attempt to consider gediechnical properties or the geolechnical significance of the materials encountered. As such it should not be relied upon for geotechnical purposes.

GAP gINT FN. F01e RL2



### **EXPLANATION OF NOTES, ABBREVIATIONS & TERMS USED ON BOREHOLE AND TEST PIT REPORTS**

WASSOCIATES	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
DRILLING/EXCAVATION METHOD AS* Auger Screwing AD* Auger Drilling *V V-Bit *T TC-Bit, e.g. ADT HA Hand Auger DTC Diatube Coring WB Washbore or Bailer	RD RT RAB RC PT CT JET	Rotary blade or drag bit Rotary Tricone bit Rotary Air Blast Reverse Circulation Push Tube Cable Tool Rig Jetting	NMLC	Diamond Core - 63 mm Diamond Core - 52 mm Diamond Core - 47 mm Tractor Mounted Backhoe Tracked Hydraulic Excavator Existing Excavation Excavated by Hand Methods

### PENETRATION/EXCAVATION RESISTANCE

- Low resistance. Rapid penetration possible with little effort from the equipment used.
- Medium resistance. Excavation/possible at an acceptable rate with moderate effort from the equipment used. ហែ
- High resistance to penetration/excavation. Further penetration is possible at a slow rate and requires Н significant effort from the equipment.
- Refusal or Practical Refusal. No further progress possible without the risk of damage or unacceptable wear to R the digging implement or machine.

These assessments are subjective and are dependent on many factors including the equipment power, weight, condition of excavation or drilling tools, and the experience of the operator.

W	A'	TE	R
---	----	----	---

Water level at date shown



Partial water loss



Water inflow



Complete water loss

GROUNDWATER NOT

GROUNDWATER NOT ENCOUNTERED

OBSERVED

The observation of groundwater, whether present or not, was not possible due to drilling water, surface seepage or cave in of the borehole/test pit.

The borehole/test pit was dry soon after excavation. However, groundwater could be present in less permeable strata. Inflow may have been observed had the borehole/test pit

been left open for a longer period.

### SAMPLING AND TESTING

SAMPLING AND T	ESTING
SPT 4,7,11 N=18 30/80mm RW HW HB	Standard Penetration Test to AS1289.6.3.1-1993 4,7,11 = Blows per 150mm. N = Blows per 300mm penetration following 150mm seating Where practical refusal occurs, the blows and penetration for that interval are reported Penetration occurred under the rod weight only Penetration occurred under the hammer and rod weight only Hammer double bouncing on anvil
DS BDS G W FP FV PID PM PP	Disturbed sample Bulk disturbed sample Gas Sample Water Sample Water Sample Field permeability test over section noted Field vane shear test expressed as uncorrected shear strength (s <sub>v</sub> = peak value, s <sub>r</sub> = residual value) Photoionisation Detector reading in ppm Pressuremeter test over section noted Pocket penetrometer test expressed as instrument reading in kPa
	Pocket penetrometer test expressed as instrument reading in the penetrometer test expressed as instrument reading in the penetrometer in millimetres  Thin walled tube sample - number indicates nominal sample diameter in millimetres  Thin walled tube sample - number indicates nominal sample diameter in millimetres  Thin walled tube sample - number indicates nominal sample diameter in millimetres  Ity Observable Contamination and Odour (for specific soil contamination assessment projects)
Hanking of Visus	ity Observable Contamination and Odour (for specific soil Contamination and Odour specific soil Contaminatio

U03	coil contamination assessment projector
Ranking of Visually Observable Contamination and Odour (for specific	turi adaurs identified
Ranking of Visuary Cost. In the enterprination   R = A	No non-natural odours identified
R = 0 No visible evidence of contamination R = A	Slight non-natural odours identified

Ranking of Vis	sually Observable Contamination	R = A	No non-natural odours identified
R = 0	No visible evidence of contamination	R=B	Slight non-natural odours identified
R = 1	Slight evidence of visible contamination	n = 6	Moderate non-natural odours identified
E - 9	Visible contamination	R=D	Strong non-natural odours Identified
R = 3	Significant visible contamination	<u>K-0</u>	47.3
	harry type		

### ROCK CORE RECOVERY

TCR = Total Core Recovery (%)

SCR = Solid Core Recovery (%)

RQD = Rock Quality Designation (%)

Length of core recovered ×100 Length of core run

 $\sum$  Length of cylindrical core recovered  $\times 100$ Length of core run

 $\sum$  Axial lengths of core > 100 mm  $\times$  100 Length of core run



### METHOD OF SOIL DESCRIPTION USED ON BOREHOLE AND TEST PIT REPORTS

9000

FILL

GRAVEL (GP or GW)

SAND (SP or SW)

SILT (ML or MH)

CLAY (CL, CI or CH)

ORGANIC SOILS (OL or OH or Pt)

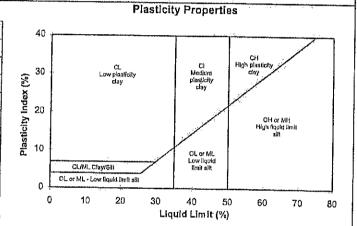
COBBLES or BOULDERS

Combinations of these basic symbols may be used to indicate mixed materials such as sandy clay.

### CLASSIFICATION AND INFERRED STRATIGRAPHY

Soil and Rock is classified and described in Reports of Boreholes and Test Pits using the preferred method given in AS1726 – 1993, Appendix A. The material properties are assessed in the field by visual/tactile methods.

Particle Size Major Division Sub Division Particle Size BOULDERS > 200 mm COBBLES 63 to 200 mm Coarse 20 to 63 mm **GRAVEL** Medium 6.0 to 20 mm Fine 2.0 to 6,0 mm Coarse 0.6 to 2.0 mm SAND Medlum 0.2 to 0.6 mm Fine 0.075 to 0.2 mm SILT 0.002 to 0.075 mm CLAY < 0.002 mm



### MOISTURE CONDITION

AS1726 - 1993

Symbo	ol Term	Description
D	Dry	Sands and gravels are free flowing. Clays & Silts may be brittle or friable and powdery.
M	Molst	Solis are darker than in the dry condition & may feel cool. Sands and gravels tend to cohere.
W	Wet	Soils exude free water. Sands and gravels tend to cohere.

AS1726 - 1993

CONSIST	ENCY AND DE	NSITY
Symbol	Term	Undrained Shear Strength
Vs	Very Soft	0 to 12 kPa
S	Soft	12 to 25 kPa
F	Firm	25 to 50 kPa
St	Stiff	50 to 100 kPa
VSt	Very Stiff	100 to 200 k₽a
Н	Hard	Above 200 kPa

Symbol	Term	Density Index %	SPT "N" #
VL	Very Loose	Less than 15	0 to 4
L	Loose	15 to 35	4 to 10
MD	Medium Dense	35 to 65	10 to 30
D	Dense	65 to 85	30 to 50
αV	Very Dense	Above 85	Above 50

In the absence of test results, consistency and density may be assessed from correlations with the observed behaviour of the material.

# SPT correlations are not stated in AS1726 -- 1993, and may be subject to corrections for overburden pressure and equipment type.



### APPENDIX E

**Analysis Results Tables** 

		l	ovitz g	,	288	J		p
			ள் <u>த</u>			Ĺ		er E
		ı	- E B			ļ		*
			multi <del>ales gl</del>	,	ļ	1		*
			등 로 로		l	ı		·*
		953	gi		- 4	ŀ	,	•
	ĺ	SOUTH COOK	Almasen E			Ì	ľ	4
			P+41 2		1			\$60
	İ		September 1				\$ ,	
	ı		Chumbus (hexavelent)	ı			4:	ı
			ការរាក់ដ <sub>ែ</sub> ង គឺ	- [	. 1		# t	ł
			3.	н	# <b>2</b> #			7
	-	县		1		·	F 1	1
		100	वन्त्रवर्गत हुँ	1			ž, ž	2
	-	1	fon artiquistraming \$	1			, fo /) By ti	-
	İ		(on stigatorit = \$	ı			** ** ** **	
			tonenquienning.a.s.	1			* * * * * * * * * * * * * * * * * * *	ı
		2000	den set quivera de la la la la la la la la la la la la la				ិក ទីទី	П
	Marketin Contract	100	क्षत्वतद्वकालकारमें स्वाहर के हैं हैं ह	ı			\$ 6	
	100		(mandennishtars)	1		İ	i n	
	ľ	Î	incretagiallisation & L.S. T.	1			÷ ÷	ı
			landaionannitetahts	ı			4 4	١
			Minitaninastis I-th fee	l.			\$ K	
	ľ	Γ	massnedarolifestp:"	1		ľ	6.5	
			mixthedotoldaexell & S			1	646 a 6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
	١.		Anszelsdoriabilità			ľ	र्ग स स	
			ดูกรมกรุปอเกชานี้ รู้			l	9 g	
			Bushloimplans E			ļ	. 약 설 약 설	
	١		samulaninin 5 g C			ĺ	# # # #	Ì
	enterne		अत्मान्त्रतं अवकारतं अवकारतं अवकारतं अवकारतं अवकारतं अवकारतं अवकारतं अवकारतं अवकारतं अवकारतं अवकारतं अवकारतं अ				77	
	Halogenated Sentence		ansparedoministical \$2				\$ 6	
	Haloge		Salak Trichierobarane				1 4 3 4 4 5 4 5 4 5 6 5 6 5 6 5 6 5 6 5 6 5 6	
			mentadonitades & g				F 6	
l	İ		mentanguant Lat				¥ 5	
l			energaedolointaenest-e,s.A.L. B. 2				V.V	
l			smartedufahla-17.1.3 2					
l			encunsquightus (E. f. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.				and and and and and	
l	_	-	witesmedatoldatrial. 8, 8, 8, 8				v s	
			[]				00-07-07-07-07-07-07-07-07-07-07-07-07-0	
			·		- 11			
						Į.	Appendix Abstrace Abstrace Actives Actives	
	9				<u>.</u>			
200	ĺ		- E		1000	ş		
Section of			1 subseque		(F) 2 (F)	÷	72424	
i i	TOTAL PROPERTY AND PROPERTY OF THE PROPERTY OF		(9). W.P.A. III. S. Hazerin (1940)	Y.45.		e e	1 ។ ជំនិតនគ្	T)C3
-	į.		NED!	Š.	P P	Ĭ	222222	Comment

A School	
Sold Sold	
6	

ASSOCIATION	The state of the s	The control of the co	The second secon	1,5/5/2			Organization and a second as a	
The contraction of the contracti	The state of the s	To the contraction of the contra		Anna Anna Anna Anna Anna Anna Anna Anna				
1	11   200     12   200     13   200     14   200     15	1		Selections of Tolking Section 1996 Selection 1996 S	भागः है । अस्य है संस्कृति है	enskroutspaker	S OD 14(10) Elected Street	toldanique (C. 844 Ann any entitates of south any entitates of the month of the mon
### 1   1   1   1   1   1   1   1   1	1	1		सर्व गुरु युक्त विक				**
Color   Colo	Control   Cont	A   A   A   A   A   A   A   A   A   A	प्रसामित स्थापन के स्थापन		E		2002	<b>.</b>
Common Common	Continue   Continue	Control Column   Co	SACRETATION AS THE SECOND SACRETAGE AS THE SECOND SACR					
Compared   Compared		Control Cont						4 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
THE THE PART AND THE THE THE THE THE THE THE THE THE THE	Control   Cont	Extra   Accordance   Accordan	Location Code Southfield Date Three		90 10 10 10 10 10 10 10 10 10 10 10 10 10	高点 南西 高雪 高雪 高部 高部 山北 南部 西部 西部 西部 西部 山田	100 100 100 100 100 100 100 100 100 100	の様 まま よす よう 名号
ACT TO ACT ACT ACT ACT ACT ACT ACT ACT ACT ACT	1	Eq. (1972)   1972    1973	Section Management		五丁 ある	新華 香料 密学 安存 用り	はない からない かんかい かんだい からない あんだい かんだい ないないかん	100 2 T T T
AFT 1997 ASP 1997 A	### 3000000 ### 1000000 ### 1000 #### 1000 ### 1000 #### 1000 #### 1000 ### 1000 ### 1000 #### 1000 #### 1000 ### 1000 ### 1000 #### 1000 #### 1000 #### 1000 #### 10	### 10000000000000000000000000000000000	CONTRACTOR AND		30	法方 雅學 安學 想尽 我沒	THE PARTY AND TH	10 67 49 CT 85
成年,18年 18年 18年 18年 18年 18年 18年 18年 18年 18年	CONTROL OF THE THE CONTROL OF THE CO	100,000   100,	THE PROPERTY AND PARTY AND		THE PARTY	100 ASS ASS ASS 400	The state of the s	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
在一个时间,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们也没有一个时间,我们也没有一个时间,我们就是一个时间,我们就是一个时间,我们就是一个时间,我们	The actions district to the second state of th	The action duffile in a control of the control of t	Bey. Antibody		-040 COUNT	有學 有學 等學 经申 有章	20 mm のは 100 の	10 10 10
AND THE PARTY WAS AND THE PART	나는 하는 하는 하는 하는 것을 가게 하는 수를 가는 하는 수를 가는 하는 수를 하는 수를 가면 하는 수를 하는 수를 하는 수를 가면 하는 것을 것을 수 없습니다. 것을 수 없어 되는 것을 수 없습니다. 것을 수 없어 되는 것을 수 없습니다. 것을 수 없어 되는 것을 수 없습니다. 것을 수 없어 되는 것을 수 없습니다. 것을 수 없어 되는 것을 수 없습니다. 것을 수 없어 되었습니다. 되었습니다. 것을 수 없어 되었습니다. 것을 수 없어 되었습니다. 것을 수 없어 되었습니다. 것을 수 없어 되었습니다. 것을 수 없어 되었습니다. 것을 수 없어 되었습니다. 것을 수 없습니다. 되었습니다. 것을 수 없어 되었습니다. 것을 수 없어 되었습니다. 것을 수 없어 되었습니다. 것을 수 없습니다. 것을 수 없어 되었습니다	지수는 지수는 지수는 지수는 지수는 지수는 지수는 지수는 지수는 지수는	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	100 pt 100 mm	海で 高年 春年	由于 在中 新華 新年 中十	大学 あり ちゃ ちゃ はな 日子 なず 山地寺	おお 一本学 なず いき 前年
The state of the s			COLUMN SOCIONAL CALL	を	· · · · · · · · · · · · · · · · · · ·	が は へい へい かば かん	100 T. W. W. W. W. W. W. W. W. W. W. W. W. W.	
The state of the s	Commons. 12. ESSAN/Contentual with the Council Material and Contentual and Conten	Occurations 4) ESON'S consistent with the Design business of 20 Section (with the Consistent with the Cons	THE DIRECTOR CONTRACT CO.	TO THE TOWN OF THE PROPERTY OF THE PARTY OF				-

		X) in
	Maler	CLEST
	Ĝ	SS
	T CT	¥ §
3.	Ľ.	) June

Pictobay, Former Chylles Wass Physis School

1	भागवात्र (श्राप्य है		* *
	क्षात विकास स्थापिक स्थापिक स्थापिक स्थापिक स्थापिक स्थापिक स्थापिक स्थापिक स्थापिक स्थापिक स्थापिक स्थापिक स्		å å
	Ansquistoralitations, language		3 7
	mieutiensoldalt-7,1-enert (2)		4 £
	enertrecionidasus y F ce		# # # # #
	O THE STATE OF THE		i i
	1 11		5.78 5.48
	12.144 And alv) errodnesomylt armensten saud 2		* * * * * * * * * * * * * * * * * * *
	<b>新沙丘は今かがは今日本日本</b>		1
l	क्षण्योत्रर्गच्यवावात्रत्रवस्यस्य हुन् । हिन्		<b>`</b>
	300tillurnarakite(1)		
١	वान्त्राक्तावताकाश्रेद्ध है		9.3
	an squigosid 30.C.F. 최3 출입		7 0
ļ	· · · · · · · · · · · · · · · · · · ·		* *
۱	mountly of a		6 9
١	Commence of the comments of th		÷ 1
İ	W IX 400 AND AND encounterplay to the mental of	-	<u> </u>
	Primite company to the company of th		3 F
	The company of the co		* *
	A Printed of the Articles of t		÷ 0
	S. Marie Control of the Control of t		<b>5</b>
	B Milmont Foundation		55
	enski cejonav		4.7
	en-quiquidonos s s s		20 A
	onsequates and control of the contro		7 <del>4</del>
	भारतेयां प्रतास्थाता देशे हैं हैं हैं हैं हैं हैं हैं हैं है		I
	anadisendhig 4 / Fr		. 1
	भारतीशकाकादादा द्वा है । इ.स.		
	saraordonales t.omandiq.C.F. 2.0		4.5
	मन्त्रवाचादरःकोतवाद-८,८,१ है वि		10 m <sup>3</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup>
	onaqaliqafoidasti.i.; §		ថ្មី <u>ខ</u> ្
	amed leotodations; if at		6 A
	anavitanoldaid-1,† A		F W
	Wiedsominansis, 1, 1 & C		98. C. S.
	Mireldonulatedatic X. X. P. E. B.		8 4 8 4
	*************************************		# P
	Wradboroldsavatrs,t,t,t = 0		3 3 3 0 4 4
		Sills	25 CT
	[#]	1 1	2 4
	A THI CHAN CITY OF		5 %
	nothers 357 - \$14 Hay 1		<b>影</b> 前
	# PH C10 - 014 Franken	1 1	l .
	That Ce-camou	3 6	2 H S S S S S S
			SOUTH STATE OF THE
			1
			\$4000000000000000000000000000000000000
			2002 2002 2003 2003 2003 2003 2003 2003
	₩ ā		
ļ	Savora (Permay Savora)	(enders)	
1		Chest its terbies	Committee Cooking State
Ü		100	188888E

9922 4 4

Nobican Former Citythn West Primery School

(B)

### **APPENDIX F**

Laboratory Analysis Certificates and Chain of Custody Forms

Golder Associates Pty Ltd

PO Box 6079 HAWTHORN WEST VIC 3122

Address:

Client:

Client Program Ref: 097613052

Analysis

C C

Attention: Travis Shreeve

Page 1 of 19

Ecowise Australia Pty Ltd

Caribbean Business Park 22 Dalmore Drive Scoresby VIC 3179

U COSTADOU 0/20/2012

Environmental

Certificate of Analysis Batch No: 09-07696 Final Report

Date Sampled: 03-Mar-2009 Date Received: 04-Mar-2009 Date Issued: 10-Mar-2009 Report Number: 88616 PO No: Not Available

Melbourne NEPM 404 Method Tot Fluoride Analysis Laboratory Меlboume APHA 4120 B Cyanide The sample(s) referred to in this report were analysed by the following method(s): Analysis Melbourne WSL 8210 B (HCCP not Method Ecowise Program Ref: GOLDER

WSL 3810A WSL 8100B CM8040D Phenols(NonHaio) MAH Меlbоитте Melbourne Melbourne

NATA) WSL 3810A WSL 8080B

CMB040D

Phenols(Halo)

r p

HVOL

OCD

MS Total Metals Total Cr 6+ PCB

Melboume Melbourne Melboume

Melbourne

CM030

NATA)

Melbourne

Melbourne WSL 032

er s

ŭ

F

Œ

ij

1

į

6

į. ....

0

راقا

ŗ ريا

ا

Principal Inorganic Chemist

**Chemist/Analyst** 

Kosta Christopoulos

Dennis Carty

Allan Bel

This document is lesized to accordance with NATA's accordance or equiverents.

According for compilance with Isoliec 1702s.

No. 992

Principal Contact for this Report:

Samantha Smith Client Wanager

Hao Zhang

Michael Clahsen

Stuart Paarman

Technical Officer - Chem

Principal Organic Chemist

Senior Chemist

Analyst

The resul's in this report were authorised by:

Melbourne

EPA 3050A (not

WSL 8080B

Page 2 of 19

Batch No: 09-07696

•				200				SOOZ-JEW-OL THINGS HID		
J	Client: Golder Associates Pty Ltd			Repo	Report Number: 88616					
Client Program Ref:	: 097613052			Ecowise Program Ref.	gram Ref. GOLDER				M	HCOV/Se
LOR = Limit of repo CAS Number = Che	LIVII OF Elmit of reporting. When a reported LOR is higher than the standard LOR, this may be due to high moisture content, insufficient sample or matrix interference.  CAS Number = Chemistry Abstract Services Number. The analytical procedures in this report (including in house methods) are developed from internationally recognised.	in the standard LOR, this	may be du	ie to high moistun ncluding in house	content, insufficient methods } are devel	sample or matrix interiored	erence.			EIWII O'III DEI II GI
			į	Sample No.	1739165	1739168	y recognised procedure	es such as those publish	ed by USEPA, APH	IA and NEPM.
			3	Client Sample (D	BH1	BH2	BH3	8H4	1739169	1739170
Analysis	Analyte			Sample Date	60/60/60	03/03/08	03/03/09	69/60/60	80/E0/E0	DHD Namama
OCP	BHC (alpha isomer)	475 T			1					
d O O	a-Endosulohan	0-40-810	3 6	Dy/Gu	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
OCP	Aldrin	0-08-505	7 (	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
9CP	BHC (beta isomed)	2-00-600 2-00-600	9 6	By/Bu	<0.05	<0.05	<0.05	<0.05	<0.05	50 \$
-0CP	b-Endostablan	319-85-7		mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	\$ US
900 B	cis-Chlordana	33213-65-9	S :	mg/kg	<0.05	<0.05	<0.05	₹0.05	<b>40.05</b>	<0.05
ОСР		5103-71-9	\$0.05	тд/кд	<0.05	<0.05	<0.05	₹0.02	<0.05	50.05
		5103-74-2	- 40.05 	mg/kg	<0.05	<0.05	<0.05	Q.05	\$0.0>	50.00
	on Closica isolites)	319-86-8	<b>\$</b>	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	7 kg
900	ממט במט	72-54-8	<b>49.05</b>	mg/kg	<0.05	<0.05	<0.05	\$0 US	50.05	3 6
	THO HAD	72-55-9	<0,05	mg/kg	<0.05	40.05	0.08	<0.05	<0.05 <0.05 <0.05	C. C. C.
ع د		50-29-3	§. 83	mg/kg	<0.05	0,05	0.08	₩ FF	50.05	2 4
- 5		60-57-1	Ø.05	mg/kg	<0.05	<0.05	<0.05	\$0 <b>\</b>	50.00 KC C	G 60
	Endustrial outline	1031-07-8	<0.05	mg/kg	<0.05	<0.05	<0.05	\$0.05	\$0.05	300
- G	Citatili) Endia Aldobuda	72-20-8	€0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	0.05	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
5 6	Chorin Aldenyde Roddo Walana	7421-93-4	Q,05 20,05	mg/kg	<0.05	<0.05	<0.05	<0.05	<b>.</b> 0.05	500 € 151
200	Light Celone Hexachlombarran	53494-70-5	9,03	mg/kg	<0.05	<0.05	<0.05	<0,05	<0.05	900
OCP	Honarkly Crowdo	118-74-1	<b>\$</b>	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	\$0.05
OCB	Hostoplan	1024-57-3	€ €	mg/kg	6.65	₹0.05	<0.05	A.05	<0.05	8
900	Deptaculati	76-44-8		mg/kg	40,05	<0.05	<0.05	<0.05	<0.05	Q 02
50	one (gannia some) [Undane] Methometica	58-83-9		mg/kg	₹0.05	<0.05	<0.05	<0.05	<0.05	20.0
		7243-5	<0.05	marka	200	1000			1	

Report Number: \$8518

Chent: Golder Associates Ply Ltd

Page 3 of 19

097613052

Client Program Ref:

Ecowise Program Ref. GOLDER

Date Issued: 10-Mar-2008

Batch No: 09-07696

LOR = Limit of reporting. When a reported LOR is higher then the standard LOR, this may be due to high moleture contein, insufficient sample, or matrix internationally recognised procedures published by USEPA, APHA and NEPM. 1739173 1738172 TP2

1739173	5	03/03/09								***************************************		a, polyade	211.00						,,,,,			project despress	oran ere he		rgp.mb/u -		- v <del>årner</del>	دميدنيسي	*2*****		ملكونية او	<b></b>	******	<u></u>	3 <del>-1-1</del> /2-10	
1739172	172	03/03/09		 	₩	<b>₽</b>	6.1	-	7		₩.	<del>,</del>	ŧ	<del>.</del> 0	<0.1	ଟ	9	Ŧ	ਚ	ਓ	6	·	4.5	<b>₽</b>	A E		8	20	¥	7 4	3	\$ P	-C	40.5	A.	40.5
1739171	È	63/03/03		Ÿ	6	0		÷	5	-0.1	Ÿ	Ġ.	-00	200	1.0	<0.1	\$	Ö	0,1	<0.3	÷		& ±	er G	s. É. ru	£	7 L4	<u> </u>	7 4	C/A	8	& 10		6	€.	\$3.0
Sample No.	Cilent Sample ID	Sample Date	LOR	mgfkg	marka	mother	s de la company	בייה של בייה של בייה של בייה של בייה של בייה של בייה של בייה של בייה של בייה של בייה של בייה של בייה של בייה ש בייה של בייה של בייה של בייה של בייה של בייה של בייה של בייה של בייה של בייה של בייה של בייה של בייה של בייה ש	mg/kg	5y/5w	телу	mg/kg	mg/kg	mg/kg	mg/kg	mg/km	mg/kg	mg/kg	mg/kg	mg/kg	malka		melka	- Sales	Aufin	Full I	mgrkg	mg/kg	EW/SIII	mg/kg	_	mg/kg	mg/kg	rngikg	mgkg	ជាម្នាវ័យ
	Cle	.,	10R	Ġ.	Ø	5	Ţ	<u> </u>	V	Ą	ଟ	Ÿ	8	7	5	₹	<b>40.1</b>	¥.	£.05	₩.	7	TOR	435	i e	9 5	7 14	9 9	7 6	3	40.5	Ç	Q.	8.5	<b>⊕</b> 5	Ą	45.5
			CAS#	100 mg/2	634-41-2	07.64.2	***	aryona aryona	120-32-1	85-50-1	108-70-3	547-73-1	105-46-7	91-58-7	98-87-3	7-70-86	100-44-7	67-72-4	87-58-3	77-47-4	£08.89.4	TOUR STATE	640.70.5	2020	C-15-55	<b>マミル</b>	4984	555-58-6 55-58-6	401-75	96-12-8	540-69-0(cls)	540-59-0(trans)	107-06-2	78-87-5	142-28-9	10081-01-5
			1000	是是一个,是 <b>是有一个人,我们</b> 有一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们是一个人,我们是一个人,我们就是一个	12/2,0/4-1 City Out Building Land City Co. 10		1,2,3-Inchigobenzene	12,4,5-Tetrachlorobenzene	1,2,4 Trichlorobenzane	1.2-Dichloroberzene	1.3.5-Triohlorebenzene	1.3-Dichlorobenzene	1. Chinhipungangangangangangangangangangangangangan	2.Committingian		Control of the contro	ACTION CONTINUES TO THE STATE OF THE STATE O	Usive of homethans	Lancer of the state of the stat	Movement of the second of the		Hentachorocarzen erazaren erazaren erazaren erazaren erazaren erazaren erazaren erazaren erazaren erazaren era		1,1,7,2-1etrachoroeurane	1,1,2,2-Telrachloroethane	1,1- Dichloroethare	1,1-Dichloroethene	1,1-Dichioraptapene	1,2,3-Trichloropropane	1,2-Dibromo-3-Chloropropane	1,2-Dichloroethene [cis]	1.2-Dichloroethene (frams)	1.2-Dichloroethane	1.2-Dichlorographe	1.3-Dichloromoene	1,3-Dichlorapopane (2/5)
			医花园花园 无证明 100	Analysis	25	宁	웊	강	왕	CHO	CHO	CHO	2 <u>1</u>	3 5	S CE	7 0	5 5	2 5	<u>)</u> <u>(</u>			040						HVOL.								o A

. .

eī.

Ġ.\_.

رينا

Ų,

Page 4 of 19

Client: Golder Associates Pty Ltd

097613052 Client Program Ref.

Batch No: 09-07696

Report Number: 88616

Ecowise Program Ref. GOLDER

Date Issued: 10-Mar-2009

FCOWise 0/20/10/20

**Environmental** 

1739173 03/03/09 ် 40.05 <0.05 1739172 03/03/09 0.5 40.05 <0.05 0.5 0.5 8.5 **₽** ₽, 8.5 ۵ 5  $\mathcal{Q}$ 8.5 03/03/09 1739171 4 Q,05 40.05 40.05 8.8 5 V Client Sample ID Sample Date Sample No. ₩g/kg \$05 505 0.05 40.05 <0.05 CAS# 594-20-7 106434 74-97-5 1330-20-7 95 49 8 108-86-1 75-25-2 56-23-5 67-66-3 108-90-7 124-48-1 74-95-3 106-93-4 127-18-4 108-88-3 CAS 75-09-2 75-69-4 71-55-6 79-00-5 75-01-4 79-01-6 100414 100-42-5 98-82-8 95-63-6 319-84-6 959-98-8 309-00-2 319-85-7 (CFC11) Bromoform (Tribromomethane) Chloroform (Trichloromethane) Analyte 3-Dichloropropene [trans] Vinyl Chloride (Monamer) Analyte Bromodichloromethane Dibromochloromethane 1.2,4-Trimethylbenzene Bromochloromethane 2,2-Dichloropropane Carbon Tetrachloride 1,1,1-Trichloroethane 1,12-Trichfornethane ,2-Dibromoethane etrachloroethene BHC (alpha isomer) Dibromomethane Dichloromethane BHC (beta isomer) **+Chlorotoluene** Trichloroethene -Chlorotoluene Bromobenzene Chlorobenzene Elhyl Benzene a-Endosulphan Benzene Tolliene Xytenes Сителе Styrene Analysis MAH HVQL HVQL HVOL HVOL HVOL ₹ HVOL HVQL HVOL HVOL 사이 HVOL HVOL HVOL HVOL HVOL Wol HVQ MAH MAH MAH MAH

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

Date Issued: 10-Mar-2009

Batch No: 09-07696

Ecowise Program Ref: GOLDER

Report Murrber 88618

Client Golder Associates Pty Ltd

Page 5 of 19

097613052

Client Program Ref:

1739173	50	93/03/09	A105	<b>△0.0</b> 5	<0.05	<0.05	<0.05	40.05	187	20.05	20.05	8	\$6.65	605	<b>40.05</b>	\$ 000	49.05	8	816 816					.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, - ,	ann ster					±1800 € 187°	5 <b>3445/4</b> 50**	ming of process			
1739172	TP2	03/03/09	50.05	€0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	40.05	<0.05	<0.05	<0.05	50,0>	<0.05	-d.05	40.05	<b>₹0.0</b> 2		9	ĕ	₽,	, .	5.1		₹	Ÿ	ď	Š	22	<b>.</b>	Ą	<b>P</b>	8	0.3
1739171	Ē	63/03/08	<0,05	8.6	A0.05	4.16	Ø.85	0.05	40.05	40.05	20.00	<0.05	40.65	40.05	A),65	41.65	<0.05	<0.05	<0.05		<b>.0</b> .1	Ş	40.1	<del>6</del> .4	 9	ğ	8	₽.	8	6.1	₩	€	1.0	\$0°	₽	₩.
Sample No.	Cfont Sample 10	Sample Date	mgikg	maka	Enflytter.	marka	marke	maka	D),cm	maka	THEOREM	mg/kg	make.	mgkç	marke	mg/kg	DW/DIT	mg/kg	mg/kg		mg/kg	mgfkg	mgkg	mofkij	mg/kg	ම් දැනීම	mg/kg.	mg/kg	mg/kg	(Mg/kg	D)/Du	rrigiko	ang/kg	čyjów	mgfkg	ENFO.
	Cfer	~,	20.05	5	<b>40.05</b>	40.05	<b>A</b> .03	<b>∆</b> 5	8	<b>A</b> 35	<50.05	8.0	40,05	40.05	Ø.	40.05	8.8	& 85 85	名名	LOR	7	Ą	₩.	₽.	6.1	₽	₩.	9	9	2	Ö	8	Ą	ğ	Ÿ	\$
			33213-65-9	5103-71-9	5-62-6016	343-35-3	27.54.8		51538-3	M-57-1	1031-87-8	72.20-8	7471.31	53434-70-5	1.45.00.1	1024-57-3	76.44-8	55.83-9	72.43.5	# STO	COLOR CONTRACTOR CONTR	203-36-3	120-12-7	59595	50-32-8	205-88-2	191-24-2	207-06-9	218-01-9	53-70-3	206.44-0	167-787	193-38-6	91-20-3	85-01-8	129-00-0
			h Endagination	On the second principal of the		The Cartes Summer	dric (usita isonier)	100	300					Charles Malanyon	Literate applicant beautice		Henderster Industrial	RHC (campa isomet) [Lindene]	Mahmuruhlar	Solution Control of the Control of t	Acenanthens	Arenanditiviene	Arthracette	Renzfalanthragene	Benzolalavrene	Berzolb/fluoranthene	Service of the service of	Berzo(Whuoranthene	Chrysene	Dibertala hanthracens	Fluoranthere	Fitation	Indeno[1,23-cd]pyrens	National	Phenanthrene	E day
			200	5 6	) )	<b>3</b>	3 G	<u> </u>	3	8 8	J 6	5 8	ה לה ה	3 8	}	, i	5 8	3 8	5 6	3	HAC			T T T	Z	PAH	, i	DAH.	HVd	H V d	¥ A	PAH	PAH	РАН	HAT.	740

Samples tested as received. A blank space indicates no test performed. Soli results expressed in mg/kg dry weight unless specified otherwise

Page 6 of 19

Client Program Ref: 097613052

Date Issued: 10-Mar-2009

Batch No: 09-07696 Ecowise Program Ref. GOLDER Report Number: 88616 Sample No. Client: Golder Associates Pty Ltd

				Sample No.	1739171	1739172	1739173		
			Š	Client Sample ID	귶	TP2	Š		
	7.000			Sample Date	60/60/60	60/60/60	נישלינים		
TAH Charleson transfer and the charleson	Total PAH	TOTALPAH	₽.	mg/kg	0	80	COLOCIO		
Analysis	Analyte	CAS#	LOR		;	3	~~~		
S 1	Araclar 1016	12674-11-2	₽	mg/kg	6.1	6		********	
HCB	Aroclor 1221	11104-28-2	₽.	ma/ka	5		-11100	:	
PCB	Aroclor 1232	11141-16-5	0.1	mo/ko	; <del>,</del>		omnel z		
PCB	Arodor 1242	53469-21-9	₽,	moffen	÷ 5		E MAJora	•	
PCB	Arador 1248	12672-29-6	6.	mg/kg	; 5	7 8		formitus.	
PCB	Arador 1254	11097-69-1	₽,	moßen	7 8	- ·	• .		
PCB	Arocior 1250	11096-82-5	₽,	DO/kg	<del>,</del> 5		.,,	••••	
PCB	Total PCB	1336-36-3	₽;	Dy/DIII	<i>i</i> ₹		······································		
Analysis	Analye	*CAS#	LOR		į		TWO PROPERTY.		
Phenois(Halo)	4-Chloro-3-Methylphenol	59-50-7	40.2	mg/kg	<0.2	<0.2	4) 2734444	····	
Firendis(Hato)	2-Chiorophenol	95-57-8	41.2	mg/kg	40.2	40.2	«««««««««««««««««««««««««««««««««««««	<del></del>	
Phenols(Halo)	2,4-Dichlorophenol	120-83-2	<0.2	mg/kg	40.2	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			
Prenois(Halo)	2,6-Dichlorophanol	87-65-0	7	mg/kg	<0.2	₩ 4.2		····	
Prendis(Halo)	Pentachloropheno!	87-86-5	<0.2	mg/kg	40.2	<0.5		·	
Prenois(Halo)	2,3,4,5-Tetrachlorophenoi	4901-51-3	49.7	шд/кд	<0.2	- C			
Phenois(Haio)	2,3,4,6-Tetrachiorophenol	58-90-2	40.2	mg/kg	<0.2	\ 0.2	*1******		
rnenois(Haio)	2,3,5,6-Tetrachlorophenol	935-95-5	<b>0.2</b>	mg/kg	40.2	\$	47.44		
Phenois(Halo)	2,4,5-Trichlarophenal	95-95-4	40.2	mg/kg	0.2	. €	2.800		
Fhenois(Halo)	2,4,6-Trichlorophenol	88-06-2	<0.2	mg/kg	<0.2	5	************	******	
Phenols(Hato).	ols (Halogenated)	64743-03-9(Hai	<b>₽</b>	mg/kg	<0,2	6		***************************************	
Analysis	Analyte	CAS#	LOR			ļ	*********		
Phenols(NonHalo)	Pheno	108-95-2	<b>4</b> 0.2	mg/kg	<0.2	<0.2	****		
Prenois(NonHalo)	Total Cresols	1319-77-3	970≥	ша/ка	40.6	\$0.6			
Fhenols(NonHalo)	2,4-Dimethylphenol	105-67-9	<0.2	mg/kg	<0.2	41.2			
Prenois(NonHalo)	2,4-Dinitrophenol	51-28-5	₽	mg/kg	8	₹	I T-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		
Phenols(NonHalo)	2-Methyl-4,6-Dinitrophenol	534-52-1	탕	mg/kg	40	ç	مار در در در در در در در در در در در در در		
Phenols(NonHalo)	2-Nitrophenol	88-75-5	40.2	mg/kg	<0.2	<0.2		············	
Phenois(NonHalo)		100-02-7	4.2	mg/kg	<0.2	40.2			
Phenals(NonHalo)	2-Cyclohexyl-4,6-Dinitrophenol	131-89-5	₽	mg/kg	06>	8		-	
Phenois(Non-Halo)		88-85-7		mg/kg	<10	<10			
rnenois(NonHalo)	henois (non Halogenated)			mg/kg	8	8			
Sill Sharp State of the State o	Analyte	CAS#	[OR				-		

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

Stacle | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack | Stack Date Issued: 10-Mar-2009

Batch No: 09-07696

Report Number: 88616

Ecowise Program Ref: GOLDER

Client: Golder Associates Pty Ltd

Page 7 of 19

097613052

Client Program Ref:

1739173	50	03/03/09									av veri	gy pydodisk					ancar an Hi	***************************************	940, 564	د دهمانی	444.4-34	1 1
1739172	TP2	03/03/09	×100	Ą	v	و دورون	φ.	<0.2	don.	<b>-</b>	<0.05	Ą	60	Ą	Ą	V	83		\$50 \$	8	28	<50
1739171	F	03/03/08	<100	∜?	₹		Ą	<0.2	₽	∜	<0.05	\$	\$	Å	∜	∀	æ		\$	0₹>	₹	다. 1 1
Sample No.	Client Sample ID	Sample Date	mg/kg	mg/kg	marka		_	***			35 mg/kg			i malkg	5 ma/ka		S make		<20 mg/kg	<20 mg/kg	<50 mg/kg	<50 mg/kg
	O		16984-48-8 <100	57-12-5	18540-29-9	CAS#	All control free free free free free free free fre	7440-43-9 <0.2	7440-50-8	7439-92-1	7439-97-6 <0.05	7439-98-7	7440-02-0 <5	7787.49.2	7440-27-4	7440-31-5				-52		
			Total Elecation of E		Cyclinate, By Care Career Co.	Pexavalem Crimmum (Truda) Sud	化二氯甲基酚 医二氯甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基	Podmism				Menorally Séalabrian				מוצמו		3	Committee of the control of the cont	Definien		Petroleum Hydrocarbons (C29-C36)
activated blooms at the same and the same activated and same and same activated activated and same activated activat			A series of the	201CH-101	Cyanide	Total Cr6+		1 NGO LUIGH WIELENS	NO TOTAL MEDIA	Month More	Mich Total Motols	Mr Toll Motels	MO Total Matel	Sign Follow Michael	SO COEL MEETE	MS lotal Metais	MS Total Metals	MS 1003 Meles		i j	i d	ī

ħ,

نا

ن یا

Page 8 of 19

Client: Golder Associates Pty Ltd

Client Program Ref: 097613052

Batch No: 09-07696

Report Number: 88616

Ecowise Program Ref: GOLDER

Date Issued: 10-Mar-2009

### QUALITY CONTROL - BLANKS

QC Blanks are an 'analyte free' matrix in which all applicable reagents have been added in the same proportion as in standard samples and are an internal monitor for laboratory contamination.

	300	-	THE REAL PROPERTY AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSO		
4740000	A Digital	cyaltoe	Cyande, as CN	mg/kg	5
1/43533		Tot Fluoride	Total Fluoride, as F	maka	400
ab Sample ID	11	Analysis	Analyte	- 100 m 100	Port,
1744256	QC - Blank	MS Total Metals	Arsenic	- Charles	7
1744256	QC - Blank	MS Total Metals	Cadmism	Parket.	9
1744256	QC - Blank	MS Total Metals	Connec	merkg	40.2
1744256	OC - Blank	MS Total Majak	referent en de de la company d	ByBu	\$
1744256	QC - Blank	MS Total Malais	No.	mg/kg	₽
1744256	OC - Blank	MS Total Matala	Mercury.	mgkg	<0.05
1744256	OC - Blank	MS Total Metals	rioyadanum	mg/kg	<5
1744256	QC - Blank	MS Total Metals	Nichel	mgkg	₽
1744256	QC - Blank	MS Total Mateir	Silve	mgkg	₽
1744256	OC - Blank	MC Total Metals		mg/kg	\$
774750	SO DELLE	Signal Metals	UII	mg/kg	Ą
1,000	CC - Blank	MS Total Metats	Zinc	mg/kg	Ą
s sample.	Lab Sample ID Client Sample ID	Analysis	Analyte	不 心 激素素 医心脏	
1 38833	CC - Blank	MAH	Велгеле	mg/kg	<0.5
/39833	QC - Blank	MAH	Toluene	moßo	3 %
1739833	QC - Blank	MAH	Elly Berzene	ma/ka	2 5
739833	QC - Blank	MAH	Xylenes	Experience and the second seco	2 2
739833	QC - Blank	MAH	Styrene	Septem 1	200
1739833	QC - Blank	MAH	Cumene		5.07 
739833	QC - Blank	MAH	1,2,4-Trimethylbenzene	PASSES	7 7
1742165	QC - Blank	MAH	Benzene	S. S. Carlotte	2 6
1742165	QC - Blank	MAH	Totale	Marie Marie	20.0
1742165	QC - Blank	MAH	Ethyl Benzene	The state of the s	0.07
1742165	QC - Blank	MAH	Xvienee	Dy. St.	50.5
1742165	OC-Blank	MAH	Others	By/Su	<0.5
1742165	OC Blook	1471	Siylene	mg/kg	<0.5
1742165	Sign Co	WALL	Cumene	mg/kg	<0.5
3		INAH	1 2 4-Trimothylkonzono		

ECONIST Environmental

Batch No: 09-07696

Report Number: 88616

Ecowise Program Ref: GOLDER

Client: Golder Associates Pty Ltd

Page 9 of 18

Client Program Ref. 097613052

Date (ssued: 10-Mar-2009

				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				منبعي	ودوا فايلتن		······································	,, <del>,,,,,,,,,,</del> ,,		1°>+		<b>.</b>	. yekerri			,11. <b>ę</b> 271	,, y İ	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<del></del> -	-T"			-	T		7	1		<u> </u>	T	.,,,,,,,,,,,	1
629	2	8	200		<b>*</b> 0.4	.A.	<0.1	<b>C</b> 0.1	<0.1	40.1	<0.1	0.1	40.1	40.1	4.1	40.1		- · ·		7 9	70.0	CU.1	90 0	<ul><li>40,05</li><li>20,05</li></ul>	20.05	40.05	40.05	C0.0>	1000 S	50.03	30.05	20'0>	carps	<0.05	40.05	<0.05
mg/kg	mg/kg	mg/kg	mg/kg	American Company of the Company of t	mg/kg	mg/kg	mg/kg	marka	marka	ma/ka	ma/ka	maka	marko	mafka	make	was a second	HIGHWS	mg/kg	mg/Kg	mg/kg	meykg	mg/kg	And the second s	mg/kg	gylem.	mg/kg	mg/kg	mgrag	mg/kg	Dijou	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	бубш
Petroleum Hydracarboris (C6-C3)	Petroleum Hydracarbons (C10-C14)	Petroleum Hydrocarbons (C15-C28)	Petroleum Hydrocarbons (C29-C38)	一年 のことのことがあるから、一年の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の	Aceraphhene	Acenaphtiviene	Anthrocene	Econol Ton System 6	Desired of History and April 1997 Commence of the Commence of	Dationalismo	Delicolphical aliabetes	Delicolg in filled years	OCEAL AND AND AND AND AND AND AND AND AND AND	CANOTE CONTROL OF THE PROPERTY	CITOTICA INTERCEDIA CONTRACTOR CO		Fluorene	Indeno(1,2,3-cd)pyrene	Nephthetene	Phenanthen	Pyrene	Total PAH	And Analytic State of the State	8HC (alpha isomer)	a-Endosulphan	Aldrin	BHC (beta fsomer)	b-Endosulphan	cis-Chlordane	trans-Chlordane	BHC (delta isomer)	OUG	300	100	Deldrin	Endoculfan Sulfate
	HdL	TPH	FH	Assivate	PAH	1 170	DVD	rAn	FAH	TAT	E I	ny d	755	PAH	LAT 1	PAH	PAH	PAH	PAH	PAH	PAH	PAH	Analysis	OCP	OCP	OCP	900	900	OCP	, 900	CCP	900	900	900	OCF	OCP
OC - Blank	OC Blank	OC Black	CC. Bank	Client Comple III	O Blank		CC - Digits	CC - Diank	OC - Blank	OC - Blank	QC - Blank	OC Blank	OC - Blank	OC - Blank	QC - Blank	QC - Blank	QC - Blank	OC - Blank	OC - Mark	QC - Blank	QC - Shank	QC - Blank	Cilent Sample ID	OC - Blank	QC - Blank	OC - Black	OC - Blank	QC - Blank	QC - Blank	OC - Slank	QC - Slank	QC - Blank	OC - Blank	SC - Stank	OC-EBR	OC - Back
4740219		ī	47.47.43	73 - 14 - 14 - 14 - 14 - 14 - 14 - 14 - 1	Late delinera	1742134	-	1742134		And and the second	1742134	1742134	1742134	1742134	1742134	1742134	1742134	1742134	1742134	1742134	1742134	1742134	Lab Sample ID	1742108	1742108	1742108	1742108	1742108	1742108	1742108	1742108	1742108	1742108	1 1742103	1742108	1742:08

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

ر زر الق

نی <u>نظ</u> ن

لقا

نــ .نظ

Page 10 of 19

097613052

Client Program Ref:

Client: Golder Associates Pty Ltd

Batch No: 09-07696 Report Number: 88516 Ecowise Program Ref: GOLDER

Date Issued: 10-Mar-2009

∆.05 △.05 40.05 40.05 40.05 40.05 40.05 <0.05 <0.05 40.0540.0540.05 <0.05 <0.05 ₫.05 20.05 <0.05 <0.05 <0.05 6 ₽. 6. 6 mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg. mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mgʻlkg BHC (gamma (somer) (Lindane) BHC (gamma Isomer) [Lindane] leptachlor Epoxide Hexachlorobenzene BHC (alpha isomer) Hexachlorobenzene Heptachlor Epoxide BHC (beta isomer) BHC (delta isomer) Endosulfan Sulfate Endrin Aldehyde trans-Chlordane Endrin Aldshyda b-Endosulphan a-Endosuíphan Methoxychlor cis-Chlordane Endrin Ketone Amalyte Araclor 1221 Araclor 1232 Araclor 1242 Araclor 1248 Methoxychior **Heptachlor** Aroclar 1016 Aroclor 1254 Heptachlor Analysis 90 90 9 9 용 9 Lab Sample ID Client Sample ID QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank OC - Blank OC - Blank QC - Blank OC - Blank OC - Blank OC - Blank QC - Blank QC - Blank OC - Blank QC - Blank QC - Blank QC - Blank OC - Blank QC - Blank QC - Blank QC - Blank QC - Blank OC - Blank 1742108 174210B 1742108 1742108 174210B 174210B 1742108 1742138 1742143

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified atherwise

4

ECOV/ISO Environmental

Batch No: 09-07696

Ecowise Program Ref. GOLDER

Date Issued: 10-Mar-2009

Report Number 88616

Client: Golder Associates Pty Ltd

Page 11 of 19

097613052

Client Program Ref:

9	8		Chapter of the second s	40.1	₹.	₽.	15	P 6	177	A.3	Ø.1	8	8	<u>6</u>	<0.1		<0.1	102		-0°.1	- C.1	<0.7		40.2	<0.2	40.2	<0.2	<0.2	42	<0.2	412	50.	- 0.7	7.0			40.2	9.7	<0.2
maka	and the second	mg/kg	The second secon	mgikg	тажа	- Work	Bullion .	NAME:	mg/kg	mg/kg	Dy/Bu	mg/kg	mg/kg	moka	malka	The same of the sa	RUBIO	Burner	mg/kg	mg/kg	Oyfeu	mg/kg	The second secon	mg/kg	mg/kg	maka	maka	maka	CAPITAL	marke	Distriction in the Control of the Co	aufilli	ยายูเก	5)15(1)	ONIGO		mg/kg	syl/bus	Trigilly
A THE CONTRACT OF THE PARTY OF	Aroclar 1260	Total PCB	Assirta	1974-Tetrachlorobenzene	4 9 0 T Atmobiorheographe	12.00 12-16 II DES 100 DES ANTES III	1,2,3-1 richlorobenzene	1,2,4,5-Tetrachlorobenzene	1,2,4-Trichtorobenzene	1,2-Dichlordhenzene	1.3.5-Trichlorobenzene	13-Dichlorobenzene	4 A.Dichlorabasee	Paralle Bulletine Comments	Z-Cutot on april of a control o	Benzal Umulia	Benzotrichlouide	Benzylchloride	Hexachloroethane	Hexachlorobutadiene	Hexachionocyclopentadiene	Pentachlorobenzene	Anakro	A Chlam Saladachand	O'Harachanal	Z-Ogga Upi Galasi	Z, Y-Z-John Halleston	Co-Distriction	Penachinghianu	Cotton Baracian	2,3,4,6-18trachiorophenoi	2,3,5,6-Tetrachlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenoi	Total Phenois (Halogenated)	Analysis	Phenol	Total Cresols	of a Thirties of the State of t
: : : : : : : : : : : : : : : : : : : :	PCB	PCB	and the first	A Little Commence of the comme	J. (2)	요.	240	CH2	CHC	CHC	CHO CONTRACTOR OF THE CONTRACT		:	2:	CHC	왕	CFC	SHO SHO	CHC	2HO	일본 2	CHC	A reality of the last	Palating Sec	(a) Translation	Phenois(Halo)	Figure (Teau)	Phenols(Hato)	Phenois(Halo)	Phentols(Halo)	Phenols(Halo)	Phenols(Halo)	Phenois(Halo)	Phenois (Haio)	Phenois(Halo)	Gnalusis	Phenols(NonHato)	Phenols(NonHalo)	Total montes of the
	OC - Slark	Or Blank	CONTRACTOR CONTRACTOR	Cautifications to	UC - Black	OC - Biank	QC - Blank	OC - Blank	OC - Blank	CO District	C - 95.5	UC - SISBR	CC - Sign	OC - Black	QC - Blank	QC - Blank	QC - Blank	OC -Blank	OC. Bissk	OC - Blank		QO - Games		Client Semple 10	CC - Blank	OC - Blank	QC - Blank	QC - Blank	OC - Mank	CO-Gank	QC - Slank	OC - Blank	QC - Blank	OC - Stark	OC - Blank	Olent Cameria II	DC - Slank	Signature OO	4 min ( )
:	1742143			Lac various es	1742097	1742097	1742697	1742697	70.70.AT	144200	1/42097	1742097	1742097	1742097	1742097	1742097	1742097	1742097	47.47.0077	1742087	10000757	17 42027	The second secon	an Sample in	1742148	1742148	1742148	1742148	1742148	1742148	1742148	1742148	1742148	1742148	174214R	The state of the s	1742147	4789487	1/42141

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

. .

فد غا

i 1 i

Page 12 of 19

Client: Golder Associates Pty Ltd

097613052

Client Program Ref:

Batch No: 09-07696

Report Number: 88616

Ecowise Program Ref: GOLDER

mber: 88616

> Value <0.5 용 문 ۵. م 62.2 8 운 8 40.5 92 ⊄.5 . 6.5 Q.5 40.5 **6**.5 **6**5 <0.5 <0.5 40.5 **~**0.5 <0.5 8 8 6.5 **0.5** <0.5 0.5 0.5 & 5.5 6.5 mg/kg mg/kg mg/kg mg/kg ₽//gm mg/kg Mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg Total Phenois (non Hatogenated) 2-Cyclohexyl-4,6-Dinitrophenal 1,2-Dibrama-3-Chloropropane Bromoform (Tribromomethane) Chloroform (Trichloromethane) 2-Methyl-4,6-Dinitrophenal 1,3-Dichloropropene [trans] 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane (,2-Dichloroethene [hans] 1,3-Dichloropropere [cis] Analyte 1,2-Dichloroethene [cis] 1,2,3-Trichloropropane Bromodichioromethane Dibromochloromethane 1,1- Dichloroethane 1.1-Dichloropropene 1,2-Dichloropyopane 1,3-Dichloropropane Bromochloromethane Carbon Tetrachloride 2,2-Dichloropropane 1,1-Dichloroethene 1,Z-Dichloroethane 2,4-Dinitrophenol 1,2-Dibromoethane Dibromomethane 2-Chlorotoluene 4-Chloratoluene Dichloromethane 4-Nitrophemal Вголювенделе Chlorobenzene 2-Nitrophenol Dinoseb Lab Sample ID Client Sample ID Phenois(NonHalo) Phenois(NonHalo) Phenols(NonHalo) Phenols(NonHalo) Phenois(NonHalo) Phenols(NonHalo) Phenois(NonHalo) ¥0₽ ¥ ₹ 전 년 HVOL ₹ Y ΗŽ HVQL HVQL HVOL HVOL HVQL HVQL HVQL ξĞ HVOL HVOL HZP HVOL N. ¥8₽ H QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank QC - Bark QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank OC - Blank OC Bark QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank OC - Blank QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank OC - Blank QC - Blank OC - Blank 1742147 1742147 1742147 1742147 742147 1742147 742147 1739828

Date Issued: 10-Mar-2009

Environmental

Batch No: 09-07696

Report Number. 88616

Client: Golder Associates Pty Ltd

Page 13 of 19

097613052

Client Program Ref.

Ecolvise Program Ref. GOLDER

. 0.5 1 40.5 Δ'. <u>Q</u> 6,5 \$ 8 6.5 40.5 6.5 8 4 40.5 . 205 6 ₽ 2.5 <u>^</u> ⊽ 40.5 Ġ. 5 8,5 80.5 55 0.5 5.5 0.5 0.5 ٧ Evibu mg/kg Ω, ĵo Li morkg mg/kg mg/kg mgkg mgkg mg/kg mg/kg mg/kg molic mg/kg mg/kg mg/kg mg/kg mg/kg mgkg มายู/หฐ mg/kg Trichlorofluoromethane (CFC11) Bromoform (Tribromamethane) Chioroform (Trichloromethane) Trichlorofluoromethane (CFC11) 1,2-Dibromo-3-Chloropropane 1,3-Dichloropropene (trans) 1.3-Dichloropropene [cls] 1,2-Dichloroethene [trans] Dibromochloromethane 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane Bromodichloromethane 1,2-Dichloroethene [cis] Vinyl Chloride (Monomer) Bromochloromethane Carbon Tetrachloride 1,2,3-Trichloropropane 1,2-Dichloropropane 2.2-Dichlomonopane 1,2-Dibromoethane Tetrachloroethene 1,3-Dichtoropropane 1,1,1-Trichloroethane 1,1,2-Trichloroethane ,1-Dichlorapropene Dibromomethane Dichloromethane 1,2-Dichloroethane 1,1-Dichloroethene 4-Chlarototuene Chlorobenzene 2-Chierotoluene Bromobenzene Tetrachlomethene Trichloroethene F S S F HVOL HVQ. 정 ₩0 H FYOR HVOL HVOL HVQ HVOL HVOL HVOL HVOL HVOH. HVOL HVOL HVQL HAQE. HVO HV0L HVOL HVOL HVOL HOH ₹ QC - Blank QC - Blank OC - Blank OC - Stank QC - Blank QC - Blank QC - Blank QC - Blank QC - Blank OC - Blank OC - Blank OC - Blank CC - Blank QC - Blank OC - Blank QC - Blank QC - Blank QC - Slank OC - Blank OC - Stank QC - Blank QC - Blank QC - Blank CC - Blank QC - Blank OC - Blank OC - Blank OC - Blank QC - Blank OC - Blank QC - Blank OC - Blank OC - Blank OC - Blank QC - Starts 1742164 1742164 1742164 1742164 1742164 1742164 1742164 1742164 1742784 1742-64 1742-64 1742164 1742164 1742164 1742164 1742164 1742164 1742:64 1742;64 1742164 1742164 1742164 1742164 1742164 1742164 1742164 1739828 1742164 1742164 1742164 1739828 1739828 1742164 1739828 1739828

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

47

ندينا

Page 14 of 19

Client Program Ref: 097613052

Client: Golder Associates Pty Ltd

Batch No: 09-07696 Report Number: 88616

Ecowise Program Ref. GOLDER

Date Issued: 10-Mar-2009

Value	⊽	<0.5	40.5	<0.5
y den alle den en en en en en en en en en en en en e	mg/kg.	mg/kg	mg/kg	£ mg/kg
Will Charles I Lancon	1 1 1 Table III	1,1,1-Includedmane	i, i,z-11idilloremane	inciliardemene
HVOL	HVOI	HVOI	HVOI	10
QC - Blank	QC - Blank	QC-Blank	QC - Blank	
1742164	1742164	1742164	1742164	

## QUALITY CONTROL - DUPLICATES

QC Data for duplicates is calculated on raw 'unrounded' values. Laboratory duplicates are randornly selected samples tested by the laboratory to maintain method precision and provide

information on sample homogeniety. RPD ≈ Relative Percentage Difference for duplicate determinations. RPD's that fall outside the general acceptance criteria will be attributed to non-homogeneity of samples or results of low magnitudes.

1739855 TP2 1747725 NCP		このできている。これは、これできると、「は、これが、これには、これによるは、これによっても、これにはないない。			
	Z Total Cr.6+		Addition to the contract of th		
	Cyanida	ornum (Total) Soll	7	- ·	D
	TP! Total	Systians, as Civ	2600	2600	12
ab Sample ID CII	Lab Sample ID Client Sample ID Analysis	i otal Fitoride, as F	<100	<100	0
1744259 NCP	P MS Total Metale	で、このでは、Marian Company Compan		re per per melaku ar diappirappi (appira) i anappingar per persananan ang paggar da melaku ar	And the first of the second second second second second second second second second second second second second
1744259 NCP	Jelo T SM	TIGHTING THE PROPERTY OF THE P	<0.2	40.2	0
1744259 NCP	MS Total	by/600	40	50	23.0
1744259 NCP	MS Total	· ·	65	70	6.1
1744259 NCP	MS Total	Mobile Construction	0.12	0.13	5.9
1744259 NCP	MS Total	ander water in the strategy of the series and properly the series and properly and the series of the	<5	<5	0
1744259 NCP	MS Tokal		84	85	1.5
	of photosoft above the property of the state	Selentin Selection of the selection of t	ß	₽	0
	MS Total	Militä kennussa ja jahan neprojajan-ja ikkaanaa aan da araba ja ja jaja dipidis addi age sakkhinga sakjain jan ambo jaja jaha ja ja ja ja	₽	\$	C Commence of the commence of
Sample ID _ Clie	Sample ID Analysis	ZINC Mg/kg	95	110	13.5
1739831 NCP	P MAH				
1739831 NCP		Delizene T	<0.5	<0.5	0
1739831 NCP		i unene	<0.5	40.5	0
1739831 NCP	delicano i indicatorio del constituiro de la constituiro de la constituiro de la constituiro de la constituiro	ByBW allocation and a	<0,5	<0.5	o
1739831 NCP			<0.5	<0.5	The contract of the contract o
		osyresia ng/kg	<0.5	<0.5	0
1739831 NCP		Cumene	<0.5	<0.5	0
Sample ID Ciles	t Sample In	efhylbenzene	<0,5	<0.5	0
1742311 NCP	1.1	では、大田の地のでは、大田の一大田の一大田の一大田の一大田の一大田の一大田の一大田の一大田の一大田の一	*******		
The state of the s	emericanism i den en servica de la compansa del compansa de la compansa de la com	retroteum Hydrocarbons (C6-C9) mg/kg	3200	3100	1.5

%R<sup>2</sup>D

Batch No: 09-07696

Report Number: 88618

Client: Golder Associates Pty Ltd

Page 15 of 19

Client Program Ref. 097613052

1742311

Ecowise Program Ref. GOLDER

0.0 9 0.5 £ £ Duplicate Value 5.5 A.5 <0.05 <0.05 <0.05 \$0.5 <0.05 **₽** 40.5 **6**.5 <0.5 <0.05 <0.05 Δ. 6.5 40.05 0.05 0.05 0.05 <0.05 **Q**.05 . ≪0.05 . 50. 70. <0.05 0.08 49000 . 53. 0.05 0.08 22000 20.5 Sample Value & 5.5 9:5 40.05 40.05 6 6 65 \$ 6.5 . 8.85 8.85 <0.05 £,5 & 53 S3.05 0.05 <0.05 <0.05 <0.05</td><0.05</td> 40.05 7000 <0,05 **40.05** <0.05 **0** 05 50 50.05 0.08 22000 mg/kg mg/kg Day Bu mg/kg mg/kg mg/kg mg/kg molko mgkg mg/m mg/kg тд/кд mg/kg mg/kg Eng/fini mg/kg Digu. mg/kg 100 E mg/kg mg/kg mg/kg mg/kg mgkg mg/kg mgîka Petroleum Hydrocarbons (C10-C14) Petroleum Hydrocarbons (C15-C28) Petroleum Hydrocarbons (C29-C36) BHC (gamma Isomer) [Lindans] 1,2-Dibrumo-3-Chloropropane (2-Dichloroetherie [trans] 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachioroethane 1,2-Dichloroethene [cis] 1,2,3-Trichloropropere 1,1- Dichiproethane 1,1-Dichloropropene 1,2-Dichloroethane 1.1-Dichlargethene Hexachlarobenzene Heptachlor Epoxide Endosulian Sulfate BHC (alpha isomer) BHC (delta isomer) Endrin Aldehyde BHC (beta isomer) Analyte trans-Chiordane Endrin Ketone Heptachlor a-Endosulphan b-Endosulphan Methoxychlor cis-Chlordane Dieldrin Endrin 딤 ם 吕 Analysis FVG HYOL FQ. F FOL #YOF Analysis HVOL **HVOL** OC. OCP 8 8 8 90 90 g G 88 8,8 පි g 99 正 Cilent Sample ID Client Sample 10 8 S 5 5 NGP 80 B NCP д 2 Sp 움 움 딾 絽 캶 服 꿆 铝 뀨 웊 Š Lab Sample ID Lab Sample ID 1739826 1739828 1739826 1739826 173392E 1739826 1739826 1739826 1739826 1742106 1742106 1742106 1742106 1742:06 1742106 1739826 1742106 1742106 1742106 1742136 1742106 1742106 1742106 1742106 1742106 1742106 1742136 1742106 1742136 1742106 1742106

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

Page 16 of 19

Client: Golder Associates Pty Ltd

Client Program Ref: 097613052

1739826

1739826 1739826 1739826

1739926 1739826 1739826 739826 1739826 1739826 1739826 1739826 1739826 1739826 1739826 1739826 1739826 1739826 1739826 1739826 1739826

1739826

Batch No: 09-07696

Report Number: 88616

Ecowise Program Ref. GOLDER

Date Issued: 10-Mar-2009

Environmental

% RPD Ö 0 Ó ò Ö Ö ç 0 0 0 0 0 6.5 65 6.5 A 5.5 \$ \$ \$ 5 \$ \$ 8 5 8 Q.5 A.5 6.5 0.5 0,5 2 Q V Sample Value 0.5 8.5 **6.5** 0.5 €.05 <0.5 0.5 0.5 65 **Q.5** 40.5 40.5 40.5 V 0 ⊽ mg/kg mg/kg mg/kg mgrkg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mgkg mg/kg mg/kg mg/kg mg/kg mg/kg Trichloroffuoromethane (CFC11) Bromoform (Tribromomethane) Chloroform (Trichloromethane) L3-Dichloropropene [trans] 1,3-Dichloropropene [cis] Vinyl Chloride (Monomer) Bromodichloromethane Dibromochloromethane 1,3-Dichloropropane 1,2-Dichloropropane 2.2-Dichlotopropane. Bromochloromethane Carbon Tetrachloride 1,1,1-Trichloroethane 1,1,2-Trichloroethane 1,2-Dibromoethane Dibromomethane Terrachioroelhene 4-Chlorotoluene Dichloromethane 2-Chlorotoluene Вготорерделе Chlorobenzene Trichloroethene ¥0₽ HVQL HVQL HVOL FVQ. ₹ ₩ N N HVQH Š HVOL ₹ HVOL NCP NCP SP NCP NCP NC. SP 9 2 3 200 80

### QUALITY CONTROL - SPIKES

QC Data for spikes is calculated on raw 'unrounded' values. Laboratory spikes are randomly selected samples in which the analytes in question have been artificially introduced and recovered via standard analysis and are used to provide information on potential matrix effects on analyte recoveries.

NCP: Non-Customer Parent (sample quality is representative of the analytical batch but the sample that was QC tested belongs to a customer not pertaining to the report.) Spike recoveries that fall outside the general acceptance criteria will be attributed to sample matrix interference or results of high magnitudes.

ECOVISE Environmental

Report Number: 88616

Client: Golder Associates Pty Ltd

Page 17 of 19

097613052

Client Program Ref.

Date Issued: 10-Mar-2009

Batch No: 09-07696

Ecowise Program Ref: GOLDER

gyery		0		87.4			D. 1.	4.4	all control of the co	-	en en	1(17	109		14.7	4113		2174	9 ;	85.7	84.7	84.48	81.8	84.9	85.2	yda - 7/a di-late	1:2		0.36	110	717		4 (0.		0.45	0.35	200	7 JA	0.89
Expected Value % Recovery				320		1	3::	***************************************		160			180	1	A STATE OF THE STA	110	,				4,4			4.4	4,4		320		1	4.3	3 5			To a company and	1.5	1.3	1.3		51
Sample Value Expec	asserit		The state of the s			Mark 1		<0.2	7±0	85			7 . 3	1		0	65		<b>A</b>	<0.5	40.5	A.5	40.5	CD 5	-0.5	7		200		20.02	(A.03	50.05 2 Superior de la contraction de la contrac	CU,U>	<0.05	8.8	<0.05	0.05	<0.05	200
0	The state of the s	malker	200	δy/ELI	mgrkg	The state of the s	тд/кд	maka	- ca/pro	Park Commence of the Commence	English State of the State of t	gwg.	mg/kg	mg/kg	ng/kg	mg/kg	mg/kg		mg/kg	томо	malka	Sollan	Parketti	3 C	Subtraction of the subtraction o	TROPING	1.00	Thg/kg	The second secon	mg/kg	64/6W	mg/kg	កាច្ចកែថ្ម	mg/kg	mg/kg	mgkg	mg/kg	mg/kg	The same of the sa
	Control of the second s	The state of the s	Hezavaieni Chromun (Total Jour	Cyanide, as CN	Total Fluoride, as F	A STATE OF THE PROPERTY OF THE	and the state of t	and the second s	S. S. C. S.	CODERS.	Lead	Mercury	Molybdenum	Nickel	Selenium	Th		N. N. S. Managhar C. S. S. S. S. S. S. S. S. S. S. S. S. S.	Ноглере	A CALL STATE OF THE PROPERTY O		Enyl Benzens	Xylenes	Styrene	Cumene	1,2,4.Trimefly(benzene	Ample	Petroleum Hydrocarbons (C15-C28)	A LINE AND A CONTRACT OF THE PROPERTY OF THE P	BHC (alpha isomer)	a-Endosulphan	Aldrin	BHC (beta isomer)	b-Endosulphan	dis-chlordane	trans-Chiodene	BHC (delta isomer)		2000
	And the second s	A STATE OF THE PARTY OF THE PAR	Total Cr 6+	Cyanine		1 .		SIGN COLOR PRINCES	MS Total Metals	MS Total Metals	MS Total Metals	MS Total Metals	MS Total Metals	MS Total Metals	MS Total Metals	MS Total Metals	MS Total Metals	100	1	WALL	WAL	MAH	MAH	MAH	MAM	MAH	Attalysis		Analysis	909	OCP	8	d C	D.D.	600	000	J.Co.	500	L. 5
	Commence Commence of the Comme	Cilent Sample ID	NCP			Commence of the second			NCP	NCP			NCP	NCP.	NO.	NCP	0 <u>C</u>	- 12	. 1	5 :	NCP	NCP	NCP	NCP	NCP	NCP	D Clear Sample ID		Lab Sample ID Client Sample ID	BH3	RHS	2 H3		DLD	2 · 5	3 5	Crio	57.5 	Y I Y
	man application of the same and an application of the same and the sam	Lab Sample ID	1741688	1741736	7 - C) - K - L	1,44214	Lab vample, in	1744260	1744260	1744260	1744260	1744260	1744260	1744260	1744250	174198A	0001147	1744.00	Lao yampie in	1739830	1739830	1739830	1739330	1733330	1739330	1738330	Cate Sample ID	1742309	ab Samue	1742107	4740407	1742107	7040474	TO 101	1012411	1642191	1/4210/	1/4270/	11742101

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dny weight unless specified atherwise

ſ.

ă?

re 17 · 4\_

ſ

ü\_

. n

ر الم

|-||-||-----|

لديها

Page 18 of 19

097613052

Client Program Ref:

Client: Golder Associates Pty Ltd

Report Number. 88616

Date Issued: 10-Mar-2009

Batch No: 09-07696

Ecowise Program Ref. GOLDER

Value %F	0.96		0.95	116		enimon managagana amai verge a catendi a comunicion	And the state of Francisco Community of the state of the	7.55	83.3	received and distribution of the second seco			104	ene valadajajedvendjen, a staljištičišti krappijas	man and Anthropis de Brandister , an														8				8 8			8 8 8 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	
Charles and	E.	1.3	1,3	<u>.</u>	<u>t.</u>	1,3	1.3		4.4	4,4	4,4	4,4		4.4	4.4	4,4	4,4	4,4	4,4	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44	44 44 44 44 44 44 44 44 44 44 44 44 44
Sample Value	\$0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.5	<0.5	<0,5	<0.5		<0.5	<0.5	<0.5	<0.5 <0.5 <0.5 <0.5	40.5 40.5 40.5 40.5	40.5 40.5 40.5 40.5 40.5	40.5 40.5 40.5 40.5 40.5 40.5	40.5 40.5 40.5 40.5 40.5 40.5 40.5	40.5 40.5 40.5 40.5 40.5 40.5 40.5 40.5	40.5 40.5 40.5 40.5 40.5 40.5 40.5	40.5 40.5 40.5 40.5 40.5 40.5 40.5	40.5 40.5 40.5 40.5 40.5 40.5 40.5 40.5	40.5 40.5 40.5 40.5 40.5 40.5 40.5 40.5	40.5 40.5 40.5 40.5 40.5 40.5 40.5 40.5	40.5 40.5 40.5 40.5 40.5 40.5 40.5 40.5	40.5 40.5 40.5 40.5 40.5 40.5 40.5 40.5	40.5 40.5 40.5 40.5 40.5 40.5 40.5 40.5	40.5 40.5 40.5 40.5 40.5 40.5 40.5 40.5	40.5 40.5 40.5 40.5 40.5 40.5 40.5 40.5	40.5 40.5	40.5 40.5	40.5 40.5	40.5 40.5	40.5 40.5
-Alvut	five and the second	mgra	mg/kg	mg/kg	mg/kg	mg/kg	moka.		mg/kg	тд/кд	mg/kg	mg/kg	- Charles	Par Part	mg/kg	mg/kg mg/kg	mg/kg mg/kg	mg/kg mg/kg mg/kg	mg/kg mg/kg mg/kg mg/kg	Byfou Byfou Byfou Byfou Byfou Byfou Byfou Byfou	mg/kg mg/kg mg/kg mg/kg mg/kg	mg/kg mg/kg mg/kg mg/kg mg/kg	mg/kg mg/kg mg/kg mg/kg mg/kg	mg/kg mg/kg mg/kg mg/kg mg/kg	Sylou Sylou Sylou Sylou Sylou Sylou Sylou Sylou Sylou Sylou	Daybus Da	Bylou Bylou Bylou Bylou Bylou Bylou Bylou Bylou Bylou Bylou Bylou Bylou Bylou Bylou Bylou	gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan	phign phig phig phig phig phig phig phig phig	gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan	gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan	gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan gylgan	Bylou Bylou	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	Bylou  By	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg
Diedrin	Friction Sulfate	Endin Aldehyda	Endrin Ketone	Hoverhorness		neptaction epoxide	BHC (gamma isomer) [Lindane]		1,1,1,2-letrachioroethane	1,1,2,2- fetrachloroethane	1,1- Ulchloroethane	1,1-Dichloroethene		ariorin idorellara at	1,2,3-Trichloropropane	1,2-3-Trichloropropane 1,2-Dichloroethene [cis]	1,2-3-Trichloropropane 1,2-Dichloroethene [cis] 1,2-Dichloroethene [trans]	1,2-3-Trichloropropane 1,2-3-Trichloropropane 1,2-Dichloroethene [brans] 1,2-Dichloroethene	1,2-3-Trichloropropane 1,2-Dichloroethene [dist] 1,2-Dichloroethene [trans] 1,2-Dichloroethene	1,2-Dichloropropane 1,2-Dichloroethere [bis] 1,2-Dichloroethere [brans] 1,2-Dichloroethane 1,2-Dichloropropane 1,3-Dichloropropane	1,2-Trichloropropane 1,2-Dichloroethene [bis] 1,2-Dichloroethene [biss] 1,2-Dichloroethane 1,2-Dichloropropane 1,3-Dichloropropane 1,3-Dichloropropane [diss]	1,2-Trichloropropane 1,2-Dichloroethene [brans] 1,2-Dichloroethene 1,2-Dichloropropane 1,3-Dichloropropane 1,3-Dichloropropane 1,3-Dichloropropene [dis] 1,3-Dichloropropene [dis]	1,2-Trichloropropane 1,2-Dichloroethene [brans] 1,2-Dichloroethene 1,2-Dichloropropane 1,3-Dichloropropane 1,3-Dichloropropene [cis] 1,3-Dichloropropene [cis] 2,2-Dichloropropane	1,2-Trichloropropane 1,2-Dichloroethene [trans] 1,2-Dichloroethene [trans] 1,2-Dichloroethane 1,2-Dichloropropane 1,3-Dichloropropane 1,3-Dichloropropane 2,2-Dichloropropane 2,2-Dichloropropane 2,2-Dichloropropane 2,2-Dichloropropane 2,2-Dichloropropane	1,3-Trichloropropane 1,2-Dichloroethene [trans] 1,2-Dichloroethene 1,2-Dichloropropane 1,3-Dichloropropane 1,3-Dichloropropane 1,3-Dichloropropane 2,2-Dichloropropane 2-Chlorotolene 4-Chlorotolene	1,3-Trichloropane 1,2-Dichloroethere [tist] 1,2-Dichloroethere [tist] 1,2-Dichloropane 1,2-Dichloropane 1,3-Dichloropane [tist] 1,3-Dichloropane 2-Chloropane 2-Chlorotolene Bromochloromethane	1,2-Trichloropopane 1,2-Dichloroethene [tist] 1,2-Dichloroethene [tists] 1,2-Dichloropopane 1,2-Dichloropopane 1,3-Dichloropopane 1,3-Dichloropopane 2,2-Dichloropopane 2-Chlorotolene Bromochloromethane Bromochloromethane	1,2-Trichloropane 1,2-Dichloroethere [tist] 1,2-Dichloroethere [tist] 1,2-Dichloropane 1,2-Dichloropane 1,3-Dichloropane 1,3-Dichloropane 2,2-Dichloropane 2-Chlorotolene Bromochloromethane Bromochloromethane Bromochloromethane	1,2-Trichloropropane 1,2-Dichloroethene [fist] 1,2-Dichloroethene [fist] 1,2-Dichloroppane 1,2-Dichloroppane 1,3-Dichloroppane 1,3-Dichloroppane 2,2-Dichloropopene [icis] 2,2-Dichloropopene [icis] 2,2-Dichloroppane 8-Chlorotoluene Bromochloromethane Bromochloromethane Bromochloromethane Bromochloromethane Bromochloromethane	1,2-Trichloropane 1,2-Dichloroethere [sis] 1,2-Dichloroethere [sis] 1,2-Dichloropane 1,2-Dichloropane 1,3-Dichloropane 1,3-Dichloropane 2,2-Dichloropane 2-Chlorotolene Bromochloromethere Bromochloromethere Bromochloromethane Bromochloromethane Bromochloromethane Bromochloromethane Cotto Trichloropane	1,2-Trichloropane 1,2-Dichloroethere [tist] 1,2-Dichloroethere [tist] 1,2-Dichloropane 1,2-Dichloropane 1,3-Dichloropane 1,3-Dichloropane 2-Chloropopere [tists] 2,2-Dichloropane 2-Chloropulene Bromochloromethere Bromochloromethere Bromochloromethere Bromochloromethere Bromodichloromethere Carbon Teurachloride Chloroform (Tribromochlane) Carbon Teurachloride	1,2-Trichloropane 1,2-Dichloroethene [tist] 1,2-Dichloroethene [tist] 1,2-Dichloropane 1,2-Dichloropane 1,3-Dichloropane 1,3-Dichloropane 2-Chloropropane 2-Chloropropane 2-Chloropulene Bromochloromethane Bromochloromethane Bromochloromethane Bromochloromethane Carbon Tetrachloride Chloroform (Trichkromethane) Carbon Tetrachloride	1,2-Trichloropane 1,2-Dichloroethere [tist] 1,2-Dichloroethere [tist] 1,2-Dichloropane 1,2-Dichloropane 1,3-Dichloropane 1,3-Dichloropane 2,2-Dichloropane 2-Chloropane Bromochloromethere Bromochloromethere Bromochloromethere Bromochloromethere Bromochloromethere Chloroforn (Trichloropane) Carbon Tetrachloride Chloroforn (Trichloropane)	1,2-Trichloropane 1,2-Dichloroethere [sis] 1,2-Dichloroethere [sis] 1,2-Dichloroethere [sis] 1,2-Dichloropane 1,2-Dichloropane 1,3-Dichloropane 2-Chloropane 2-Chloropane Bromochloromethere Bromochloromethere Bromochloromethere Bromochloromethere Bromochloromethere Chloroforn (Trichloropane) Chloroforn (Trichloropane) Chloroforn (Trichloropane) Chloroforn (Trichloropane) Chloroforn (Trichloropane) Chloroforn (Trichloropane) Chloroforn (Trichloropane)	1,2-Trichloropane 1,2-Dichloroethere [sis] 1,2-Dichloroethere [sis] 1,2-Dichloropane 1,2-Dichloropane 1,3-Dichloropane 1,3-Dichloropane 2-Chloropane 2-Chloropane Bromochloromethere Bromochloromethere Bromochloromethere Bromochloromethere Bromochloromethere Chloroforn (Trichloropane) Carbon Tetrachloride Chloroforn (Trichloropane) Chloroforn (Trichloropane) Chloroforn (Trichloropane) Chloroforn (Trichloropane) Chloroforn (Trichloropane) Chloroforn (Trichloropane) Chloroforn (Trichloropane) Chloroforn (Trichloropane)	1,23-Trichloropane 1,2-Dichloroethene [fist] 1,2-Dichloroethene [fist] 1,2-Dichloroethene 1,2-Dichloropane 1,3-Dichloropane 1,3-Dichloropane 2,2-Dichloropane 2-Chloropropane 2-Chloropane Bromodichloromethane Bromodichloromethane Bromodichloromethane Bromodichloromethane Chloroforn (Trichloropane) Carbon Teurachloride Chloroforn (Trichloromethane) Chloroforn (Trichloromethane) Dibromodichloromethane Bromodichloromethane Bromodichloromethane Bromodichloromethane Dibromodenzene Dibromodenzene Dibromodentane 1,2-Dibromodethane	1,2-Trichloropane 1,2-Dichloroethere [fist] 1,2-Dichloroethere [fist] 1,2-Dichloropane 1,2-Dichloropane 1,2-Dichloropane 1,3-Dichloropane 1,3-Dichloropane 2-Chloropane 2-Chloropane Bromochloromethere Bromochloromethere Bromochloromethere Bromochloromethere Chloropane Bromochloromethere Bromochloromethere Bromochloromethere Bromochloromethere Bromochloromethere Bromochloromethere Dichloropane Chloroforn (Trichkoromethere) Chloroforn (Trichkoromethere) Dibromochloromethere Dibromochloromethere Dibromochloromethere Dibromochloromethere Dibromochloromethere
0CP	- DC	OCP	00P	OCP	OCD	900	1000		1971	TAKOL	TO ACT	TOAL TOAL	2	I PAPO	HVOL	HVOL	HVOL HVOL HVOL	HVOL HVOL HVOL HVOL	HVOL HVOL HVOL HVOL HVOL	HVOL HVOL HVOL HVOL HVOL HVOL	HVOL HVOL HVOL HVOL HVOL HVOL	HVOL HVOL HVOL HVOL HVOL HVOL HVOL	HVOL HVOL HVOL HVOL HVOL HVOL HVOL HVOL	HVOL HVOL HVOL HVOL HVOL HVOL HVOL HVOL	HVOL HVOL HVOL HVOL HVOL HVOL HVOL HVOL	HVOL HVOL HVOL HVOL HVOL HVOL HVOL HVOL	HVOL HVOL HVOL HVOL HVOL HVOL HVOL HVOL	HVOL HVOL HVOL HVOL HVOL HVOL HVOL HVOL	HVOL HVOL HVOL HVOL HVOL HVOL HVOL HVOL	HVOL HVOL HVOL HVOL HVOL HVOL HVOL HVOL	HVOL HVOL	HVOL HVOL HVOL HVOL HVOL HVOL HVOL HVOL	HVOL HVOL HVOL HVOL HVOL HVOL HVOL HVOL	HVOL HVOL HVOL HVOL HVOL HVOL HVOL HVOL	HVOL HVOL HVOL HVOL HVOL HVOL HVOL HVOL	HVOL HVOL	HYOL HYOL HYOL HYOL HYOL HYOL HYOL HYOL
BH3	딺	BHS	出	BH3	BH3	BH3	150	NCP	NCP	dUN	aUN	ack		dON	NCP	NCP NCP	NCP NCP NCP	NGP NGP NGP	NCP NCP NCP	NCP NCP NCP NCP NCP	NCP NCP NCP NCP NCP NCP	NCP NCP NCP NCP NCP NCP NCP	NCP NCP NCP NCP NCP NCP NCP NCP	NCP NCP NCP NCP NCP NCP NCP NCP NCP	NCP NCP NCP NCP NCP NCP NCP NCP NCP	NCP NCP NCP NCP NCP NCP NCP NCP NCP NCP	NGP NGP NGP NGP NGP NGP NGP NGP NGP NGP	NGP NGP NGP NGP NGP NGP NGP NGP NGP NGP	NGP NGP NGP NGP NGP NGP NGP NGP NGP NGP	NCP NCP NCP NCP NCP NCP NCP NCP	NGP NGP NGP NGP NGP NGP NGP NGP NGP NGP	NGP NGP NGP NGP NGP NGP NGP NGP NGP NGP	NGP NGP NGP NGP NGP NGP NGP NGP NGP NGP	NGP NGP NGP NGP NGP NGP NGP NGP NGP NGP	NCP NCP NCP NCP NCP NCP NCP NCP NCP NCP	NCP NCP NCP NCP NCP NCP NCP NCP NCP NCP	NCP NCP NCP NCP NCP NCP NCP NCP NCP NCP
1742107	1742107	1742107	1742107	1742107	1742107	1742107	Lab Sample ID	1739825	1739825	1739825	1739825	1739825		1739875	1739825	1739825 1739825	1739825 1739825 1739825 1739825	1739825 1739825 1739825 1739825	1739825 1739825 1739825 1739825 1739825	1739825 1739825 1739825 1739825 1739825	1739825 1739825 1739825 1739825 1739825 1739825	1739825 1739825 1739825 1739825 1739825 1739825 1739825	1738825 1738825 1738825 1738825 1738825 173825 173825 173825	1738825 1738825 1738825 1738825 1738825 1738825 1738825 1739825	1738825 1738825 1738825 1738825 1738825 173825 173825 173825 1739825	1738825 1738825 1738825 1738825 1738825 1738825 173825 173825 173825 173825 1739825	1738825 1738825 1738825 1738825 1738825 173825 173825 173825 1739825 1739825	1738825 1738825 1738825 1738825 1738825 1738825 1738825 1738825 1739825 1739825 1739825 1739825	1738825 1738825 1738825 1738825 1738825 173825 173825 173825 1739825 1739825 1739825 1739825	1738825 1738825 1738825 1738825 173825 173825 173825 1739825 1739825 1739825 1739825 1739825 1739825 1739825	1738825 1738825 1738825 1738825 1738825 1738825 173825 173825 1739825 1739825 1739825 1739825 1739825 1739825 1739825	1738825 1738825 1738825 1738825 1738825 1738825 173825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825	1738825 1738825 1738825 1738825 173825 173825 173825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825	1738825 1738825 1738825 1738825 173825 173825 173825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825	1738825 1738825 1738825 1738825 1738825 173825 173825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825	1738825 1738825 1738825 1738825 173825 173825 173825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825	1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825 1739825

Environmental

Den Issued: 10-Mar-2009

Batch No: 09-07696

Ecowise Program Raf: GOLDER

Client: Golder Associates Pty Ltd

Page 19 of 19

Client Program Ref: 097613052

1738825 1739825 1739826 1739825 1739825

Report Number: 88616

			Sample Value	Expected Value	% Recovery	
	100,000	Learners and the control of the cont	<b>A</b>	स्याः	63.1	
e. Cur	HACE.		A 19	¥.	82.4	
00.53	HACH	-	The second secon		GMP	
<u>}</u>	The second secon	melitered of the light party of the contract o	8	4	971	
ag ag	EVO.	The state of the s	The second secon	***	78.4	
	CAH	1,1,2-Trichloroethane				
Ž			en P	**	02	
SC.		The second of th				

e :-La ⊒

1 C ...

E Golder Associates

Golder Job Numbers

Job Location:

OBSER.

Ĩ 1

09-0769 CHAIN OF CUSTODY *9015* DG7613052

GOLDER ASSOCIATES PTY LTD LEVEL3, SO BURWOOD RD,

Tel: Far: HAWTHORN VIC 3122

Security Sealed SAMPLE STATUS E∰B □ DELIVERED BY: COURIER/LAB GOLDER Morking Days 13 EPA Victoria Publication 48.8 a Table 3 Screen (chital Alita Inch) craolog z elda (t.854 nojhykya) (nojhykya) alekan) Date (804) skneddië balanhokts (109 3 Working Days 4 Working Days Bentzone, Tolucoe, Elhyl bonzens, Xytenea (BTEX) (HQT) anotherabyth mustaries lefal Mativis (As, Cd, Cr (total), Cu, Hg, Hi, Pb, Zn) CONTAIN-(A) Received by: Organisations SAMPLE DEPTH (fi) ANALYTICAL SCHEDULE 0 . 9.0 2.0 \_ ن 0 7 Ö SAMPLE RECEIPT ٥ tahrawa (Orgalder, com. a w Sark Primer SAMPLE 1202 <u>بر</u> بن 680 Date: 3/ 2 Working Days Formor Claybon 1 0400 560 TESProese. SAMPLE ID TAAXOXAMONN ECOUNTRE 543 601 P.K. 1-Working Day 7:49 SAMPLE Laboratory Issued To: Sampled By (Golder): Golder Çontact Emailt Purchase Order No.: Special instructions: Golder Job Contact

HS - Expected Nigh Sallnty HOC - Expected High Total Organic Carbon

Organisation:

Received by:

Dates

Golder Associates

Relinquished by:

-rgankation:

Relinquished by:..

Organisation

Pontroatbuis to Assist Antibuts and OHES O-Expected to be Highly Contemprated N-MAPL Stangie

RECEIVING LABORATORY TO CONFIRM RECEIPT OF ANALYTICAL SCHEDULE BY RETURN FAX TO : 103) 8822 350

Original (white) - Leboratory Duplicate (yellow) - Project File Triblicate foints) - GOC Book

Ambient Frozen 

RECEIVED BY: FAX HAND

Date:



Identifibre Pty. Ltd. Accounts

Asbestos & Synthetic Mineral Fibre Management Services

Brickley House, 469 King Street, West Melhoume 3003 Phone: (03) 9328 2254 Fax. (03) 9328 2612

Email; contact@identifibre.com.au

Report Date:

24 March, 2009

Test Date:

24 March, 2009

Report Number:

10463-1-bsa

Client:

Golder Associates Pty Ltd

Address:

Level 3

50 Burwood Road

Hawthorn

Victoria 312

Attention:

Travis Shreeve

Date Received:

23 March, 2009

Received From:

Travis Shreeve

Sampled From:

As received

Type of Test:

Bulk sample analysis was performed by Polarised Light Microscopy supplemented with

Dispersion Staining Techniques, in accordance with Identifibre Method No. 2.

Identifibre Number	Sample Description/Size	Sample Details	Analysis Result
Z31988	Soil 80 x 60 x 50mm	"AS 1"	No aspestos fibres detected Organic fibres detected
Z31989	Soil 80 x 50 x 40mm	"AS 2"	No asbestos fibres detected Synthetic mineral fibres detected Organic fibres detected
231990	Soil 70 x 60 x 50mm	"AS 3"	No asbestos fibres detected Organic fibres detected
Z31991	50il 65 x 40 x 40 x mm	"A5 4"	No asbestos fibres detected Organic fibres detected

Matthew Owen
Approved Identifier
Identifibre Pty. Ltd.

Matthew Owen
Approved Signatory

Identifibre Pty. Ltd.

NATA

WORLD RECOGNISED
ACCREDITATION
NATA ACCREDITED LABORATORY
NUMBER 15132

This document is found in accordance with NATA's accordabilish requirements. This document shall not be regrodered, except in full.

Colder Associates

CHAIN OF CUSTODY

Page ,

GOLDER ASSOCIATES PTY LTD

SAMPLE ON THE PROPERTY OF THE	Source Control of the State of	The confidence of the confiden	No S	5707				LEV HAN	LEVEL3, SO BURWOOD RD, HAWTHORN VIC 2427	WOOD RD,	i i		l and
SAMPLE SAMPLE OF THE SAMPLE OF	SAMPLE SA	7613052			-				THE WILL	3122	Fax:	(03) 8862 3501	ar I
Section 1 Sectio	COC S. T. Com. Co	Comer Classica St.	3			بسيقيم فيستمد	<u></u>	····					
Section 1 Sectio	SAMPLE SA	LB			<del></del>			(#CB)		······································			
A CAMPA CALC	SAMPE SAMPE SAMPE TYPE DEFINAL BAREALL	1		וא סייו			<del></del>	dynatic	St. C. St.		-	,	1/4/1/2
SAMPLE SAMPLE No. OF TYPE DEPTH (m) CONT. CA.L.  TYPE DEPTH (m) Contrast to the state of the sta	SAMPLE SAMPLE No. OF TYPE DEPTH (m) 17.77 PE DEPTH	00.582.05g		Cr [lot	<u> </u>		الكنين	i <b>c</b> botn	HOHBS		<u>27</u>	} { }	
SAMPLE ID SAMPLE SAMPLE TANCOGNICAN  TANCE  TANCOGNICAN  TANCE  SAMPLE  TANCOGNICAN  TANCE  SAMPLE  SA	SAMPLE DAMPLE SA	Shreewer a acid	to Com. air.	•				րիսիկչչի	iking sh			ģ	<u> </u>
		SAMPLE ID TAXXXXMDNN	SAMPLE SAMPLE No.OF	şintələi		A 4		ce					9
			E JUEFIN (m)		<u>'</u>						<u>ል</u> "'	\ <	V.
Environmental Division Melbourne  CA Work Order R.  CA WOODOTST  Telephone: +RI-3-85-89 9500	Environmental Division Melbourne Mel		-		- 1		Y						+
Environmental Division Melbourne Mel	Environmental Division Melbourne Melbourne A Work Order R  EMO901972				-	上	1	1					
Environmental Division Melbourne  Color River Corder River  Color River Corder River  Color River Corder River  Color River Corder River Corder River  Color River Corder River Riv	Environmental Division Melbourne Mel				-		+	1	-				
Environmental Division Melbourne Melbourne Work Order R  ENVOYOT972	Environmental Division Melbourne Melbourne Mork Order R.  EMO901972  Telephone: +61:3-6549 9500				$\sqcup$		-		-				
Melbourne & Work Order & EMO901972    Continue   Contin	Welbourne R. Engloy Order R. E			1	-						Ţ.	vironmenta! □	, violon
6 EM0901972  [	6 EM0901972    Mark Order K.				-	1	_				Ò	Melbourne	5 (
EM0901972	EMO901972			<u> </u>	1			+	+		1. 0.	Work Order	X J
Telephone: +61-3-6549 9500	Telephone: +Ki-3-6549 9600							+	-	1	-11 -12 -11	140000	(1)
Telephone: +61-3-6549 9600	Telephone: +61-3-6549 9600	7						-	-		1	こうのなが	7 7
Telephone: +61.3.6549 9600	Telephone: +61-3-6549 9600				_	1							
Telephone: + 61-3-6549 9600	Telephone: +61-3-6549 9600			+	-	-	-	╁	1				
Telephone: +61-3-6549 9600	Telephone: +61-3-8549 9600			-		+	1	- -					
releption	Telephone: + K1-3-6549 9500							+		1			
				-						<del> </del>	udeja	lone: +61-3-854	3 9500
				+		-					Andrew Company of the same	* . * . * *	
				#	$\parallel$	╢				<del>  </del>			
						ت		-		_	_		

RECEIVING LABORATORY TO CONFIRM RECEIPT OF AMALY NCAL SCHEDULE BY RETURN FAX TO : 103) 5502 2501 HS - Expected High Salinity HQC - Expected High Total Diganic Carbon # Osmaretions to Asslet Analysis and OHSS C - Expected to be Highly Contaminated N - NAPL Sample

Organisation: Received by:\_\_

Ouplinal (white) - Euboratory
Ouplinala (yallow) - Project File
[hippense (pink) - COC Book

Checked By Forms PC 22: Public By

DN 6/3/0

TJEN AROUND TIME REQUIRED

3 Working Days

4 Working Days

2 Working Days

1 Working Day

Refingulshed by...

Organisations

Received by: Organisation:

Date: ALALES | Recip Time: G. C. J. fa. ANALYTICAL SCHEDULE

.... Dafe: ...

Golder Associates

Refinguished bys.

Separity Sealed SAMPLE STATUS

DELIVERED BY: COURIENLAB GOLDER RECEIVED BY:

Frozen

FAX

### Ranii Weerakkody

From:

Shreeve, Travis [Ishreeve@golder.com.au]

Sent:

Tuesday, 3 March 2009 4:37 PM

To:

Sarah Hodgson

Cc:

Samples Melbourne

Attachments: c0c 2 als.pdf

Sarah.

Further to our discussion, please find attached the coc for soil sample QC2.

Kind regards,

Travis Shreeve (B App Sci (Env Sci)(Hons) gd OH&S) | Environmental Scientist | Golder Associates Pty Ltd

Level 3, 50 Burwood Road; Hawthorn, Victoria 3122, Australia (PO Box 6079, Hawthorn West VIC 3122) T: +61 3 8862 3500 | D: +61 3 8862 3553 | F: +61 3 8862 3501 | M: +61 402 582 059 | E: <a href="mailto:tshreeve@golder.com.au">tshreeve@golder.com.au</a> | <a href="https://www.golder.com">www.golder.com</a>

Winner of eight BRW Client Choice Awards 2008 2007 2008 Work Safe, Home Safe

This eined transmission is confidential and may contain proprietary information for the exclusive use of this intended recipient. Any use, distribution or copying of this transmission, other than by the intended recipient, is strictly prohibited. If you are not the intended recipient, please notify the sender and detere all copies. Electronic media is susceptible to uneuthorized modification, deterioration, and incompatibility. Accordingly, the electronic media version of any work product may not be relied upon.

Please consider the environment before printing this email.

This email has been scanned through the CEL Domain

### Rosalinda Laria

From: Rosalinda Laria

Sent: Friday, 6 March 2009 4:38 PM

To: 'Shreeve, Travis'

Subject: Job: 097613052 (EM0901972)

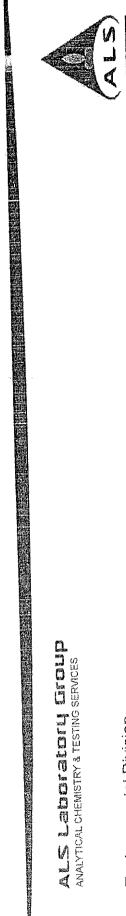
Hi Travis,

I am emailing to request a Purchase Order number for Sample QC2 on CoC: 5707, for Job: 097613052 – Former Clayton South Primary School. Thank you.

Kind Regards,

Rosalinda Laria
Administration
ALS Laboratory Group
Environmental Division
Melbourne, Australia
Phone: +61 3 8549 9800
AX: +61 3 8549 9601
www.alsglobal.com

### ALS CALIFICATION SERVICES ANALYTICAL CHEMISTRY & TESTING SERVICES



# Environmental Division

### CERTIFICATE OF ANALYSIS

and the second s			
Work Order	: EM0901972	Page	: 1 of 5
Amendment	egenta 11		
1 1 1 1 1 1 1	SOUTH ASSOCIATES	Laboratory	: Environmental Division Melbourne
Caent	. MR TRAVIS SHREEVE	Contact	: Steven intocrem: - 4 Westall Rd Springvale VIC Australia 3171
2ddress	P O BOX 6079	The second	
	HAWTHORN WEST VIC, AUSTRALIA 3122	Z. C.	. shoven montaih@alsenviro.com
ineri-	; tshreeve@golder.com.au	E-men Telentionic	: +61-3-8549 9600
Telephone	; +61 D3 8862 350D	e indiane i	; +61-3-8549 9601
=acs.mile	+61 03 8862 3501	100000	. NEPM 1999 Schedule B(3) and ALS QCS3 requirement
บัตเดีย	; 097613052		
Order number	26100	Date Samples Received	: 03-MAR-2009
D-O-O RUMBER	: 5707	(ssue Date	: 16-MAR-2009
Sampler	.15		
盖	; Former Clayton Sth Primary Sch	No. of samples received	Ľ.
	ad cooler to	No. of samples analysed	and the second s
	2211	Andrew Comment and the second	NAZIUS
Total Control of the		ne sample(s) as submitted.	און המקנים בי יינים יכונים

This report supersecies any previous report(s) with this reference. Results apply to release.

This Certificate of Analysis contains the following information:

- General Comments
  - Analytical Results
- Surrogate Control Limits

Signatories

Signatories indicated below. Electronically signed by the authorized signatories indicated below. Electronic signing has been this document has been electronically signed by the authorized signatories indicated below. carried out in compliance with procedures specified in 21 CFR Part 11. NATA Accredited Laboratory 825

Xingbin Lin Signatories This document is issued in accreditation requirements. accordance with NATA

Aorreritation Category
Organics Instrument Chemist Position

4 ...



Accredited for compliance with ISO/IEC 17025.

Enutronmental Diuiston Metbourne
Part of the ALS Laboratory Group
4 West Rospinge VIC Autrals 317
Tel. 461-2-8549 9601 www.alsglobal.com
A Campbell Brothers Limited Company



A Campbell Brothers Limited Company



3 of 5 EM0901972 Amendment 1 GOLDER ASSOCIATES 097613052 Page Work Order Project Client

### General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the Environmental Division have been developed from established internationally recognized procedures such as those published by the Environmental Division have been developed from established internationally recognized procedures such as those published by the Environmental Division have been developed from established internationally recognized procedures such as those published by the Environmental Division have been developed from established internationally recognized procedures. developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LCR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported tesuit differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the faboratory for processing purposes. If the sampling time is displayed as 0.00 the information was not provided by client.

CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society. Key

\* This report has been amended and re-released to allow the Purchase Order number to be added to the report. All analysis results are as per the previous report. 16(93)09  $\kappa=7hig$  result is computed from individual analyte detections at or above the level of raporting



: 4 of 5 : EM0901972 Amendment 1 : GOLDER ASSOCIATES : 097613052

Page Work Order Client

Project

Analytical Results

Sub-Matrix: SOIL		Client sample 1D			***************************************		
	Clients	min data / Hm	The second section is a second second section of the second second section is a second second second section section second seco		-	1	
	1000	auch danipung date / time			Terrender - 1 de brons, de l'Année de l'Anné	lime . The Country Symphole Intelligence space in the separate	The state of the s
	CAS Number	LOR Unit	EM0901972-001	Andrews of the control of the contro	- African - and - african accompletely commentation of the comment	11 cm cm, tiffide recommendation com autocommentation before and a feet of the comments of the	throughternesses.
							•
* Moisture Content (dried @ 103°C)	1	1.0   %	45.4		生工作 医医性性性		
ा निर्धातिक श्रीतना तहाता ता हा इन्हान महिन्द्र हो हो है		-		-	1	The state of the s	
	240 14 0 10 0 00						
Hexachlorobenzene (HCB)	4	-	<0.05		The state of the s	t an endaja kuj fiziri ozgađeji jeda spira mjihoji presiona in planimat na dogovini a minoje jeme nj	1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m
errelijani an valden i valden i salden part i titi. I man besterplend gaganne de missagen	ii		<0.05	A regress of all them to Assess to Assess to Assess to Assess the Assess to Assess the Assess to	- allegant	Selection to the contract of t	
CASTRONOMICA PARA CASTRONICA PROPRIATO PROPRIATO MILITARIO DE CASTRONICA PARA	319-85-7 0.05	******	<0.05	Commence and community of the state of the s	erannensperioren om emplemente, entere o est objektest motan est promotan tom	American desirable desirab	
		35 mg/kg	<0.05	manifered transfers. The first ray of special control and special	Proceedings of the second seco	State of the contract of the c	***************************************
	319-86-8 0.05	***********	<0.05	[ <u>;</u>	1.	1	1
The second secon			<0.05	arrimmerejpinalistenningen, i fillman "ünferblum i lyönillimi ansantymingi" i, ap	Pelebuntan despektionisma (manasa tangan tersebutan mangkat manasa tangan tepang dangan		***************************************
	309-00-2 0.05	5 mg/kg	<0.05		1	1	The second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the section of the second section of the section of the second section of the sect
de	1024-57-3 0.05		50.05	and the second of the second s	The state of the s	1	,
	5103-74-2 0.05	<u> </u>	60 DS	Property and the consequence of	The state of the s	and the same of th	The party and the second of the second party and the columns to be second
fan	959-98-8 0.05	Jaine E	TO US	A CONTRACTOR OF THE PARTY OF TH		The same of the sa	The state of the s
rdane	Ĺ	j Ngite,	0000			The first the statement of the forest transfer of the first transf	
American de la martina de la companya del la companya de la compan	Ī	Bulgin	CO'O	The state of the s	The state of the s	* of the control collection comments who is a comment than	
4.4-DDE	THE CONTRACTOR OF THE PARTY OF		<0.05	1	A Second of the contract of th	esse mark finally many to the sufficient mental the mark	All families appear regular (in 1991)
Endring	į	ng/kg	<0.05	*** **********************************	Marin and the second se	the state of the s	
beta-Endosulfan	į		<0.05	And the second control of the second control	chiefe in a magnification of sections as make where the section of Philosophics	The contraction of the contracti	
errein den den den den den den den den den de	33213-65-9 0.05		<0.05	The second secon	ere andere deren sestemben ettigensperiment i beldermidge i delle til detandet i innerente	and the second s	
is a first constant of the co	_		<0.05	dala Prillian Uppinder ritado en activida instituto de la companya de la companya de la companya de la company		The state of the s	management of the control of the con
G.	ļ	.	<0.05		· Francisco Campaign man against the stall improvement in supporter on the beautiful many	de la companya del companya de la companya del companya de la companya del la companya de la com	Annual Conference of Conferenc
and any observation of the factor of the second second second second second second second second second second	أ		<0.05	ter Company of the control of the co	Minter J. vingeleimen Minteriorischen Minteriorischen J. v. J. v. 1864	The second of the second secon	The second secon
OF CA		ا أسبت. ا	<0.2	Biology	in and different control of the cont	The line of the control of the contr	
esten (desembly) (1) - 15 demokratije Spredovskije in Propinski Bertaline Monte - International and International Company			<0.05	And the second s	demokratic salice communication and a second com	The second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the section	
	72-43-5 0.2		A 2	the state of the s	Complete Control of Communication (Co.) Description (and control of Control o	The statement of the st	The state of the s
मन्यपुष्टिं जिल्लानम्। जिल्लानम्। जन्मानस्य					or the state of th	1	-
	21655-73-2 0.1	%	80.3			The state of the s	
337/1837, Organophosphorusi Pesitrine Surrogalis. P						The second secon	Additional Contraction of the Co
The second secon	78-48-8 0,1	%	69,4			A Constitution of the Assessment Parameter Like Special Section and Section Se	The second secon
				ů.	naare	1	1



| Page | 5 of 5 | Mosk Order | EM0801972 Amendment 1 | Citent | GOLDER ASSOCIATES | Project | 097613052

Surrogate Control Limits

			***	
	Recovery Limits 5%	Limits (%)		
SECONDICK SOIL	LOW		High	
Compound apulitis (Organization) Pesture Editional			128	
2.1655-73-2	Option Committee of the	4		
	And the second s	To the second		
2-04-07	20	1	Commence of the commence of th	an.
The state of the s				



Identifibre Pty. Ltd

Asbestos & Synthetic Mineral Fibre Management Services Brickley House, 469 King Street, West Melbourne 3003 Phone: (03) 9328 2254 Fax: (03) 9328 2612 Email: contact@identifibre.com.au

Report Date:

10 March, 2009

Test Date:

10 March, 2009

Report Number:

10413-1-bsa

Clent

Golder Associates Pty Ltd

Address:

Level 3, Burwood Road, Hawthorn, Victoria 3122

Attention:

Mr. Travis Shreeve"

Date Received:

10 March, 2009

Received From:

Mr. Travis Spreeve

Sampled From:

As received

Type of Test:

Bulk sample analysis was performed by Polarised Light Microscopy supplemented with Dispersion Staining Techniques, in accordance with Identifibre Method No. 2.

Identifibre Number	Sample Description/Size	Sample Details Analysis Result
<b>731826</b>	Cement sheet 60 x 20 x 5 mm	*C.S.1** Chrysottle (white aspestos) detected Amosite (brown aspestos) detected Crocidelite (blue aspestos) detected
Z31827	Cement sheet 30 x 20 x 5 mm	"G.S.2" Chrysotile (white asbestos) detected Crocidalite (blue asbestos) detected

Matthew Owen Approved Identifier Identifibre Pty, Ltd.

Approved Signatory

Identifibre Pty. Ltd..

## APPENDIX G

Quality Assurance and Quality Control



### Quality Assessment and Quality Control

### 1.1 Quality Assurance Objectives

The overall assessment of the Golder Associates quality assurance program for the soil and groundwater sampling has been made in terms of completeness. The completeness is equal to the percentage of valid quality assurance and quality control results. Golder Associates considers that a completeness target of 95% is appropriate.

The quality assurance and quality control results for soil that meet the acceptance criteria include the following:

- All field duplicates recording a Relative Percentage Differences (RPDs) less than 50%;
- All primary laboratory internal duplicates recording RPDs less than 30%;
- All primary laboratory spikes for organics falling in the range of 70% to 130%;
- All primary laboratory spikes for in-organics falling in the range of 85% to 115%;
- All primary laboratory internal blanks below reporting limits; and
- An overall completeness of greater than 95% to be achieved.

#### 1.2 Results

Results for primary and secondary duplicates are presented in Table F3, Appendix F at the rear of this report. The following quality assurance measures were undertaken:

- One primary duplicates and one secondary duplicate were collected during the assessment and a total of eight primary samples analysed. This equates to an analysis frequency of 12.5% which complies with the specified collection rate of 5%.
- No rinsate blanks were taken in total during the field works as soil was directly sampled into the containers using disposable nitrile gloves.
- In addition to Golder Associates quality assurance procedures, the primary laboratory conducted its own internal quality procedures to verify their results. A percentage of the samples analysed were tested against measurable standards to check that laboratory methods were working within acceptable limits. Spike samples, internal duplicates and method blanks were all used in the laboratory testing programs to support reported results. Details of these results appear in the certified results supplied by the individual laboratories.





## Quality Assessment and Quality Control

Table 9: Summary of Soil QA/QC Results

Table 9: Summary of S	Boil QA/QC Results Number of Results	THE REPORT OF LAND AND THE PROPERTY OF THE PARTY OF THE P	Percentage Meeting
QC Sample Type	NOT Meeting Data Quality Objectives	Results (Individual Analytes)	Data Quality Objectives
Primary Duplicates	0	21	100%
Secondary Duplicates	Ô	<b>21</b> 79	100% 100%
Internal Duplicates	0	71	100%
Internal Spikes Method Blanks	0	214	100%
Overall	0	406	100%
Completeness	The district of the second	The state of the s	· George (Age Man Tigger visited and Age visi

A summary of the overall results for the soil QA/QC program is provided in Table Error! Reference source not found, and discussed below:

- Of the 21 primary duplicate analytes, 0 returned RPDs greater than 50%, representing a conformance level of 100%.
- Of the 21 secondary duplicate analytes, 0 returned RPDs greater than 50%, representing a conformance level of 100%.
- A review of the RPDs for the Internal Duplicate tests indicates that none of the tests conducted produced results above the desired 30% RPD conformance limit. This represents compliance of 100% and provides a good level of confidence in the accuracy of the primary laboratory data.
- A review of the 71 Internal Spike results indicates that one test provided a recovery not within 70-130% for organics, representing a conformance level of 100%. This provides a good level of confidence in the overall accuracy of primary laboratory data.
- A review of the Method Blank tests indicates that all laboratory internal blanks were below laboratory reporting limits. This represents compliance of 100% and provides a good level of confidence in the accuracy of the primary laboratory data.

#### QA/QC Summary 1.3

The completeness of 100% is above the overall completeness objective of 95%. Based on this, it is considered that the overall data quality generated during the assessment of soils by Golder Associates is of sufficient quality upon which to base decisions for this assessment.



62

## **APPENDIX H**

Limitations



# DUE DILIGENCE ASSESSMENT - FORMER CLAYTON WEST

### LIMITATIONS

This Document has been provided by Golder Associates Pty Ltd ("Golder") subject to the following limitations:

This Document has been prepared for the particular purpose outlined in Golder's proposal and no responsibility is accepted for the use of this Document, in whole or in part, in other contexts or for any other purpose.

The scope and the period of Golder's Services are as described in Golder's proposal, and are subject to restrictions and limitations. Golder did not perform a complete assessment of all possible conditions or circumstances that may exist at the Site referenced in the Document. If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by Golder in regards to it.

Conditions may exist which were not detected given the limited nature of the enquiry Golder was retained to undertake with respect to the Site. Variations in conditions may occur between assessment locations, and there may be special conditions pertaining to the Site which have not been revealed by the Investigation and which have not therefore been taken into account in the Document. Accordingly, additional studies and actions may be required.

In addition, it is recognised that the passage of time affects the information and assessment provided in this Document. Golder's opinions are based upon information that existed at the time the information is collected. It is understood that the Services provided allowed Golder to form no more than an opinion of the actual conditions of the Site at the time the Site was visited and cannot be used to assess the effect of any subsequent changes in the quality of the Site, or its surroundings, or any laws or regulations.

Any assessments, designs, and advice provided in this Document are based on the conditions indicated from published sources and the investigation described. No warranty is included, either express or implied, that the actual conditions will conform exactly to the assessments contained in this Document.

Where data supplied by the client or other external sources, including previous site investigation data, have been used, it has been assumed that the information is correct unless otherwise stated. No responsibility is accepted by Golder for incomplete or inaccurate data supplied by others.

Golder may have retained subconsultants affiliated with Golder to provide Services for the benefit of Golder. To the maximum extent allowed by law, the Client acknowledges and agrees it will not have any direct legal recourse to, and waives any claim, demand, or cause of action against, Golder's affiliated companies, and their employees, officers and directors.

This Document is provided for sole use by the Client and is confidential to it and its professional advisers. No responsibility whatsoever for the contents of this Document will be accepted to any person other than the Client. Any use which a third party makes of this Document, or any reliance on or decisions to be made based on it, is the responsibility of such third parties. Golder accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this Document.

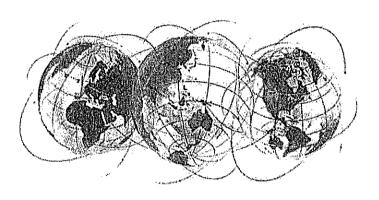
GAP Form No. LEG04 RL1



At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960; we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South-America.

Africa + 27 11 254 4800 Asia + 852 2562 658 Australasia + 61 3 8862 3500 Europe + 356 21 42 30 20 North America + 1 800 275 3281 South America + 55 21 3095 9500

so utions@gclder.com www.golder.com



Golder Associates Pty Ltd Level 3, 50 Burwood Road Hawthorn Victoria 3122 Australia T: +61 3 8862 3500





L1, 261-271 Wattletree Road

Malvern, VIC, 3144

P: 9508 0100

F: 9509 6125

E: admin@prensa.com.au

ABN: 12 142 106 581

6 December 2011

D0003:MJN 10879 Clayton West P5 Doc Review

Adam Bradley
Department of Treasury and Finance
1 Treasury Place
Melbourne VIC 3000

Dear Adam,

### Clayton West Primary School Desktop Document Review

Prensa Pty Ltd (Prensa) was engaged to undertake a desktop document review of reports provided by the Department of Treasury and Finance (DTF), on the behalf of Department of Education and Early Childhood Development (DEECD), relating to environmental works undertaken at the former Clayton West Primary School, Oakleigh South (the Site).

#### 1. Introduction

DEECD propose to divest the former Clayton West Primary School property. The Site is located at Alvina Street, South Oakleigh and the total area of the Site is approximately 20,600 m² (2,06 ha). It is understood that the school buildings were demolished in 2008 and that the Site has since remained vacant with vegetation around the perimeter.

#### 2. Background

It is understood that the DEECD requested a Phase 1 Environmental Site Assessment (PESA) and a Phase 2 Environmental Site Assessment (ESA) be undertaken at the Site. The PESA was undertaken by Atma Environmental (Atma) in 2008 and is referenced as *Phase 1 Environmental Site Assessment: Former Clayton West Primary School, South Oakleigh, Victoria,* 12<sup>th</sup> February 2008. The subsequent ESA was undertaken by Atma and Is referenced as *Phase 2 Environmental Site Assessment: Former Clayton West Primary School, South Oakleigh, Victoria,* 15<sup>th</sup> October 2008.

DTF, on the behalf of DEECD, requested Prensa to undertake a desktop document review to evaluate the suitability of the two aforementioned assessments undertaken at the Site to assist DEECD in divesting and potentially rezoning the Site to a sensitive land use. The document review was conducted with reference to the following documents:

- Ministerial Direction No.1 Potentially Contaminated Land (September 2009); and
- Department of Sustainability and Environment (DSE) Publication Potentially Contaminated Land — General Practice Note (June 2005).

-property: cardionments safetys



(7)

14.

### 3. Objective

The objective of the desktop document review is to evaluate the suitability of assessments undertaken at Clayton West Primary School in assisting DEECD with divesting and potentially rezoning the Site.

### 4. Reports Review

### 4,1 Atma PESA Report

The PESA undertaken by Atma identified that the school buildings were constructed prior to 1963. Prior to the development of the Clayton West Primary School the Site was used for agricultural purposes, with the aerial photographs indicating that the northern section of the Site was used for cultivation. A quarry was identified adjacent to the south west of the Site, the aerial photographs indicated that the quarry had been developed into a recreational park by 1984. Based on the Atma site inspection, it was identified that a limited amount of fill may have been used for the landscaping of the children's play area on the eastern boundary of the Site.

The PESA identified two (2) underground storage tanks (USTs) at the Site, which serviced boiler rooms adjacent to the USTs. The capacity of the USTs could not be determined at the time of the PESA.

Based on the findings of the PESA Atma recommended that an ESA be undertaken at the Site, which involved the establishment of 31 gridded locations to assess the potential for contamination to be present on site relating to the importation of fill. Atma also recommended the removal and validation of the USTs, along with the removal of any associated contamination. A groundwater investigation was recommended due the presence of the two USTs and the potentially shallow groundwater.

#### 4.2 Atma ESA Report

The Atma Phase 2 ESA comprised the collection of ninety (90) soil samples from thirty (30) gridded soil sampling locations and the collection six (6) soil samples from two (2) targeted soil sampling locations adjacent to the USTs. The assessment also involved the removal of the USTs and collection of validation samples from the walls and base of the UST pits.

The soil sampling identified fill in numerous locations, comprising silty sand with gravel and brick fragments in some locations. The natural soil comprised silty sand and sand.

The gridded soil samples were analysed for a combination of the following:

- Two (2) EPA screens:
  - Mono-cyclic aromatic hydrocarbons (MAH);
  - Total recoverable hydrocarbons (TRH);
  - Polycyclic aromatic hydrocarbons (PAH);
  - Polychlorinated biphenyls (PCB);
  - Organochlorine pesticides (OCP);
  - Chlorinated hydrocarbons (CHC); and
  - Phenolic compounds.
- Fifteen (15) samples analysed for metals; and
- Eight (8) samples analysed for PAH.



The targeted soil samples collected from adjacent to the USTs were analysed for TRH.

The soil samples collected from the walls of the UST excavation were analysed for TRH and benzene, toluene, ethylbenzene and toluene (BTEX). The samples collected from the base of the UST were analysed for TRH, BTEX, PAH and phenois.

The analytical results for the gridded and targeted samples were compared to the adopted ecological investigation levels (EILs) and the adopted National Environmental Protection Measure (NEPM) health investigation levels (HILs) for low density residential (HIL A) land use. The gridded and targeted soil samples analysed reported contaminant concentrations less than the adopted EILs and HIL A.

The analytical results for the validation samples were compared to EPA Publication 448.3, Classification of Wastes. The contaminant concentrations for the validation samples collected from the UST pits were less than the maximum allowable concentrations for Fill Material and were therefore classified as Fill Material.

Based on the analytical results from the Atma assessments, Atma concluded that 'the site does not contain contaminant levels potentially harmful to human health'.

A groundwater investigation was considered unnecessary by Atma as the results indicated low to non-detectable levels of contaminants and no other potential groundwater contamination sources were identified on site.

### 5. Findings

The site history review was undertaken by Atma in general accordance with Australian Standard 4482.1, Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: non-volatile and semi-volatile compounds, 2005. The site history identified that the Site was historically used for agriculture prior to being developed into Clayton West Primary School.

Table 1 in the DSE General Practice Note separates specific land uses and activities into high, medium and low potential for contamination to occur. The PESA undertaken by Atma identified two (2) USTs associated with boilers and that fill may have been imported onto the Site for the landscaping of children's play areas. Table 1 of the Practice Note lists the presence of USTs with no evidence of leaks as having a medium potential for contamination to occur. The Atma assessment reported that the validation and stockpile samples did not have an odour or staining, the photoionisation detector (PID) readings were low and the TRH concentrations were less than the laboratory's limit of reporting (LOR). Table 1 also lists the importation of fill as having a medium potential for contamination to occur.

Table 2 of the Practice Note outlines the required level of assessment for sites being developed for a sensitive land use (i.e. residential). For a site being developed for a sensitive land use with a medium potential for contamination to be present, a site assessment from a suitably qualified environmental professional is required if insufficient information is available to determine if an environmental audit is appropriate.

It is considered that the site history in the Atma Phase 1 ESA identified the previous land uses at the Site and provided sufficient information to develop an appropriate sampling and analytical schedule for the Phase 2 ESA. The gridded sampling density and analysis undertaken as part of the Phase 2 ESA was considered appropriate based on the past uses and area of the Site.



The Phase 2 ESA undertaken by Atma involved soil sampling in a grid across the Site, two targeted boreholes adjacent to the USTs and the validation of the UST pits. The density of sampling locations is consistent with the minimum sampling density outlined in Australian Standard 4482.1-2005 for a site 2.06 ha in area. This sampling density provides a contaminant hotspot detection radius of 15.2 m. The analytical schedule was consistent with the primary contaminants of concern identified in the Atma Phase 1 ESA. The analytical results of the gridded and targeted soil samples reported contaminant concentrations less than the adopted EILs and 'A' HILs for a low density residential land

The analytical results for the validation works were compared to EPA Publication 448.3. This publication relates only to the classification of soil for off-site disposal and does not provide investigation levels for environmental or human health risks. The analytical results should have been compared to the NSW EPA (1994) *Guidelines for Assessing Service Station Sites*, which was the industry standard document at the time of the assessment. The current standard document for the comparison of analytical results is the Canadian Council of Ministers of the Environment (CCME) (2001) *Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil*. The analytical results provided with the Atma Phase 2 ESA were less than the laboratory limits of reporting (LOR), which provides an indication that the areas surrounding the UST are unlikely to have been impacted.

The information relating to the validation works undertaken during the UST removal works indicated that validation samples were collected from the base and walls of the excavations. The position of the validation samples on the walls of the excavations is not clear in the information provided by Atma. However, based on the field observations (i.e. low photo-ionisation detection (PID) readings, lack of odour and staining), the laboratory results of the stockpiled tank packing sands and validation samples, it appears that the walls of the excavations are unlikely to have been significantly impacted. Therefore, based on the results of both the UST validation and the gridded and targeted soil sampling, the Site is not 'potentially contaminated land' as defined in the DSE Planning Guidance Note. It would be considered unlikely to pose a potential health risk to future users of the Site in the event it is rezoned to a more sensitive land use and therefore it is unlikely to require an environmental audit (subject to local council approval).

Asbestos removal works were undertaken at the Site prior to the demolition of the school buildings as outlined in the Enviro Protect report Final Clearance Certificate — Asbestos Removal, 4<sup>th</sup> August 2008 (ref: 19852). The asbestos removal works were undertaken by AWARE from the 16<sup>th</sup> June to the 8<sup>th</sup> July 2008 and the asbestos air monitoring works were undertaken by Enviro Protect. Enviro Protect state that the visual inspection following the asbestos removal works confirmed the visible asbestos materials had been removed from the areas outlined in the Enviro Potect report.



Should you have any questions or queries regarding the report, please do not hesitate to contact Steve Bos or myself on 9508 0100,

Yours sincerely,

Marcus Neve

**Environmental Consultant** 

Prensa Pty Ltd



### Statement of Limitations

This document has been prepared in response to specific instructions from the Department of Treasury and Finance to whom the report has been addressed. The work has been undertaken with the usual care and thoroughness of the consulting profession. The work is based on generally accepted standards, practices of the time the work was undertaken. No other warranty, expressed or implied, is made as to the professional advice included in this report.

The report has been prepared for the use by the Department of Treasury and Finance and the use of this report by other parties may lead to misinterpretation of the issues contained in this report. To avoid misuse of this report, Prensa advise that the report should only be relied upon by the Department of Treasury and Finance and those parties expressly referred to in the introduction of the report. The report should not be separated or reproduced in part and Prensa should be retained to assist other professionals who may be affected by the issues addressed in this report to ensure the report is not

Prensa is not a professional quantity surveyor (QS) organisation. Any areas, volumes, tonnages or any other quantities noted in this report are indicative estimates only. The services of a professional Q5 organisation should be engaged if quantities are to be relied upon.

### Reliance on Information Provided by Others

Prensa notes that where information has been provided by other parties in order for the works to be undertaken, Prensa cannot guarantee the accuracy or completeness of this information. The Department of Treasury and Finance therefore waives any claim against Prensa and agrees to indemnify Prensa for any loss, claim or liability arising from inaccuracies or omissions in information provided to Prensa by third parties. No indications were found during our investigations that Information contained in this report, as provided to Prensa, is false.

#### Recommendations for Further Study

The industry recognised methods used in undertaking the works may dictate a staged approach to specific investigations. The findings therefore of this report may represent preliminary findings in accordance with these industry recognised methodologies. In accordance with these methodologies, recommendations contained in this report may include a need for further investigation or analytical analysis. The decision to accept these recommendations and incur additional costs in doing so will be at the sole discretion of the Department of Treasury and Finance and Prensa recognises that that the Department of Treasury and Finance will consider their specific needs and the business risks involved. Prensa does not accept any liability for losses incurred as a result of the Department of Treasury and Finance not accepting the recommendations made within this report.

14.1

## Atma Environmental

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT: Former Clayton West P.S., Alvina Street, Oakleigh South, Victoria.

Prepared for:

Department of Education and Early Childhood Development 2 Treasury Place EAST MELBOURNE, VIC 3002

Project Ref. 509 Clayton West PS Date: 12 February 2008



### Report Finalisation & Distribution

PROJECT REFERENCE:

#509 Clayton West ESA

REPORT TITLE:

Phase 1 Environmental Site Assessment:

Former Clayton West PS, Alvina Street, Oakleigh South,

Victoria.

DAIE:

12th February 2008

PROTECT MANAGER!

Flynn Clarke, Environmental Consultant

REVIEWED/APPROVED BY,

This document is copyrighted by Atma Environmental Pty Ltd. It is and shall remain the property of Atma Environmental Pty Ltd. and may only be used for the purposes for which is was commissioned and in accordance with our Terms of Agreement for Professional Services and subject to any limitations noted. This report is prepared solely for the use of the person or organisation to which it is addressed and is not to be reproduced in whole, or in part, or included in any other document without our written permission. No responsibility or liability to any third party is accepted for any damages arising out of the use of this property by a permission. third party

### DOCUMENT STATUS:

			. North 1 I what - 4 of the major state 200 milys who had been properly 12:00 in passes (11:2)	The state of the s
Revision No.	Status	Date	Prepared By	Reviewer
()	Firal	12/02/2008	FC.	GB
ALLIED MAN CONTRACTOR OF THE PARTY OF THE PA	-control to the second of the	any attack to the control of the con	1	William Committee States Symphology of Committee Committ
1	The state of the s	Annance and the property of the second second second second	de la construction de la constru	Martin Martin Company of the Company

<sup>\</sup>Terra\ntma files\Anna shared files\PROJECTS\509 Clayton\...\509 Phase 1 report..doc

#### DISTRIBUTION LIST:

			and the second second second	Company of the compan
No. of Copies	Document Status	Date	Copy Type (pdf)	Distributed to:
3	Final	12/02/2008	1 x pdf 2 x hard copy	Department of Education and Early Childhood Development (Attn: Ms. Deanne Leaver)
	Final	12/02/2008	1 x pdf	Atma Environmental (File)

Unless indicated, this report has been provided by Atma Environmental Pty Ltd in an electronic format. Atma Environmental Pty Ltd considers the office archival version to be binding. Documents in an electronic format are provided for the convenience of the recipient and we request that they ensure that the integrity of this electronic information is maintained. Storage of this electronic information should at a minimum comply with all legal requirements.

### © 2008, Atma Environmental Pty Ltd (ABN: 37 080 479 992)

67.83 Daver Siteet, Richmond, VIC 3121 Telephone: (03) 9429 5955 Fax: (03) 9429 5971 Mobile 0412 000 445 Web: www.atmaenvironmental.com

### Table of Contents

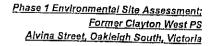
	EXEC	CUTIVE SUMMARY1
1	INTR	ODUCTION2
2	<b>OBJE</b> 2.1 2.2	CTIVES AND SCOPE OF ASSESSMENT
3	SITE	AND REGIONAL SETTING2
	3.1 3.2 3.3 3.4 3.5 3.6	Regional Setting
4	RECO	RDS REVIEW5
	4.1 4.2 4.3	Prior Environmental / Other Reports
5	SITEF	RECONNAISSANCE8
6		CONTAMINATION POTENTIAL10
	6.1 6.2	Past, Current and Proposed Use of the Property
7		LUSION AND RECOMMENDATIONS11
8		TIONS AND EXCEPTIONS OF ASSESSMENT12
9	REFER	RENCES12
		List of Tables
	Table 1 Table 2	Summary of Aerial Photograph Site Observations Potential Contaminants and Possible Sources
	TV	List of Figures
	Figure 1 Figure 2	Sité Location Site Details
	Figure 3	Groundwater and Site Geology

Figure 4 Aerial Photograph 1951 and 1963
Figure 5 Aerial Photograph 1984 and Recent

### List of Appendices

Appendix A
Appendix B
Extract of EPA Priority Site Register
Appendix C
Appendix D
Appendix D
Appendix E
Appendix E
Appendix E
Appendix F

Site Photographs
Extract of EPA Priority Site Register
Cathodic Protection Systems Database Search
WorkCover Dangerous Goods Database Search
Certificates of Land Title
Melway - 1966





### **EXECUTIVE SUMMARY**

The subject property (known as Clayton West Primary-School) has undergone a Phase 1 Environmental Site Assessment (ESA) including a site history review and site reconnaissance visit the objective being to identify past uses that could potentially contribute to site contamination.

Locally, the underlying geology consists of Brighton Sands which may be of high permeability. The site consists of a 2.06 ha lot, containing three primary school buildings (built ~1960s), two sheds, asphalt playing courts and an oval on the southern portion of the site. The site history review suggests the site had been used for agricultural purposes prior to the establishment of the primary school or was recently cleared land. The northern portion of the site may have been used as a market garden, presenting a medium level of contamination risk, however, this is not confirmed. From at least 1963 to the current day the site has been occupied by the primary school. Two underground fuel tanks are identified at the site which do present a higher risk of site contamination.

Areas of potential environmental concern noted after the site reconnaissance include two underground fuel storage tanks. Some limited amounts of fill material in the vicinity of the children playground should be screened as part of the site testing.

Sufficient and appropriate sampling consistent with the Australian Standard should be completed for the site as proposed. Given the results of the Phase 1 site assessment, a soil investigation would need to include grid-based sampling at 31 locations with at least one of these in the playground area mentioned.

UST removal and validation to ensure all contamination has been removed along with a groundwater investigation to ascertain if leakage has occurred is recommended.

#### INTRODUCTION 1

'The Site' located at Alvina Street, Oakleigh South, Victoria is a relatively smaller disused Primary School comprising of three school buildings, two sheds, children's play area and an oval. The school, situated in a residential area, operated between -1960 and December 2006.

#### OBJECTIVES AND SCOPE OF ASSESSMENT 2

### 2.1 Assessment Objective

This assessment is for the purpose of due diligence. The objective of this report was therefore to collect and assess historical data and other records of its previous use, to conduct a site inspection to determine the potential of any soil and groundwater contamination to be present at the site, the nature of the contaminants (if any), and the possible locations of contamination, and to document the findings.

#### 2.2 Scope

The investigation was commissioned by Deanne Leaver of the Department of Education and Early Childhood Development on the 10th of December 2007 and was undertaken in general accordance with our proposal dated 09/11/2007 (ref. Q07433). The scope of work comprised of:

- Documentation of the site history information gathered including review of aerial photos, standard records review, all other desktop information.
- Site reconnaissance visit by a qualified environmental specialist;
- Provision of recommendations for further actions if required.
- Preparation of Phase 1 Environmental Site Assessment (ESA) report including all historical data.

#### SITE AND REGIONAL SETTING 3

### 3.1 Regional Setting

The location of the site is shown on Figure 1. Details relating to the general features around the site and general land uses are listed below:

The site is approximately 16 km southeast of Melbourne City centre in the City of



Monash.

- The site is zoned Public Use Zone Education.
- The adjacent properties to the north, east and south are zoned 'Residential 1 Zone', while to the west the adjacent land (a former quarry) is zoned 'Special Use Zone 2', and is subject to an environmental audit overlay. There is no Environmental Audit Overlay over the site.
- Currents uses adjacent to the site include residential and a plant nursery to the north. A former quarry borders the southwest side, but is disused.
- The Melway location reference is 78-K1.
- Regionally, drainage is thought to be towards the south to south-west.

### 3.2 Site Characteristics and Improvements

Figure 2 shows the main site features. A summary is provided below of characteristics observed during the site reconnaissance:

- The site under investigation is legally identified by the land title vol: 8271/fol: 535 having a square area of 2.06 ha (approximately 137 m x 148 m).
- The northern portion of the site contains school buildings, while the southern portion of the site contains an oval and an asphalt basketball court. A children's play area is located on the eastern boundary of the site.
- The site is bordered by wooden fence to the north, east and south.
- A limited amount of fill material associated with landscaping the childrens play area was identified.
- The site is relatively flat with a small western to south-western facing aspect.
- There are no ditches, ponds or other water bodies present.
- Site surfacing includes cement/bitumen hardstand around buildings and grass.

Photographs of the site taken during the site reconnaissance visit are located in Appendix A.

### 3.3 Topography

The site is slightly sloping to the west to south-west. The site is located at approximately 66 m above sea level. Locally, topography is undulating low hills. The overall vertical relief of the site from the highest (NE corner) to lowest (SW corner) point is approximately 2-3 m.

### 3.4 Surface Water Receptors

Inspection of the site did not reveal the presence of any springs or seeps. Based on surrounding topography, the anticipated direction of groundwater flow is to the south to



a -

<u>@``</u>

south-west. The nearest surface water receptor appears to be wetlands at Karkarook Park several km to the southwest.

### 3.5 Local and Regional Geology

According to the Geological Survey of Victoria, Melbourne map sheet (1:250,000 scale), the property in South Oakleigh is located on Brighton Group (Tertiary Pliocene): non-marine sands, sandy clay, silt and gravel; locally altered to quartzite and porcellanite also marine sand, shelly silty sand, ferruginous sand. No major faults were shown to exist across the site. See Figure 3 for details.

## 3.6 Regional Hydrogeology and Groundwater Bore Database Search

With reference to the Victorian Groundwater Beneficial Use Map Series South Western Victoria Water Table Aquifers (Dept of Conservation and Natural Resources, 1995) it was determined that the local groundwater is expected to fall into 'Segment B', as defined by the State Environment Protection Policy (Groundwater of Victoria). The anticipated concentration of Total Dissolved Solids (TDS) would be between 1,001 and 3,500 mg/L for this segment. Under Segment 'B' the following beneficial uses of groundwater are protected:

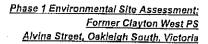
- Maintenance of Ecosystems;
- Potable mineral water supply;
- · Agriculture, parks and gardens;
- Stock water;
- Industry;
- Primary Contact Recreation;
- Buildings and Structures.

A search of the Department of Sustainability and Environment (DSE) Groundwater Database found no listed groundwater bores to be located within a 2 km radius of the site.

The estimated depth to groundwater is considered to be approximately 6-12 m below ground level. Signage on the inside of the southwest fence line nearest a former quarry warns of quicksand beyond.

This may signify groundwater at a relatively shallow depth in the vicinity of the site.

را





### 4 RECORDS REVIEW

### 4.1 Prior Environmental / Other Reports

No previous environmental, geotechnical or other reports for the site under investigation were made available to Atma Environmental as part of this assessment.

### 4.2 Standard Environmental Record Sources

In conducting an environmental site assessment, numerous standard record sources were reviewed in connection with the property, to help identify recognised environmental conditions in connection with the property. To help assess the likelihood of problems from migrating contaminants or hazardous substances, some records reviewed not only pertain to the property under investigation, but also to properties within a minimum search distance. A minimum search distance of 1 km was used when reviewing these standard environmental record sources.

The following sources were checked in conducting this site assessment:

## List of Issued Certificates and Statements of Environmental Audit (Victoria EPA, 16th November 2007).

Four Certificates of Environmental Audit were found within one kilometre of the site. The closest is located 200 m away to the north-east of the site on the corner of Coombs and Scotsburn Avenues (29/03/2000). Two of the certificates were located 500 m to the south on Coonil Street (4/11/1998 and 20/05/98). The remaining certificate was issues for 1213 Centre Road, 600 m to the south-east of the site (14/03/2000).

The number of Certificates (vs. Statements) of Environmental Audit suggests that site contamination arising from typical land uses in the area is not serious.

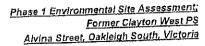
### List of Treatment and Disposal Facilities for Prescribed Wastes (Victoria EPA Website, current).

No prescribed waste or disposal facility was found to be within 1 km of the site.

### EPA Contaminated Sites Register Search (LandData website, current).

A LandData search on the EPA Register of Priority Sites was negative. There are no sites subject to EPA Clean Up Notices in close proximity to the site being assessed. The extract from the EPA Register of Contaminated Sites is provided in Appendix B.

Department of Sustainability and Environmental Website, Knox Planning Scheme (9th January 2008)





The above reference was checked to determine the current zoning of the site under assessment and to determine if the land is affected by environmental overlays.

According to the Monash Planning Scheme, the site is zoned 'Public Use Zone Education'. There are no environmental or heritage overlays affecting the land. However it must be noted that the adjacent land to the west (former quarry) is subject to an environmental audit overlay. Aside from the adjacent land to the west ('Special Use Zone 2') all of the surrounding area is zoned 'Residential Zone 1'.

### Energy Safe Victoria - Cathodic Protection Systems Search.

Underground fuel tanks may be protected against corrosion by cathodic protection systems and registered with Energy Safe Victoria. A search of the Cathodic Protection Systems Database failed to identify any cathodic protection systems that were registered at Clayton West Primary School, Alvina Street, Oakleigh South, Victoria (see Appendix C).

### WorkSafe Dangerous Goods Database Search.

WorkSafe maintains records of premises storing or using significant quantities of hazardous substances. WorkSafe Victoria has no record of Dangerous Goods Storage and Handling for the site under investigation (see Appendix D).

### Historical Water (Melbourne Metropolitan Board of Works) Plans Search.

The Melbourne and Metropolitan Board of Works (MMBW), "Municipalities of Mulgrave & Oakleigh." map was viewed for the site. No online MMBW Detail Plan was available for the site.

### 4.3 Review of Other Historical Information Sources

#### Land Titles

Atma Environmental conducted a review of the current and historical parent land titles to identify past owners of the land. A copy of the current land title can be viewed in Appendix E.

<u>Current</u>: The current property title reference is Lot 1 on Plan of Title 232531K (derived from vol. 8271 fol. 535; Proprietor: The Minister of the Crown Administering the Education Acts since 1960).

<u>Historical</u>: Prior to the current registered owner the site was derived from the larger parent title Vol. 4447 fol. 226 held by Fanny Heylbut, *Married Women* (1921). This parent land title

ند ها ر



was subsequently purchased by James Riley, farmer (1921), followed shortly by Catherine Annie Machan, Married Women (1922) and later by Ada Rose, Married Women (1937). The parent title (Vol. 3981 fol. 129: 1916) was in turn derived from the larger parent after several swift title changes (1913 and 1914) from title vol. 2424 fol. 664, created in 1892 in name of Charles Edward Ernest Linphelby, Esquire.

There were no previous land owners indicated of an industrial nature that present a risk of contamination. This does not necessarily preclude past industrial uses of the site.

#### Melway Edition 1 (1966) Historic Map.

Review of a historic Melway (Edition 1, 1966) map shows Clayton West State School occupying the current site (Appendix F). Two locations of environmental concern were found to be within 1 kilometre of the site. The Oakleigh Council depot is located about 300 metres to the north-east; and the Oakleigh Municipal Abattoirs is located about 900 metres to the north.

#### Aerial Photographs

As part of the site history review, aerial photographs for 1951, 1963, 1984 and a recent image were reviewed.

Table 1. Summary of Aerial Photograph Site Observations

DATE	SITE HISTORY OBSERVATIONS	FIG	REFERENCE
1951	Onsite: The site appears to consist of two large paddocks (north/south division). The north paddock appears to have been used for cropping purposes or is recently cleared (note long striations in the soil). The southern paddock is clear grass with some trees.  Offsite. A long narrow building/structure is located on the eastern boundary, possibly of agricultural use. A similar long building is located north of the site. Land use NW and west is undeveloped with trees. Land to the south is market garden plots. A quarry pit is located SW/adjacent of the site. The surrounding land use is predominantly agriculture with scattered dwellings across the landscape.	4	Aerial photo — Melbourne and Metropolitan Project No. 2, Run 21, Photo 165; 1:12,000; B/W.
	Onsite: The current site outline is now distinct. The site is now occupied by the main school building and two sheds but not the two additional classroom buildings (in the midnorthern section of the site). School appears to still be under construction with soil disturbance in the vicinity of it. There is no oval.	ĺ	Aerial photo – Melbourne (1963) Project, Run 20, Photo 142; 1:9,600; B/W.



1963	Offsite: Significant change has also occurred offsite. The existing surrounding farmland has been mostly replaced with residential properties. Immediately north of the site large long structures can be seen which may be the remnants of a past agricultural or commercial (nursery?) enterprise. The quarry adjacent to the south-east corner of the site has been expanded closer to the site and appears to have open water on top.	4	
1984	Onsite: An oval has appeared in the southern portion of the site. Two additional classroom buildings can bee seen on the north-west corner. Little other change has occurred.  Offsite: Land off the SE corner (part of the site c. 1966 Melway) is now residential as are properties to the west across Alvina. Little change has occurred offsite. The property immediately to the north appears to have further developed as commercial or industrial premises since the previous photo. The adjacent quarry is now disused.	5	Aerial photo – Standard Mapsheet Photography, Run 12, Photo 77; 1:10,000; B/W.
Recent	Onsite: Little change has occurred on site with the exception of what appears to be construction of the playground in the SE corner of the site and expansion of the parking lot.  Offsite: Little change has occurred offsite	5	Google Earth Image (2007)

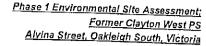
The air photo review identifies that the site was either agricultural or recently cleared land prior to ~1960s with the northern portion of the property possibly used for a market garden (this is not definitive). The air photo review also confirms that the site has been occupied by Clayton West Primary School since at least 1963. The air photo review did not identify any other non-school uses of the site although some commercial uses directly adjacent to the site are clear.

### 5 SITE RECONNAISSANCE

Glenn Berry and Flynn Clarke of Atma Environmental conducted a site visit and walk through of the property on 10<sup>th</sup> January 2008. The entire site was inspected during the site visit to ensure all areas were appropriately covered prior to comment (see Figure 2 for site details). Photos taken during the site reconnaissance are presented in Appendix A.

## Hazardous Substances in Connection with Identified Uses

No hazardous substances used in conjunction with the current or former site uses were identified on the site during site reconnaissance.





#### Storage Tanks

Two underground fuel storage tanks were found on site. Both tanks are positioned in two separate small alcoves on the northern side of the main building. Both tanks service boiler rooms situated adjacent to them and the capacity of the tanks are unknown (see Photograph 9 and 10 in Appendix A). Attempts to gauge the contents were not successful as dip sticks for the tanks were missing, however caps were removable.

Underground tanks on adjacent properties were not identified, however, these were only inspected from within the school grounds.

#### Solid Waste

Minor amounts of solid waste were identified at a few locations. The waste consisted mainly of building material debris (see Photograph 1 in Appendix A). No other solid waste was present on the site at the time of the site visit and no adjacent waste landfill sites were noted during the site visit. However a former quarry is situated adjacent to the south-western boundary of the site.

#### Fill Material

During the site visit limited amounts of fill was noted. The main location of fill present on site is though to be in the south eastern portion of the site where a playground area has been built up (see Photographs 5 in Appendix A). Minor amounts of fill associated with landscaping the area was also identified (mainly gravel). The fill material as noted appeared to be free of extraneous inclusions or potentially contaminating substances.

#### Other Observations

- The overlying aspect of the site is sloping moderately north-east to south-west.
- Two storage sheds are located on the western boundary of the site. Both sheds contain innocuous items and are not a cause of environmental concern (see Photographs 4 in Appendix A).
- Disturbance to the asphalt on the basketball court may be evidence of previous sampling (see Photographs 6 in Appendix A).
- There were no unnatural odours associated with the site or the soil at the time of the site visit.
- Vegetation on the site did not appear to be affected.
- There is a ~1 m high retaining wall with the adjacent property located to the south of the footpath connecting the site with the road to the east. Other adjoining properties appear to be on level with the site.

#### Interviews



No interviews with persons having knowledge of the site history were conducted during the course of the investigation. Atma Environmental was accompanied by a regional representative of the Department, but he had no additional information on the site.

## 6 SOIL CONTAMINATION POTENTIAL

## 6.1 Past, Current and Proposed Use of the Property

Aerial photo records suggest that up to the 1960s the site was used for agricultural purposes. During this period the title of the property was privately owned. The aerial photo review suggests the northern section of the site may have earlier been used as a market garden. In 1960 the property was bought by the Crown and the current primary school was built shortly after that. The site has been used as a primary school up until the present day.

The proposed future use of the site is to rezone the land to residential so it can be offered for public sale.

## 6.2 Potentially Contaminating Uses

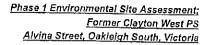
Any commercial, mining, industrial or agricultural activity has the potential to leave some site contamination. However, some activities intrinsically give rise to contamination more frequently than others. The Department of Sustainability and Environment General Practice Note "Potential Contaminating Land Uses" (June 2005) lists specific high-risk and medium-risk contamination industries and land uses that may result in contamination.

Table 2. Potential Contaminants and Possible Sources.

Table 2. Loren		
POTENTIAL CONTAMINANTS	POSSIBLE SOURCE	RISK
Various	Fill (imported) used for landscaping playground, etc	Low
TRHs, MAHs, PAHs, Pb	Leakage from two USTs identified.	High
Pesticides, hydrocarbons, heavy metals	Market Garden (inconclusive)	Medium

A comparison of the documented site history and observations of the current site condition to the medium and high-risk uses identified by DSE (2005) indicates that matching high-risk use include "Underground storage tanks" and one suspect/potential matching medium-risk

ا ا





use: "Market Gardens". The use as a market garden can not be confirmed. "Filling (imported soil)" is listed as a medium-risk use, however, in this instance the fill appears to be limited to landscape sand or aggregate, posing a low risk of contamination.

### 6.3 Groundwater

Potential sources of groundwater contamination for this site include:

- Onsite point source contamination present from the two USTs situated on site.
- Other commercial/industrial land uses up gradient of the site.

There are no nearby service stations and there are no further point sources of groundwater contamination identified. Taking into consideration the depth of groundwater (likely 6-12 m), the sandy nature of the local geology and the two tanks, there is some risk on the site amenity due to possible groundwater contamination.

### 7 CONCLUSION AND RECOMMENDATIONS

Prior to development of the primary school on site in the 1960s aerial photos suggest prior property land use on site was limited to agricultural purposes. An aerial photo from the early 1950s suggests the northern portion of the property may have been used as a market garden prior to 1951. The historical review did not identify any other uses of the site.

Reconnaissance of the site identified a limited amount of fill material onsite associated with landscaping of the area and formation of the children's play area on the western boundary. Two USTs were also identified which supply fuel to two boiler rooms in the main school building. There are no overt areas of immediate environmental concern found onsite such as spills or unusual soil staining or outcropped waste material.

A structured approach to investigation of the site would next involve a Phase 2 investigation (soil sampling) as previously proposed. The 31 grid-based locations as proposed in compliance with the Australian Standard AS4482.1 are considered sufficient in order to appropriately test the site for contamination provided at least one of these coincides with fill material used for playground construction.

Removal and validation of the underground fuel tank is also recommended along with removal of any associated contamination in accordance with EPA Guideline #888 Guidelines on the Design, Installation and Management Requirements for Underground Petroleum Storage Systems (UPSS).



4...

Given the proposed sensitive land use, presence of two USTs, potentially shallow/sensitive groundwater, and proximity of an up-gradient commercial property; an investigation of groundwater to ascertain its condition is also recommended.

## 8 LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

The report consists of the scope of work outlined previously. This report describes the work undertaken and has been compiled for the use of the Department of Education and Early Childhood Development only. Its conclusions are only valid for the purpose for which it was requested.

It is valid only when it is in original form, and any person or company other than the Department of Education and Early Childhood Development who rely on the report without specific reference to and permission from Atma Environmental Pty Ltd does so at their own risk.

While every care has been taken in the compilation of this report, to the extent that its conclusions are based on the analysis of the data made available by your organisation or by a third party, no responsibility or liability is accepted for consequences arising from either errors or omissions in that data, or from factors or data which were not made available to Atma Environmental Pty Ltd or which Atma Environmental Pty Ltd could not ascertain by reasonable inquiry in the ordinary course of its investigation.

Environmental site assessments document property conditions at the time they are conducted. These conditions may change over time. The site assessment has not specifically considered above ground issues such as lead-based paint and asbestos containing building products.

### 9 REFERENCES

Australian Standard AS 4482.1 - 2005, "Guide to the sampling and investigation of potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds", 2005.

Department of Natural Resources and Environment "Victorian Groundwater Beneficial Use Map Series, South Western Victoria Water Table Aquifers", 1995.

Department of Sustainability and Environment "Potentially Contaminated Land", General Practice Note, June 2005.

Department of Sustainability and Environment, "EPA Contaminated Sites Register"; http://www.land.vic.gov.au



Phase 1 Environmental Site Assessment;
Former Clayton West PS
Alvina Street, Oakleigh South, Victoria

12 February 2008

Geological Survey of Victoria, "Melbourne Map Sheet", 1:250,000 scale, Government Printer 1971.

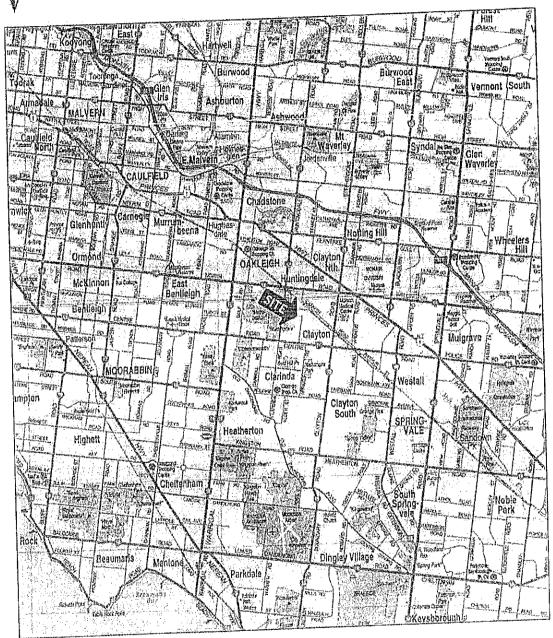
National Environment Protection Council (NEPC), "National Environment Protection (Assessment of Site Contamination) Measure", 1999 [ISBN 0-642-32312-7].

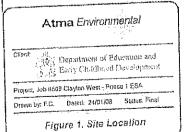
Victorian Environmental Protection Authority, "State Environmental Protection Policy (Groundwaters of Victoria)", EPA Victoria Publication 288, October 1997.

Victorian Environmental Protection Authority. "List of Treatment and Disposal Facilities for Prescribed Wastes", http://www.epa.vic.gov.au

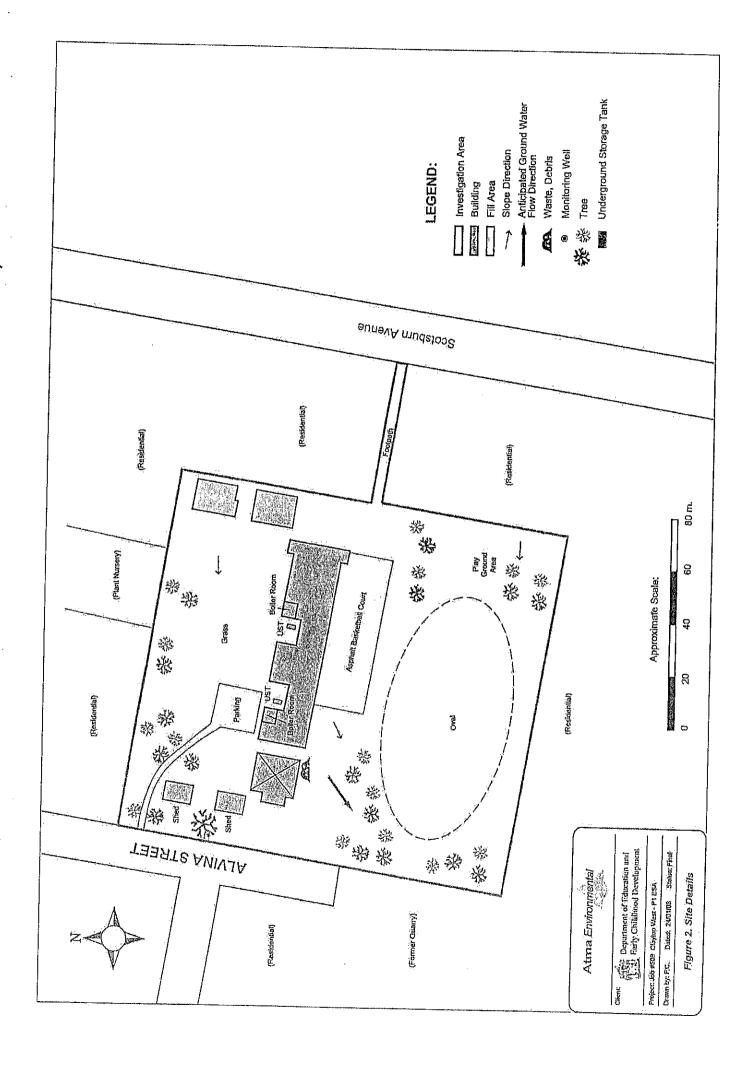
Victorian Environmental Protection Authority. "List of Issued Certificates and Statements of Environmental Audit", EPA Victoria, 16th November 2007.



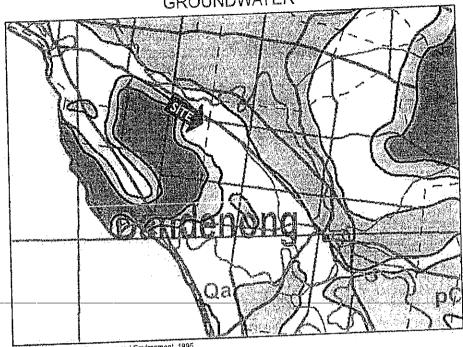




Approximate Scale:  $2 \, \mathrm{km}$ 500 m 1 km



### GROUNDWATER



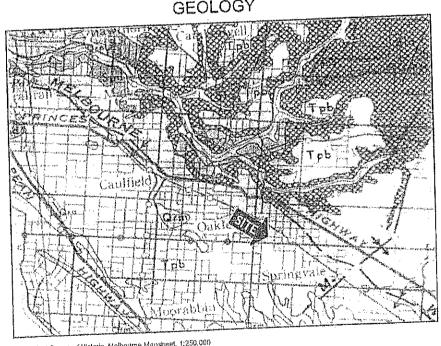
Department of Natural Resources and Environment, 1995,

Segment 'A1' - 0 - 500 mg/L TDS

Segment 'B' - 1001 - 3500 mg/L TDS Segment 'A2' - 501 - 1000 mg/L TDS Segment 'C' - 3501 - 13,000 mg/L TDS







Geological Survey of Victorio, Melbourne Mapsheet, 1:250,000

#### Atma Environmental

Department of Education and the Childhood Development

Project: Job #509 Clayton West - Physic 1 ESA

Onted: 27/12/07 Stutus: Fittel Orewn by: F.C.

Figure 3. Groundwater and Geology

Qrc

**S8** S

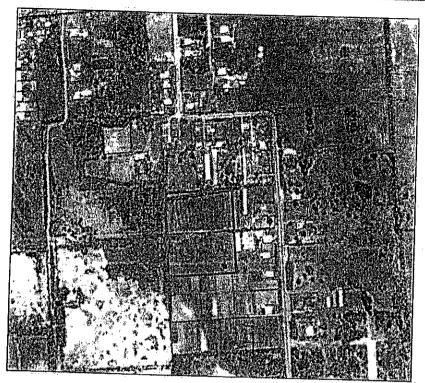
Fan deposites, fault aprons, high level alluvium Non-marine sand, sandy clay, silt, gravel Tpb

Sud;

Bedded sandstone, minor interbedded mudstone and shale

Massive mudstone, interbedded with thin sandstone









1963

Site Boundary

Atma Environmental

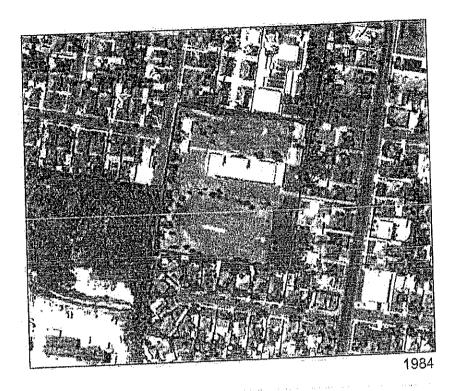
Department of Education and Early Childhoud Development

Project: Job #509 Clayton West - Phase 1 ESA

Drawn by: F.C. Dated: 28/12/07 Status; Final

Figure 4. Aerial Photographs 1951 and 1963









Recent

Auma Environmental

Eligat A. Department of Education and Lurby Childhood Development

Project: Jun # 509 Clayton West - Phase 1 ESA

Drawn by. E.C. Daind: 28/12/07 Status; Final

Figure 5. Aerial Photographs 1984 and Recent Site Boundary

# ADD MAN

Site Photographs

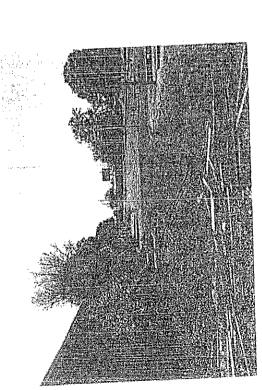


Photo 1. Looking east along southern side of main school building. Note solid waste in foreground.

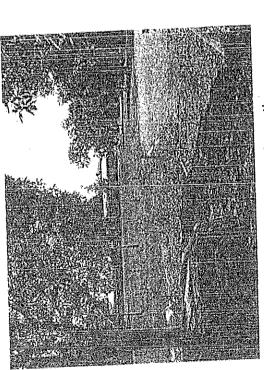


Photo 3. View looking east, northern portion of site.

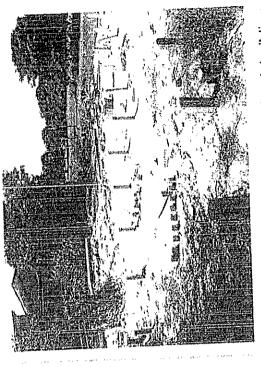
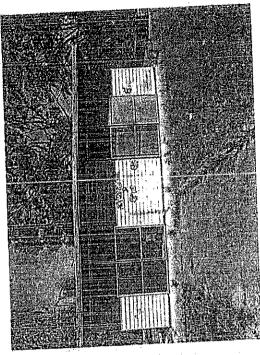


Photo 2. View of demolished school building (western wing).



**Photo 4.** Storage sheds on western boundary of site.

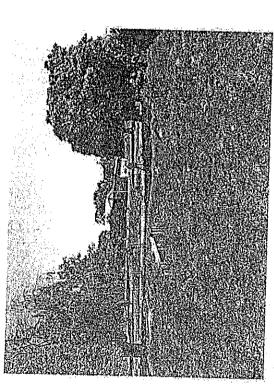


Photo 5. Play area on western boundary. Suspected site of fill material.

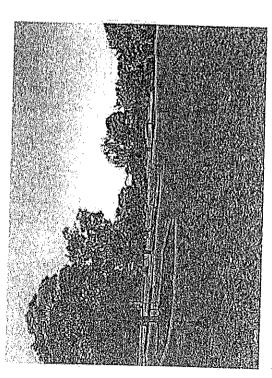


Photo 7. Oval looking north.

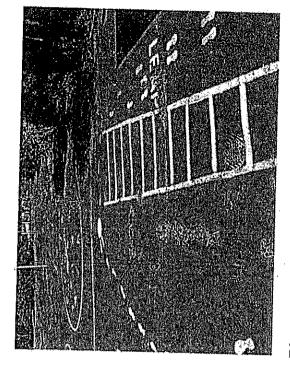


Photo 6. Possible evidence of previous sampling. Asphalt basketball court.

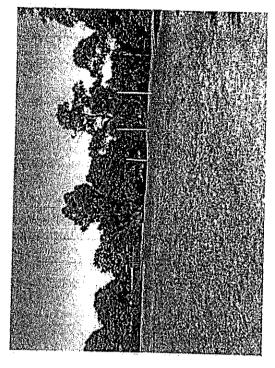
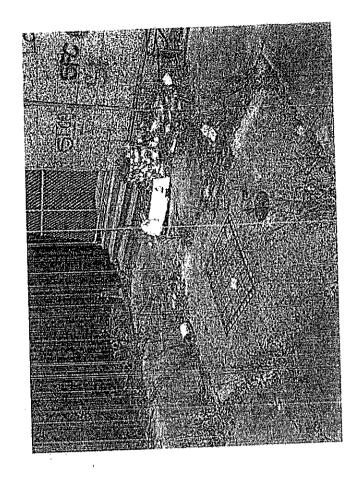


Photo 8. Oval looking south-west.







# APPINDIX

U

EPA Priority Sites Search

# **Extract of EPA Priority Site Register**

Page 1 of 1



7 pt -

į.

\*\*\*\* Delivered by the LANDATA® System, Department of Sustainability and Environment

# PROPERTY INQUIRY DETAILS:

STREET ADDRESS: 21A SCOTSBURN AVENUE

SUBURB: OAKLEIGH SOUTH

MAP REFERENCES: Melways 33rd Edition, Street Directory, Map 78 Reference K1 Melways 33rd Edition, Street Directory, Map 78 Reference K2

DATE OF SEARCH: 24th December 2007

# PRIORITY SITES REGISTER REPORT:

A search of the Priority Sites Register for the above map references, corresponding to the address given above, has indicated that this site is not listed on, and is not in the vicinity of a site listed on the Priority Sites Register at the above date.

# IMPORTANT INFORMATION ABOUT THE PRIORITY SITES REGISTER:

You should be aware that the Priority Sites Register lists only those sites for which EPA has requirements for active management of land and groundwater contamination. Appropriate clean up and management of these sites is an EPA priority, and as such, EPA has issued either a:

.Clean Up Notice pursuant to section 62A, or a Pollution Abatement Notice pursuant to section 31A or 31B of the Environment Protection Act 1970 on the occupier of the site to require active management of these sites.

The Priority Sites Register does not list all sites known to be contaminated in Victoria. A site should not be presumed to be free of contamination just because it does not appear on the Priority Sites Register.

Persons intending to enter into property transactions should be aware that many properties may have been contaminated by past land uses and EPA may not be aware of the presence of contamination. EPA has published information advising of potential contaminating land uses. Municipal planning authorities hold information about previous land uses, and it is advisable that such sources of information also be consulted.

For sites listed on the Priority Sites Register, a copy of the relevant Notice, detailing the reasons for issue of the Notice, and management requirements, is available on request from EPA for \$8 per Notice.

For more information relating to the Priority Sites Register, refer to EPA contaminated site information bulletin: Priority Sites Register & Contaminated Land Audit Site Listing (EPA Publication 735). For a copy of this publication, copies of relevant Notices, or for more information relating to sites listed on the Priority Sites Register, please contact EPA as given below:

EPA Information Centre Herald & Weekly Times Tower 40 City Road, Southbank 3006 Tel: (03) 9695 2700 Fax: (03) 9695 2710

[Extract of Priority Sites Register] # 7673157 - 7673157151454 '<no reference>'

# ADDIN SUX

Cathodic Protection Search



21 December, 2007

TO: Flynn Clarke

Aima Environmental

Fax:

9429 5911

Ph: 9429 6955

## SEARCH FOR CATHODIC PROTECTION SYSTEMS

With reference to your fix of 20/12/2007, a search of the CP database has failed to identify any enthodic protection systems that have been registered at the following fecutions:

· Monash Secondary College, Ducrdin Street, Notting Hill.

· Clayton West Primary School, Alvina Street, Oakleigh South.

Yours sincerely

Glenn Carrig

MANAGER ELECTROLYSIS MITIGATION

Engryy Bale Victoria Ann 27 467 747 657 Chennysh Sontin 154 Céyno Budd Shensenlog Selva (13) Phono (85) 98/6 8283 Fox (83) 68/7 8841 Wed winners you are



# APPENDIX

WorkCover Dangerous Good Database Search



Licensing Branch GPO Box 4293, Melbourne 3001 Tel: 1300 852 562 Fax: 1800 060 727

Email: licensing@workcover.vic.gov.au www.workcover.vic.gov.au

H08/00265 Reference:

30 January 2008

Tim Robson Environmental Consultant Atma Environmental 6/83 Dover Street Richmond VIC 3121

Dear Mr Robson.

Your Ref:

Dangerous Goods Database Search

Clayton West Primary School, Alvina Street, Oakleigh

Monash Secondary College, Duerdin Street, Nottingfill / Clayton

I refer to your Fax received 25 January 2008 and confirm that we have searched our database records for the above address. I advise that WorkSafe Victoria has no records of Dangerous Goods Storage and Handling at the above premises and a printout is attached.

For queries on this matter, please do not hesitate to contact the Licensing Branch on telephone 1300 852 562 or facsimile 1300 060 727.

Yours sincerely

Sarah Lynch Senior Licensing Officer WorkSafe Victoria

APPROVE screen print No records Result:



1675 - 1986 C

OPSEION OPSEIGNI	SRCHENQ T310SZL	Occupational Health & Safety Approval & Licensing System Search and Enquire	30/01/20 14:01;
		ADDRESS SEARCH CRITERIA (Exact Address)	OPSE61M1
Action	Full Addre	95 T, OAKLEIGH SOUTH 3167	
Action		T, OAKLEIGH SOUTH 3167	
Action	ALVINA STREE	T, OAKLEIGH SOUTH 3167	
Action	ALVINA STREE	T, OAKLEIGH SOUTH 3167  WARNING  Clicences are Registered at the	
Action	ALVINA STREE	WARNING  CLicences his Registered at the  1st Premise(s)  For the Licence Types specified	
Action	ALVINA STREE	T, OAKLEIGH SOUTH 3167  WARNING  Clicences are Registered at the	

OPSE10M1	SRCHENQ T310SEL	Occupational Health & Safety Approval & Licensing System Search and Enquire	39/01/200 14:04:3
		ADDRESS SEARCH CRITERIA (Exact:Address)	OPSEG1M1
Action	THE PERSON NAMED IN COLUMN 2 I	es Dart College, Düendin Street, Clayton	
<u> </u>	-	WARRIES O: Licences are Registered at the	
	an sum of	1st tremise(s)  For the Uncenter types specified  CENTER: to Continue and Store Criteria	

Certificates of Land Title



© State of Victoria. This publication is copyright. No part may be reproduced by any process except in accordance with the provisions of the Copyright Act or pursuant to a written agreement. The information is only valid at the time and in the form obtained from the LANDATA® System. The State of Victoria accepts no responsibility for any subsequent release, publication or reproduction of the information.

# REGISTER SEARCH STATEMENT Land Titles Office, Victoria Page 1

Security no : 124024486783K

Volume 08271 Folio 535 Produced 21/12/2007 11:41 am

### LAND DESCRIPTION

Lot 1 on Title Plan 232531K (formerly known as part of Crown Allotment 7 Section 2 Parish of Mordialloc).

FARENT TITLE Volume 04447 Folio 226

Created by instrument B021681 26/07/1960

### REGISTERED PROPRIETOR

Estate Fee Simple Sole Proprietor

THE MINISTER OF THE CROWN ADMINISTERING THE EDUCATION ACTS B021681 26/07/1960

# ENCUMBRANCES, CAVEATS AND NOTICES COVENANT 0980547

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section

24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

o ara alauga alauga alauga aga garang garang memengang memengan aga memengga ana megerang mengangang memengang

### DIAGRAM LOCATION

SEE TP232531K FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

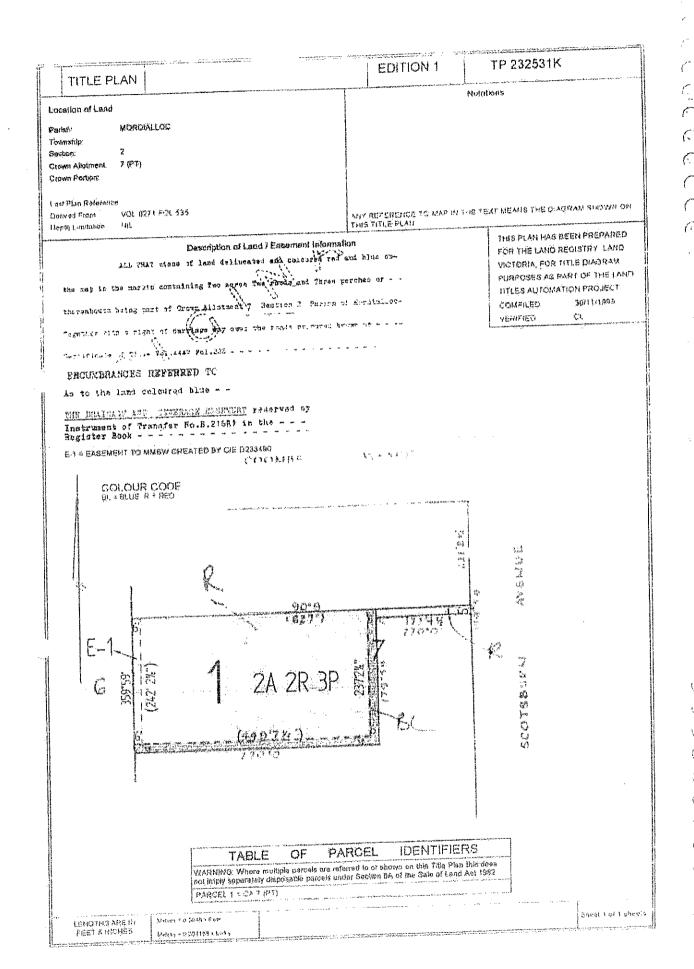
The following information is provided for customer information only.

Street Address: 21A SCOTSBURN AVENUE OAKLEIGH SOUTH VIC 3167

STATEMENT END



Account: 155900 Order: 7670082



# APTOMNUZ

<u> Historical Melway - 1966</u>

Telesdate 14 Mile Pyst Office 3 inches equals one mile METROPOUTAN GOLF CLUB DAKE. HUNTINGDALE GOLF CLUB 30.0E ř Ð COMPANY STATES SMEN DE LENEN LOS LEGELTAN STATE LENEN LOS LEGELTAN STATE LEGELTAN INTERIOR . COONS ITAST IAST MANUAL . Total les GLOVEN MAISH ST HERSHAW ST THORNTON ST LEICH ST BATTAN -PASADUA I CEAMFORD GOIS CLUS MVEANESS C. 18.C. Atanes Title **第一篇** BUMMY ng) and YARRA YARRA gį GOLF GLUB Mances at 1 RAILWAY luuri er Drive hi Theohy BOUNKE 15 FAISCHILD ST LA PANSWELL Melway erstie ELOFA RO jr (2) CTORY 3 RD. HEATHVATOR g ŧø. Husery Bulletony Ospilar Canter MARKUN NB KINGSTON Freday, History 1 MILE STATE TEN ANTE CON latherican Hone KINGSTON 4 Hayotsi HEATH Contraction of the State of the mill the Manager of the second ku tha Ayua GOLF CLUB Surficial St with. ELMCHICA WADDEL JANIES NV Ã.



PHASE 2 ENVIRONMENTAL SITE ASSESSMENT: FORMER CLAYTON WEST PRIMARY SCHOOL, ALVINA STREET, OAKLEIGH SOUTH, VICTORIA.

Prepared for:

Department of Education & Early Childhood Development, 2 Treasury Place, EAST MELBOURNE, VIC 3008.

Project Ref. 589 Clayton West Date: 15 October 2008



# Report Finalisation & Distribution

PROJECT REFERENCE:

#589 Clayton

REPORT TITLE:

Phase 2 Environmental Site Assessment: Former Clayton West

Primary School, Alvina Street, Oakleigh South, Victoria.

DATE:

15th October 2008

PROJECT MANAGER:

Tim Robson, Environmental Consultant

REVIEWED/APPROVED BY:

Glenn Berry, Principal

This document is copyrighted by Atma Environmental Pty Ltd. It is and shall remain the property of Atma Environmental Pty Ltd and may unly be used for the purposes for which is was commissioned and in accordance with our Terms of Agreement for Professional Services may unly be used for the purposes for which is was commissioned and in accordance with our Terms of Agreement for Professional Services may unly be used for the purposes for which it is addressed and is and subject to any limitations noted. This report is prepared solely for the use of the person or organisation to which it is addressed and is and subject to any limitations noted. This report is prepared solely for the use of the person or organisation to which it is addressed and is not to be reproduced in whole, or in part, or included in any other document without our written permission. No responsibility or flability to the use of this property by a third party.

(ምእነም ድም ልጥነ ነኝ፦				The frankers with the state of
DOCUMENT STATUS:		major china adigi bilika mani na paragemi ini mangka ada maning kanang arawa ang	D	Reviewer
The state of the s	Fla. fuen	Date	Prepared By	GRB
Revision No.	Status	15/10/2009	TR	O I O
	Final	15/10/2008	- commercial and the commercial	A STATE OF THE PROPERTY OF THE
	and the same of th	المعاري المراسطية بأرساسة عند المهادرة ويدهان أوأات فيناهماك فالمؤاج والأواث أدادها والمعارية	year and the regarded and responsible to the second section of the section of	الموادر الموادر و الموادر الم
Section of the sectio	A CONTRACTOR OF		Committee of the commit	4. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.
The state of the s	grader and 1580 Pha	se 2 ESA, due		

Wiffig shared files\PROJECTS\SSY Clayton\ \.\589 Phase 2 ESA.duc

DISTRIB	ITION LIST:			Distributed to:
No. of	Dacument Crass	Date	Copy Type (pdf)	
Copies 2	Final	15/10/2008	l x pdf l x hard paper	Department of Education (Attn: Deaune Leaver)
	Final	115/10/2008	j x pdf	Atma Environmental (File)
		16241	Shadan day a san a san a san a san a san a san a san a san a san a san a san a san a san a san a san a san a s	and alastronia format. Arma Environmental Pty Lid

Tilless indicated, this report has heretoprovided by Atma Environmental Pty Ltd in an electronic format. Atma Environmental Pty Ltd Goldens in the convenience of the recipient and Goldens the office archival version to the binding. Documents in an electronic format are provided for the convenience of the recipient and electronic that they ensure that the intentity of this electronic information is maintained. Storage of this electronic information should at a life much comply with all legal requirements. minimum comply with all legal requirements.

@ 2008, Atma Environmental Pty Ltd (ABN: 37 080 479 992)

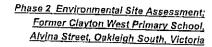
(8) Dover Stock Pichmand, VIC. 3121 Telephone. (93) 9429 6955 Fax. (03) 9429 5911 Mobile. 0412 000 445 (b) www.almanistrocronential.com

## **Table of Contents**

	EXE	CUTIVE SUMMARY	1
1		ODUCTION	
2		CTIVES & SCOPE OF ASSESSMENT  Assessment Objective	2
3	BENE	FICAL USES & ASSESSMENT CRITERIA	3
	3.1	Land	3
4	SOIL	INVESTIGATION	5
	4.1	Site Investigation Methodology	E
	4.2	Con Cample Conection	_
	4.3 4.4	Soil Sample Analysis	^
	4.5	John Trivestigation Results	7
	,,,	Soil Sample Analysis Results 4.5.1 Inorganics	7
		Tigathes	o
	4.6	4.5.3 Other	^
F	01141		
5	QUAL	ITY ASSURANCE10	)
6	CONC	LUSION & RECOMMENDATIONS12	<u>)</u>
7	LIMITA	ATIONS AND EXCEPTIONS OF ASSESSMENT12	,
8	REFE	RENCES13	)
		List of Tables	
	Table 1	Summary of Protected Beneficial Uses of Land	
	Table 2	Analytical Summary – Soils	
	Table 3.1	QA/QC - Equipment Decontamination, Field & Trip Samples	
	Table 3.2	QA/QC - Soil Sample Relative Percent Differences (RPDs)	
		List of Figures	
	Figure 1	Site Details	
	Figure 2	Composite Sample Regime	

# List of Appendices

Appendix A Appendix B	Tank Removal Validation Letter (29th May 2008) Atma Environmental Investigation Procedures
Appendix C	Soil Borehole Logs
Appendix D	Chain of Custody Documents & Laboratory Reports





15<sup>th</sup> October 2008

## **EXECUTIVE SUMMARY**

A Phase 2 Environmental Site Assessment (ESA) has been completed at the site located at the former Clayton West Primary School, Victoria for the purpose of determining if contamination above relevant health-based levels for sensitive uses exist at the site on behalf of the Department of Education who is seeking to divest the subject site and rezone the land to 'Residential'.

The Phase 2 site investigation consisted of sampling 30 grid-based locations and two additional targeted soil sampling locations, at the former boiler rooms, all to a depth of one metre. Small amounts of imported fill material, gravel and tan bark, were found at the site. The soil profile predominately consisted of dark brown silty sand which had evidence of disturbance in most areas above natural grey fine grained sand.

Composite and discrete soil sample analysis included heavy metals, polycyclic aromatic hydrocarbons (PAHs), total recoverable hydrocarbons (TRHs), organochlorine pesticides (OCPs), monocyclic aromatic hydrocarbons (MAHs), semi-volatile chlorinated hydrocarbons (CHCs), polychlorinated biphenyls (PCBs), phenols, pH and sulphate. The adopted HIL assessment criteria used for this investigation were the NEPM 'A' setting for standard residential with access to soil.

Based on the findings of the soil investigation undertaken at the site, it is concluded that:

- No contaminant concentrations exceeding NEPM 'A' setting HILs for residential use were found on the site;
- No contaminant concentrations exceeding NEPM EILs were found at the site; and
- Acidic soil conditions on some areas may affect the growth of some sensitive plant types. Additional geotechnical advice may be desirable.

On the basis of the analytical work carried out, the site does not (within the specified degree of certainty) contain contaminant levels potentially harmful to human health.

A groundwater investigation is not considered warranted at this point in time as results indicate low to non-detectable levels of contaminants of concern and there were no point sources of contamination identified onsite, former underground storage tanks having been removed and validated.



### INTRODUCTION 1

Atma Environmental Pty Ltd (Atma Environmental) has performed a Phase 2 Environmental Site Assessment (ESA) on the former and now demolished Clayton West Primary School, located in Alvina Street, Oakleigh South, Victoria.

The investigation was formally commissioned by Deanne Leaver of the Department of Education via email on the 9th of September 2008.

A Phase 1 ESA was completed by Atma Environmental and issued on the 12th February 2008. The Phase 1 ESA indicated that Clayton West Primary School was constructed on the site circa early 1960's. The buildings were demolished in 2008. Prior to the establishment of Clayton West Primary School, the site was used for agricultural purposes.

The Phase 1 ESA recommended the removal and validation of two Underground Storage Tanks (UST's) and the collection and analysis of soil samples from grid-based locations in compliance with the Australian Standard AS4482.1. The two UST's were removed and validated on the 26th of May 2008 and a copy of the associated validation removal letter is reproduced in Appendix A.

### **OBJECTIVES & SCOPE OF ASSESSMENT** 2

# 2.1 Assessment Objective

The purpose of this report is to document the findings of an environmental soil investigation as conducted and documented here. The assessment was carried out for the Department of Education who is seeking to divest the subject site and rezone the land to 'Residential'.

The objective of the investigation was to ascertain if chemical contamination of soils and/or fill material above a 'residential' health standard exists on the site.

# 2.2 Scope of Work

The scope of work, as outlined in Atma Environmental correspondence (3rd September 2008) comprised the following tasks:

- Soil sampling of 31 grid-based locations in accordance with the standard AS4482.1;
- Composite-based sample analysis program; and
- Reporting on assessment and any requirements for further investigation (if required).



In undertaking the assessment the quoted field work was altered slightly given that 31 locations could not be readily spaced over the site. A five x six sampling pattern (30 no) was established with an additional two locations completed at former boiler rooms (for 32 locations total).

# 3 BENEFICAL USES & ASSESSMENT CRITERIA

### 3.1 Land

The State Environment Protection Policy (Prevention and Management of Contamination of Land) (Land SEPP) outlines Land Use Categories and specifies beneficial uses which must be protected for each of these categories. Table 1 summarises the relevant beneficial uses that must be protected for the proposed rezoning of the site to residential use.

Table 1. Summary of Protected Beneficial Uses of Land (Land SEPP)

BENEFICIAL USES TO BE PROTECTED;	POTENTIAL SITE LAND USE:								
	Parks &	Agriculture		ve Use;	Recreation -	Commer-	Industri		
	Reserves		High Density	Other	Open space	cial	al		
Maintenance of Ecosystems:				770					
Natural Ecosystems >	v								
Modified Ecosystems >	~	~		./					
Highly Modified Ecosystems >				<i>'</i>					
Human Health:	/	V							
Buildings & Structures:	~	~	~	· ·		· /			
Aesthetics:	~				<del> </del>				
Production of food, flora & fibre:	~	~		· ·			· <u></u>		

## Maintenance of Ecosystems

Soil sample results may be compared to Ecological Investigation thresholds found in the National Environment Protection (Assessment of Site Contamination) Measure 1999 or NEPM (National Environment Protection Council Service Corporation, 1999).

The Ecological Investigation Levels (EILs) are based on thresholds for phytotoxicity and uptake of contaminants that may result in impairment of plant growth or reproduction or



n ·

unacceptable residue levels. These criteria may be considered conservative, as EILs are usually set for pristine or modified ecosystems, and not for the highly modified ecosystems that are found on site.

Where the NEPM does not provide an EIL value for a contaminant of interest, NSW EPA 1994 (for BTEX) or Dutch 2000 (for others) criteria are referenced. In the case of Dutch 2000 criteria, their target + intervention criteria/2 are used as the EIL screening criteria.

In this instance the assessment required identification of contaminant concentrations above residential health-based levels (vs ecological) although that has been achieved.

## Human Health

Soil sample results are compared to Health Investigation Levels (HILs) also found in the National Environment Protection (Assessment of Site Contamination) Measure 1999 (National Environment Protection Council Service Corporation, 1999). The HILs are based on a toxicological risk assessment approach.

There are four predominant exposure settings that are used when classifying the use or proposed use of a site:

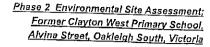
- 'A' Setting HILs for standard residential with garden/accessible soil, childcare centres, preschools and primary schools;
- 'D' Setting HILs for high-density residential;
- 'E' Setting HILs for parks, recreational open space and playing fields, also includes secondary schools; and
- 'F' Setting HILs for commercial/industrial use.

As there are no available thresholds for HILs for Total Recoverable Hydrocarbons (TRHs), NSW EPA 1994 'Guidelines for Assessing Service Station Sites' is used unless the sample is further speciated by another analysis for direct comparison with NEPM HILs.

In terms of health-based criteria, 'A' Setting HILs are considered the most appropriate to the site, as the proposed rezoning is for residential use. The relevant comparative criteria are listed on the analytical summary sheets (Table 2). Where there is neither a NEPM nor NSW EPA criterion available, Dutch 2000 intervention levels may be used in lieu of the 'A' HIL.

## Buildings & Structures

The beneficial use is assessed by a review of physical parameters such as pH, sulphate, redox potential, salinity, or any chemical substance or waste that may have a detrimental effect on structural integrity of buildings or any other structures.





### **Aesthetics**

In general, the criteria for aesthetics are that soils should not be displeasing to the human senses (e.g. odorous, visibly impacted) or give cause for alarm or safety.

# Production of food, flora or fibre

The production of food, flora, and fibre maybe assessed with reference to EIL criteria as per maintenance of Ecosystems. This beneficial use has not been fully assessed.

### Other

Soil sample results may also be compared to Environmental Protection Agency (EPA) Clean Fill criteria, found in the *EPA Publication*, 448.3, Classification of Wastes (May 2007). These criteria apply only where soil is to be transported and disposed of off-site.

The Victorian EPA guidelines state that Clean Fill Material (either not contaminated, highly odorous, or were constituents can be deemed to be from natural origin) can be transported off site with no licence requirements and used as a fill material.

Category C contaminated soil is material which has any contaminant concentration higher than the Clean Fill limit but lower than the Category B limit. This soil must be disposed of by an EPA licensed vehicle to a licensed landfill.

Category B contaminated soil has any contaminant concentration higher than the Category C limit but lower than the Category A limit. This soil must also be transported by an EPA licensed vehicle to a licensed facility.

Category A contaminated soil is any material with contaminant concentrations above the Category B threshold. This soil must be remediated either on or off-site before being disposed of and EPA transport certificates must be used.

Samples have not been fully assessed for off-site disposal purposes.

# 4 SOIL INVESTIGATION

# 4.1 Site Investigation Methodology

Appendix B provides Atma Environmental Pty Ltd's procedures for soil sampling, quality assurance and equipment decontamination. These procedures are comparable with those found in the Australian Standard AS4482.1 – 2005, Guide to the sampling and investigation of



15<sup>th</sup> October 2008

P ''

æ

F

potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds.

AS4482.1 recommends a minimum number of sampling locations dependant on the area of a site such that circular contamination hotspots of a given size may be detected with a 95% degree of certainty. For this site (2.06 ha.) 31 locations as required by AS4482.1 will detect hotspots of 15.2 m radius. Soil sampling locations (BH1 – BH30) were constructed across the site as per the attached site sampling plan in a regularly spaced fashion with additional locations placed also in areas of environmental interest being the former boiler rooms (see Figure 1 site details for sample locations).

# 4.2 Soil Sample Collection

Soil sampling was conducted on the 30<sup>th</sup> of September 2008. 32 soil bores were drilled to 1.0 m using a 4WD mounted solid stem auger. The soil samples were collected directly from the auger using a spatula at nominal 0.1 m, 0.5 m, and 1.0 m depths across the site (see Figure 1 Site Details). The auger lengths were appropriately decontaminated between each borehole.

Soil samples were labelled by the borehole number followed by the relevant depth from where the sample was collected (e.g.: Sample 'BH1/0.1' is from soil bore number one at 0.1 m below ground level). Borehole is abbreviated to BH in the remainder of this report.

New, single use glass containers provided by the laboratory were used in conjunction with latex gloves to avoid contact with contaminated material. All soil samples were preserved on ice during site investigations and during transport to the laboratory.

# 4.3 Soil Sample Analysis

Subsequent to the completion of field work, soil samples were grouped together for analysis having regard for relevant soil compositing guidelines. In general, this involved grouping only adjacent soil samples from similar sampling depths and soil matrices ("compositing"). For certain analyses, including volatile compounds, discrete samples were tested to avoid possible contaminant losses during the composting process. See Figure 2 for the details of the composite regime.

Because of the dilution effect of compositing samples, comparative criteria require modification by the number of sub-samples (i.e. is divided) to enable comparison with composite test results. Where composite samples exceeded NEPM 'A' HIL (but not EIL) criteria, as modified for the number of composite sub-samples, further analysis of sub-samples is carried out to identify any locations having concentrations greater than the HIL.

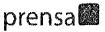


# Appendix D: NATA Analytical Results

### Borehole Log - GB3



PREMIA WRILLOR NAME LFG CLAYTON WESTER!



Client: Department of Treasury and Finance Driller: Star Drilling Standing Water Level: Job Number: 13991 Rig: Geoprobe Drill Rig Easting: Site Location: 10 Alvina Street, Oakleigh South Depth of Hole: 1.9 m Northing: Job Type: Landfill Gas Investigation Date: 14/02/2014 Screened Depth: 1.0 - 1.9 m Coord, Sys.: Casing/Screen Diameter: 50 mm Drawn By: SPF License Number: N/A Top of Casing (m AHD): Approved By: SSB Comment: Landfill gas bore Graphic Log Depth (m) Well Construction PID Method Sample Barreton France NATURAL: SAND (0 - 0.8 m) Dark grey to black, loose, dry, hornogeneous, Grout (0,0 - 0,4 m) Hand auger Bentonite (0.4 - 0.7 m) NATURAL: SAND (0.8 -1.5 m) Light grey, loose, dry. 1.0 - Sand (0.7 - 1,9 m) Screen (1.0 - 1.9 m) 1.5 NATURAL: SAND (1.5 - 1.9 m) Yellow, dense, slightly moist, coarse grained. End of borehole at 1.9 m at target depth in natural. 2,0

# Borehole Log - GB2

prensa

Sheet: 1 of 1

Client: Department of Treasury and Finance

Job Number: 13991 Site Location: 10 Alvina Street, Oakleigh South

Job Type: Landfli Gas Investigation Date: 14/02/2014 License Number: N/A

Driller: Star Drilling Rig: Geoprobe Drill Rig

Depth of Hole: 2.0 m Screened Depth: 1.0 - 2.0 m

Casing/Screen Diameter: 50 mm Top of Casing (m AHD):

Standing Water Level:

Easting: Northing: Coord. Sys.: Drawn By: SPF Approved By: SSB

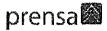
Comment: Landfill gas bore

Depth (m)	Well Con	struction	Method	Graphic Log	Schaustica (Note	Sample	PID
		Grout (0.0 - 0,4 m)			FILL: SAND (0 - 0.3 m) Brown, loose, dry, coarse grained, dark grey silty clay pockets.		A Address of the Control of the Cont
0.5			Hand auger		FILL: SAND (0.3 - 0.5 m) Light grey, loose, dry, brown clay pockets, minor concrete fragments.  NATURAL: SAND (0.5 - 0.6 m)		
		Senionite (0.4 - 0.7 m)	Han		Black to dark grey, loose, dry, coarse grained sand.  NATURAL: SAND (0.6 -1.3 m) Light grey, loose, dry.		
1,0							
	A STATE OF THE STA						
1.5		- Sand (0.7 - 2.0 m) - Screen (1.0 - 2.0 m)	Solid auger		NATURAL: SAND (1.3 - 1.6 m) Light brown, loose, dry.		
	and the second s				NATURAL: SAND (1.6 - 2.0 m) Yellow, dense, slightly moist, coarse grained.		Adapted with trade to the control of
2.0-					End of borehole at 2.0 m at target depth in natural.		

### Borehole Log - GB1



PROPERTY THE LOCKED AND



Client: Department of Treasury and Finance Driller: Star Drilling Standing Water Level: Rig: Geoprobe Drill Rig Depth of Hole: 1.8 m Easting: Job Number: 13991 Site Location: 10 Alvina Street, Oakleigh South Northing: Job Type: Landfill Gas Investigation Screened Depth: 1.0 - 1.8 m Coord. Sys.: Drawn By: SPF Approved By: SSB Date: 14/02/2014 Casing/Screen Diameter: 50 mm License Number: N/A Top of Casing (m AHD): Comment: Lendill gas bore Graphic Log  $\widehat{\mathbb{E}}$ Well Construction Sample PID Method Depth ( FILL: SAND (0 - 0.3 m)
Brown, loose, dry, coarse grained sand, organic matter, dark grey silty clay pockets, angular bluestone gravel fragments. Grout (0,0 - 0.4 m) FILL: SAND (0.3 - 0.5 m) Light grey, loose, dry, brown clay pockets. NATURAL: SAND (0,5 - 0.6 m) Dark grey to black, loose, dry, coarse grained, minor Bentonite (0.4 - 0.7 m) guartz fragmente. Hand auger NATURAL: SAND (0.6 - 1.3 m) Light grey, loose, dry, homogeneous. 1.0 ---- Sand (0,7 - 1,8 m) NATURAL: SAND (1.3 - 1.7 m) Light brown, loose, dry. -- Screen (1,0 + 1.8 m) 1.5 NATURAL: SAND (1.7 - 1.8 m)
Yellow, dense, slightly moist, coarse grained. End of borehole at 1.8 m at target depth in natural. 2.0



# Appendix C: LFG Construction Borelogs

for delivering the e-mail to the intended recipient, be advised that you have received this e-mail in error and that any use, dissemination, forwarding, printing, or copying of this e-mail and any file attachments is strictly prohibited. If you have received this e-mail in error, please immediately notify us by telephone at 03 9518-3555 or by reply e-mail to the sender. You must destroy the original transmission and its contents

Email: AprilW@monash.vic.gov.au

Phone: (03) 9518 3774

Fax: (03) 9518 3444

National Relay Service: 1800 555 660

380 Ferntree Gully Road, Notting Hill, VIC 3168

www.monash.vic.gov.au

From: Sarah Fitzpatrick [mailto:sarah.fitzpatrick@prensa.com.au]

Sent: Thursday, 16 January 2014 9:28 AM

To: April Williams

Subject: Information regarding landfill gas sites

Hi April,

I am conducting a landfill gas assessment on behalf of a client, to determine if there is any risk of landfill gas at their sites located near the two former landfills (outlined below). Information provided by the City of Monash, may be included in the report to our client (which would not be a publicly available document), and will also help to form our decision regarding whether there is a risk.

At present, I have minimal information regarding the former landfill sites, and would like to obtain any information regarding the landfills, but in particular I would like to known how long (including the dates) that the landfills operated for, and the type of waste that the landfills may have been filled with.

One landfill is located at Talbot Park, on Centre Road Oakleigh South. It appears that the Talbot Park area at this Site may have been remediated, while the rest of the former quarry, which is located north and north west of the park, appears to have been backfilled and abandoned.

The other site is located at 1041 – 1049 Centre Road, 346 and 348 – 350 Warrigal Road. It has recently been redeveloped into a shopping centre, including a Masters and Woolworths. I understand that this area was rezoned from industrial to business use prior to the redevelopment. The Site was formerly a sand quarry and may have subsequently been used as a landfill. It may have been referred to as the 'Cavanagh Sands' site.

Any information that the City of Monash has regarding landfills at these sites would be appreciated,

Kind Regards,

Sarah Fitzpatrick | HSE Consultant | Prensa Pty Ltd

Office: 261-271 Wattletree Rd, Malvern ViC 3144

Postal Address: PO Box 2203, Wattletree Rd LPO, East Maivern VIC 3145

Phone: (03) 9508 0100 Mobile: 0401 637 344

Email: sarah.fitzpatrick@prensa.com.au | Web: www.prensa.com.au



higherra's engablinenes s system of

Programme of the state of the s

This e-mail and any files transmitted with it are confidential and are intended solely for the use of the individual or entity to whom it is addressed. Any personal or sensitive information contained in this e-mail (and any attachments) must be handled in accordance with the Victorian Information Privacy Act 2000, or the Health Records Act 2001, as applicable. If you are not the intended recipient or the person responsible

### **Holly Butler**

To:

Sarah Fitzpatrick

Subject:

RE: Information regarding landfill gas sites

From: Sarah Fitzpatrick [mailto:sarah.fitzpatrick@prensa.com.au]

Sent: Wednesday, 29 January 2014 10:49 AM

To: Butler

Subject: FW: Information regarding landfill gas sites

### Sarah Fitzpatrick | HSE Consultant | Prensa Pty Ltd

Office: 261-271 Wattletree Rd, Malvern VIC 3144

Postal Address: PO Box 2203, Wattletree Rd LPO, East Malvern VIC 3145

Phone: (03) 9508 0100 Mobile: 0401 637 344

Email: sarah.fitzpatrick@prensa.com.au | Web: www.prensa.com.au



From: April Williams [mailto:AprilW@monash.vic.gov.au]

Sent: Thursday, 23 January 2014 11:58 AM

To: 'Sarah Fitzpatrick'

Subject: RE: Information regarding landfill gas sites

Hi Sarah,

I have forwarded your questions to the relevant manager and this is his response:

I refer to your request regarding information on Talbot Road and 1041-1049 Centre Road. The Council operated landfill at Talbot Road was filled between 1977 -78 with putrescible waste. This was a small landfill with monitoring undertaken which showed no migration of gas at the boundaries. This was undertaken some 5 years ago. The Centre Road/Warrigal site was operational from 1940 and was filled using clean fill.

In regards to your request for the development proposal for the sites, I have requested this information from our Town Planning department, Some of these files are stored off-site, but when these are retrieved, I will be able to provide you with information from the files.

Thanks,



**April Williams** Waste Services Project Officer



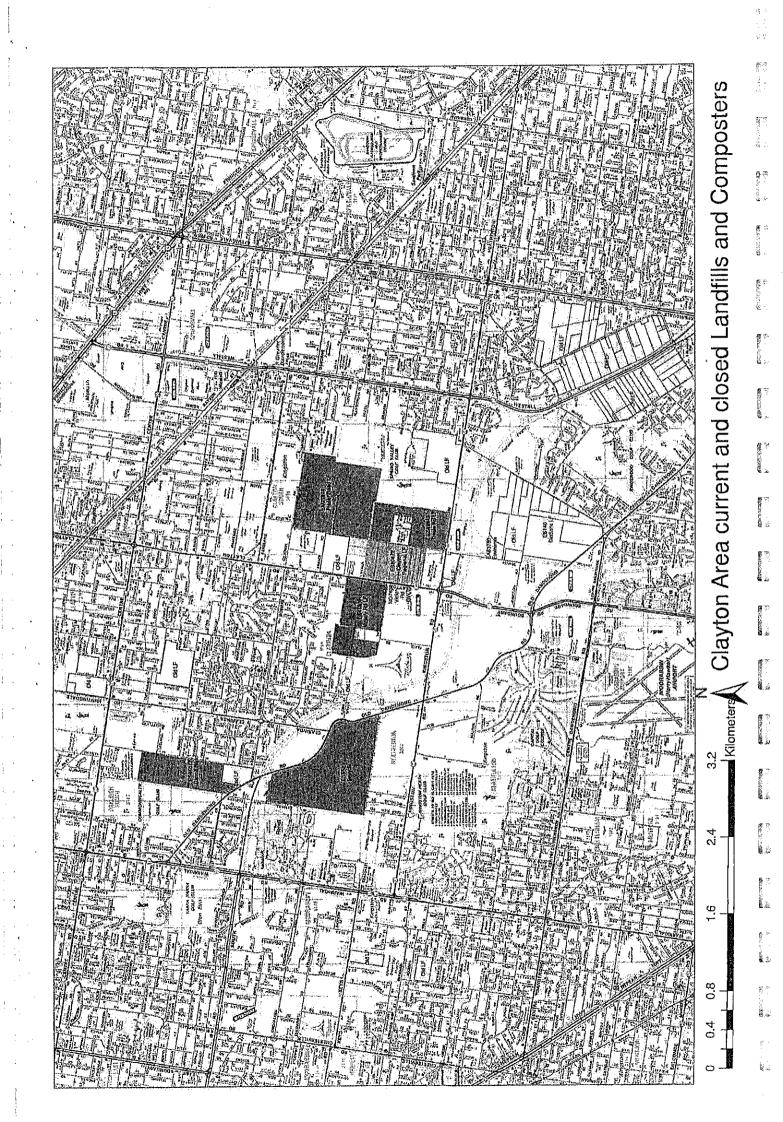
# Appendix B: Council Documents

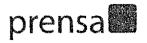
# SOUTH EASTERN REGIONAL WASTE MANAGEMENT GROUP

# HEATHERTON - DINGLEY AREA

# REFUSE DISPOSAL SITES

* W * H	A REALIZATION SAME SINCE  A REALIZATION  OLIVERATION  D. OTTO FARCETON  T. CONTENSION  T. CONTEN	THE CONTROLLED BY THE CONTROLL	LEGEND  Existing  Iner  Potential PT  Filled F
COTT OF GREATERIANDRONE SSTRING  VALLE PLAN  CONTRACT  L CONTRACT  L CONTRACT  L CONTRACT  CONTR	CONTROL OF BURNALDOS  CONTROL REPORTED  CONTROL FORMATION  CONTROL FORMATION  FINANCIA	T. CEMBRY.  T. MOLES  T. M	The state of the s
To the state of th	TATOMAL 3 15 15 15 15 15 15 15 15 15 15 15 15 15		S2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2





### Appendix A: EPA Documents



261-271 Wattletree Rd Malvern VIC 3144 PO Box 2203 Wattletree Rd LPO Malvern East VIC 3145

P: (03) 9508 0100 F: (03) 9509 6125 WWW.QFE059.COM.2U admin@prensa.com.au

Department of Treasury and Finance

Landfill Gas Assessment

10 Alvina Street, Oakleigh South

Drawing Title:

Clayton West Landfill Gas Bore Locations

Client No.: D0003 Job No.: 13991



Landfili Gas Bore

Site Boundary

Checked by: Note: All Jocedons are approximate

17/02/14 HAB Dates 17/02/14 13991 LFG Bore Location Spe



261-27± Walterree Rd Malvern VIC 3144 PO Box 2203 Wattletree Rd LFO 3 Malvern Sast VIC 3145

P: (03) 9508 0100 F: (03) 9509 6125 Why prense com au annin@prense.com eu

Department of Treasury and Finance

Client:

Landfill Gas Assessment Project:

. 10 Aivina Streef, Oakleigh South Address;

Clayron West Site Locality Drawing Title:

Client No.: 05003 Job No.: 13991.



Site Boundary

Talbot Park Boundairy

Former Centre Road Quarry Soundary

Note: At locations are approximate

\* 1/60/c Chocked by: ave. Date: 11,03/14 13991, Clayton locality Se nomes 35

### **Figures**



### 9 Application of this Report

The report should not be separated or reproduced in part and should be read in its entirety.

Prensa Pty Ltd

Sally Bonham

Principal Environmental Consultant

**Holly Butler** 

Senior Environmental Consultant



In addition, Prensa installed three (3) LFG bores in the southwest corner of the Site. LFG sampling and analysis did not report detectable concentrations of methane in the confirmatory samples collected.

Detailed information about the construction, operation or closure/capping of Talbot Park was largely unavailable, however based on the following multiple lines of evidence it appears unlikely that the Site would be at significant risk of LFG impacts from Talbot Park:

- There appeared to have been only relatively minor landfilling practices over a limited period of time at Talbot Reserve, with landfilling reported to be over a 2 year period only;
- LFG monitoring at Talbot Park, undertaken approximately 5 years ago, did not report elevated
   LFG concentrations;
- There have been large pockets of residential development in the vicinity of the Site and Talbot
  Park, both prior to and since the landfilling was undertaken, and there are no known incidences
  of LFG at hazardous concentrations within or nearby adjacent residences;
- Victorian guidance recommends the maintenance of a buffer around a former landfill for 30 years after which time LFG risks are considered to be low. The landfill has been closed for approximately 26 years, which is approaching the Victorian EPA 'minimum risk' requirement for the maintenance of a buffer (30 years);
- The level of capping (if any) installed upon closure of the landfill at Talbot Park is unknown.
   Current nearby site conditions (with public open spaces and vacant areas) may potentially limit pressure build-up and lateral migration of LFG to the Site;
- Lateral migration of LFG was not encountered during testing at three (3) locations (including two [2] stormwater drain locations and one [1] sprinkler valve location), tested in January 2014;
- No observable LFG odours or LFG issues were identified at the Site during recent sampling undertaken in January and February 2014; and
- A buffer distance of approximately 400 m exists between the Site and Talbot Reserve.

Based on the above information and the LFG monitoring undertaken at the Site, it is considered that the potential for methane gas to be present at the Site, which would pose a potential health risk to future low density residential users of the Site is low.



EPAV Publication 788.1 'Siting, Design, Operation and Rehabilitation of Landfills,' 2009, prescribes buffer distances to manage LFG impacts from closed landfills. The buffer distances are measured from the sensitive land use to the edge of the closest cell, or in the absence of knowledge of the cell location, the premise boundary is used as the point of measurement. Publication 788.1 indicates that a buffer zone of at least 500 metres should be maintained from buildings or structures for a minimum period of 30 years following closure, for landfills filled with putrescible waste. It is noted that Clayton West Primary School is located approximately 400 m north east of Talbot Park, and Talbot Park was rehabilitated at the earliest 26 years ago.

Based on the site history information obtained and given that Clayton West Primary School lies within the buffer zone prescribed in EPAV Publication 788.1, it was considered that there was potential for methane gas to exist at the Site. Given the uncertainty associated with the potential for LFG to exist, empirical testing was undertaken to evaluate the risk posed by LFG.

Limited LFG monitoring undertaken using a handheld LFG meter at the former Clayton West Primary School did not report concentrations of methane at the three (3) locations sampled. Additionally, three (3) LFG bores were installed in the southwest corner of the Site (the closest corner to Talbot Park). LFG confirmatory analysis did not report concentrations of methane within the LFG bores. Therefore, based on the results of the LFG sampling, it is considered that the potential for LFG to be present at the Site, which would pose a potential health risk to future low density residential users of the Site is low.

### 8 Conclusion

Two (2) assessments have previously been undertaken relating to the Site. One (1) assessment involved a site history review, while the other assessment involved gridded soil sampling across the entire Site. The site history review noted the presence of a former quarry located south west of the Site, which was noted to be disused by 1984. Prensa undertook a review of the two (2) assessments and noted that the former quarry was rehabilitated into a park (Talbot Park) by 1984.

A desktop review of Talbot Park found that minimal information was publicly available regarding the use of Talbot Park as a former landfill. Information obtained from by EPAV and the City of Monash, indicated that Talbot Park was backfilled with putrescible waste (and possibly also solid inert waste) between 1977-1978. Council records indicated that the landfill was converted into a park circa 1988-1991. Further information obtained from the City of Monash indicated that LFG sampling undertaken at Talbot Park, circa 5 years ago, indicated that methane gas was not migrating off-site from the park boundaries.

However, anecdotal evidence provided to Prensa indicated that LFG has been detected at the boundary between Talbot Park and the Centre Road quarry. As a consequence of the uncertainty regarding whether LFG is present at the Talbot Park boundaries, landfill gas sampling was conducted at the Site.

LFG monitoring was undertaken by Prensa using a hand held LFG meter at the former Clayton West Primary School in January 2014. The monitoring reported non-detectable concentrations of methane at the three (3) locations sampled, which predominantly comprised stormwater drains and service pits at the Site.



### 6 Conceptual Site Model

### 6.1 Site Specific Geology

Prensa reviewed the Geological Map Series Melbourne Map Sheet 1:63,360, No. 849, Zone 7, Ringwood. The map identified Quaternary-aged sand ridges and sand hills at the Site. The Site was predominantly surrounded by Quaternary aged high level alluvium.

### 6.2 Potential Sources of LFG Contamination

### 6.2.1 Off Site

Potential off site source of LFG contamination is the former landfill property (now Talbot Park) located approximately 400 m south west of the Site and former potential landfill located at 1221-1249 Centre Road.

### 6.3 Contaminants of Potential Concern

The potential contaminant of concern is methane, a known by product of landfill decomposition, particularly where putrescible waste has been disposed.

### 6.4 Transport Mechanisms and Exposure Pathways

Methane can migrate through the soil profile, at varying depths above the ground water table.

The main potential exposure pathway for occupants of the Site is vapour inhalation of methane gas.

### 6.5 Potential Receptors

The on-site human receptors would include the following:

- Contractors during the development of the Site; and
- Users of the proposed future residential development.

### 7 Significance of Results

Based on the site history review undertaken, it is understood that Talbot Park and the surrounding vacant area adjacent north and north west of Talbot Park, operated as a quarry from sometime between 1956 to 1988. It appears that Talbot Park was filled with putrescible wastes between 1977-1978. Aerial photographs indicated that the Talbot Park area was backfilled by 1988, although the remaining quarry area was not backfilled at this time. Talbot Park area was rehabilitated into a park sometime between 1988-1991, while the remaining quarry area appeared to have been backfilled sometime between 1991-2006.

Prensa contacted both EPAV and the City of Monash to obtain information regarding Talbot Park. Both EPAV and the City of Monash indicated that Talbot Park was formerly a quarry and was subsequently used as a landfill, prior to being rehabilitated into a park. City of Monash indicated that LFG monitoring was undertaken at Talbot Park, circa 5 years ago, which did not detect LFG at Talbot Park. However, Prensa understands that an audit is currently being undertaken at the former quarry located adjacent and north, north west of Talbot Park and anecdotal information exists that suggests that LFG has been detected in LFG bores located at the boundary of the former Centre Road quarry and Talbot Park.



Table 3 below outlines the construction details of the LFG bores, in accordance with Table B.3 of EPA Publication 788.1.

	Та	ble 3: LFG Bore Constru	uction	
Gas Bore	Total Depth	Bore casing	Bore screen	Screen length
GB1	1.8 m	0.0 – 1.0 m	1.0 – 1.8 m	0.8 m
GB2	2.0 m	0.0 <b>– 1.0</b> m	1.0 – 2.0 m	1,0 m
GB3	1.9 m	0.0 – 1.0 m	1.0–1.9 m	0.9 m

The LFG bore construction logs have been included as Appendix C.

### 5.5.2 LFG Sampling

Helium leak testing was undertaken prior to sampling, to verify the integrity of the construction seal. The leak testing was conducted by Eurofins MGT on 28<sup>th</sup> February 2014. The LFG bores passed the leak test.

Methane laboratory confirmation samples were also collected using a vacuum chamber to extract gas into a tediar bag. The gas as was sampled at a rate of 1L/min using a calibrated sample pump.

Methane, carbon dioxide, carbon monoxide, oxygen and sulphide readings were also taken using a GA2000 LFG Analyser.

All soil gas probes were sampled in accordance with Victorian EPA Draft Publication 1416 September 2011- Subsurface Geology.

### 5.5.3 LFG Analytical Schedule

Gas was collected into a sample bag and transported to Eurofins-mgt for methane analysis using Gas Chromatography — Flame Ionization Detection (GC-FID).

### 5.5.4 LFG Criteria

Detectable methane concentrations were compared to Table 6.4 'LFG Action Levels' in the EPA Publication 788.1: Siting, Design, Operation and Rehabilitation of Landfills, 2010, which prescribes action levels based on the location where methane is detected.

### 5.5.5 LFG Results

Methane peak concentrations of 0.1 %v/v were detected in GB1 and GB2, during sampling. Methane laboratory confirmation samples were also collected using a vacuum chamber to extract gas into a Tedlar bag using a calibrated SKC sample pump. Methane was not detected in the samples analysed.

It is noted that a detection of methane is not uncommon in the first twenty seconds of sampling in LFG bores, as methane is a light compound that can sit at the top of a bore. However, the lab confirmation results (which have a LOR of 20 ppm or 0.002 %v/v) confirmed that methane was not present within the stabilised readings above 20 ppm.

The Eurofins MGT LFG assessment report includes further information relating to the methane assessment and has been included as Appendix D.



### 5.4 LFG Monitoring

The former quarry to the south west of the Site (currently Talbot Park) was converted into a landfill following closure of the quarry. Closed landfills can continue to produce methane gas for many years following closure, which can potentially migrate offsite through the local geology following a path of least resistance into buildings and houses nearby.

Sarah Fitzpatrick and Holly Butler of Prensa attended the former Clayton West Primary School site on Thursday the 16<sup>th</sup> of January 2014 to conduct a LFG assessment. A hand held GFM410 LFG monitor was used to statistically measure oxygen, carbon dioxide and methane. Of particular interest was the presence of methane gas, which is a known by-product of landfill decomposition, particularly where putrescible waste has been deposited.

Gas measurements were taken to assess for the presence of landfill related gases. A total of three (3) measurements were taken at, and adjacent to the Site, as outlined in Table 2 below. Only three (3) locations were sampled, due to a lack of suitable locations (such as stormwater drains and service pits) to sample from. The LFG monitor did not register a detectable concentration of methane at any of the three (3) monitored locations.

Table	2: LFG Monitoring	g Results	
Location	Methane (%)	Carbon Dioxide (%)	Oxygen (%)
Stormwater drain, southern boundary of the Site	0	0.1	21.1
Stormwater drain, northern pedestrian walkway to the Site	0	0.8	20.5
Sprinkler valve, south eastern corner of the Site	0	0	21.3

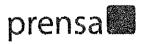
As part of the site inspection, several standpipes were noted adjacent to the southern portion of the Site to the west, in the former Centre Road quarry. A search of the online register of EPA audit sites and a review of Victoria's Groundwater Database were not able to provide any information to indicate whether the standpipes were monitoring wells. The audit report prepared for the northern portion of 1213-1217 Centre Road, Oakleigh South, indicated, that a bore network appears to be present on the former quarry located north of the property (1221-1249 Centre Road), however, no assessment or audit report is publicly available for the former quarry (1221-1249 Centre Road).

### 5.5 Intrusive LFG Assessment

### 5.5.1 LFG Bore Installation

Three (3) LFG bores (GB1, GB2 and GB3) were installed along the southern and western boundary of the Site (the closest boundaries to Talbot Park). The LFG bores were installed by Star Drilling on 14<sup>th</sup> February 2014, using 50 mm PVC piping for the casing. Where possible, bores were sealed with bentonite across both fill and natural soil to ensure that the bores were appropriately sealed so that any gas accumulating would be retained for sampling. The gas bore locations have been illustrated in Figure 2, provided in the Figures section of this report.

2 3



migration of gas at the boundaries. City of Monash was unable to provide the results of the monitoring as the documents were confidential. No further information was provided by the City of Monash.

### 5.2 Geology

Prensa reviewed the Geological Map Series Melbourne Map Sheet 1:63,360, No. 849, Zone 7, Ringwood. The map identified Quaternary-aged sand ridges and sand hills at the Site. The Site was predominantly surrounded by Quaternary aged high level alluvium.

### 5.3 Hydrogeology

### 5.5.1 Surface Water Receptors

The closest surface water receptors to the Site were:

- Various lakes within Huntingdale and Metropolitan Golf Course, located approximately 500 m,
   900 m and 1.5 km north west;
- Lakes within the former sand quarry, located approximately 400 m south west;
- A lake within Commonwealth Golf Club located approximately 1.4 km south west;
- Karkarook Lake, located approximately 2.8 km south west;
- Scotchman's Creek, located approximately 3 km north; and
- Port Phillip Bay, located approximately 9 km south of the Site.

### 5.5.2 Groundwater Database Search

A search of the *Visualising Victoria's Groundwater* online database identified 6 registered groundwater wells within a 500 m radius of the Site. A review of the bores has been summarised in Table 1 below.

Table 1: Summary of Nearby Groundwater Bores

Bore ID S9038303/2	Location  200 m south west	Well Depth (m) 15.00	<b>Use</b> Unknown	Lithology screened Silty clay
109629	480 m south west	50.292	Assessment	Clay and gravel
109629	500 m north west	50.29	Assessment	Clay and gravel
109630	500 m north west	50.29	Assessment	Unknown
109631	500 m north west	50.29	Assessment	Unknown

No standing water level data existed for the groundwater wells.

Anecdotal evidence has indicated that the depth to groundwater at and in the vicinity of the Site is considered likely to be largely influenced by the quarrying and excavation activities undertaken at Talbot Park and 1221-1249 Centre Road. Details regarding the depth to groundwater were unavailable, despite numerous attempts to gain information from the adjacent audit property and nearby area from numerous sources.



### 5.1.2 Online Review

A review of online resources confirmed that Talbot Park was a former landfill. A City of Monash webpage indicated that numerous sand quarries were located around the Clayton and South Oakleigh areas, with many of these quarries later used as municipal rubbish tips. Talbot Park was listed as a tip that was later rehabilitated into a park between 1988-1991.

### 5.1.3 EPA Review

Prensa contacted EPAV to obtain information regarding Talbot Park and also reviewed several publicly available EPAV documents. The information obtained from EPAV included the following:

- EPAV provided Prensa with an untitled, un-dated map from the South Eastern Regional Waste
  Management Group of old landfills located within the Heatherton/Dingley area. The map
  indicated that the former quarry at Talbot Park had been filled. The map also indicated that two
  quarries, Consolidated Quarries and City of Oakleigh Ex, formerly existed adjacent to the west
  and north of Talbot Park, bounded by Huntingdale Road and Centre Road.
- An untitled excel document provided by EPAV to Prensa indicated that Talbot Park was formerly a municipal landfill from 1977-1978. Prior to this the park was used as a sand quarry. The host aquifer was described as unconsolidated sedimentary, and it was reported that a well had been removed from the park. The landfill type was described as 'filling resource excavation' and the landfill was filled with both solid inert and putrescible waste. The estimated depth of the pit was listed as 4.2 m.
- A search of EPAV audit reports indicated that an environmental audit had not been undertaken
  at Talbot Park, however two (2) audit reports were found to exist for the northern and southern
  portions of the property located adjacent to Talbot Park to the west, west of Talbot Avenue.
  Current Melways and the audit reports indicate that this property was a former quarry. No
  reference was made to the risk of LFG migration within the audit reports.
- Prensa reviewed EPA Publication 1270 'Assessment of the potential for methane gas movement from Victorian Landfills' 2009, which assessed all licensed and formerly licensed landfills recorded in the EPA's database (a total of 260 landfills) for the potential for methane gas migration. It was noted that Talbot Park was not listed as a landfill assessed within this publication.
- A publicly available map on the EPA website titled 'Clayton area current and closed Landfills and Composters' indicates the location of former and current landfills within the Clayton South, Clarinda and Dingley areas. The map did not indicate that a landfill was formerly located at Talbot Park.
- Prensa contacted the EPA auditor who is currently undertaking an audit on the former quarry
  located adjacent to the west of the Site, located adjacent north and west of Talbot Park, at
  1221-1249 Centre Road. The auditor indicated that LFG is present in the monitoring bores
  located on the mutual boundary between the former Centre Road quarry and Talbot Park. No
  further information was able to be provided to Prensa due to confidentiality reasons.

### 5.1.4 City of Monash Review

The City of Monash was contacted to obtain council documentation relating to Talbot Park. Written information obtained from April Williams, Waste Services Project Officer indicated that the council operated a landfill at Talbot Road, which was filled between 1977-1978, with putrescible waste. The landfill was small and some monitoring was undertaken approximately 5 years ago, which showed no

蒙玉



In completing the above tasks, Prensa undertook works in general accordance with the following:

- Environment Protection Act, 1970;
- State Environment Protection Policy (SEPP), Prevention and Management of Contamination of Land. 2002:
- National Environment Protection (Assessment of Site Contamination) Measure (NEPM) No.1 Amendment, 2013;
- Victorian EPA Publication 788.1: Best Practice Environmental Management Siting, Design, Operation and Rehabilitation of Landfills, 2010;
- Australian Standard 4482.1, Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil, Part 1: Non-volatile and Semi-volatile compounds, 2005;
- Australian Standard 4482.2, Guide to the Sampling and Investigation of Potentially Contaminated Soil, Part 2: Volatile Substances, 1999;
- Victorian EPA Publication 1416: Draft Landfill Gas Fugitive Emissions Monitoring Guidelines,
   2011; and
- EPA Publication 1270: Assessment of the Potential for Methane Gas Movement from Victorian Landfills, 2009.

### 5 Findings

### 5.1 Site History Findings

### 5.1.1 Report Review

As part of the site history review for Clayton West Primary School, Prensa reviewed the following documents:

- Atma Environmental (Atma), Phase 1 Environmental Site Assessment: Former Clayton West Primary School, South Oakleigh, Victoria, 12 February 2008. The scope of this assessment included a site history review and a site inspection. The report noted that a former quarry was located adjacent the Site to the west/south west and is subject to an environmental audit overlay. The assessment undertook a search of Treatment and Disposal Facilities for Prescribed Wastes on the EPAV website, and found at the time of the assessment that no prescribed waste or disposal facility was found to be within 1 km of the Site. The historical aerial photographs, dating back to 1951, noted the presence of a "quarry pit" located adjacent south west of the Site, which was reported to have expanded in the 1963 aerial photograph and was disused by 1984. No reference was made within the report to the potential for LFG to be present at the Site.
- Atma, Phase 2 Environmental Site Assessment: Farmer Clayton West Primary School, South Oakleigh, Victoria, 15 October 2008. The scope of the assessment included soil sampling from thirty-two (32) gridded locations to 1.0 m using a solid stem auger. No reference was made within the report to the potential for LFG to be present at the Site.
- Prensa, Clayton West Primary School Desktop Document Review, 6 December 2011. The scope of the assessment included the review of the two Atma assessments. The report noted that the quarry located south west of the Site, was developed into a recreational park by 1984 (Talbot Park). No reference was made within the report to the potential for LFG to be present at the Site.



### 1 Introduction

Prensa was engaged by Department of Treasury and Finance (DTF) to undertake a landfill gas (LFG) assessment at the former Clayton West Primary School, located at 10 Alvina Street, Oakleigh South, Victoria (the Site).

A site locality plan has been provided as Figure 1 in the Figures section of this report.

### 2 Background

It was understood that DTF proposes to divest the Site, and as part of the divestment process has applied for the Site to be rezoned from Public Use Zone-Education to residential in accordance with the City of Monash Planning Scheme. EPA Victoria (EPAV) prepared a letter 'DEECD Surplus Land Rezoning Project' addressed to the Department of Transport, Planning and Local Infrastructure, dated 22 November 2013 (EPAV ref: 5003719), in relation to the proposed re-zoning. The letter related to the proposed rezoning of three former primary schools and their close proximity to "Former sand quarries [that] have been historically used for land-filling, which has often included the filling of putrescible wastes". Specifically in regards to the Site, the letter stated that "Clayton West Primary School is adjacent to the former Talbot Park landfill site."

Furthermore, the letter noted that the "Schedule to the Development Plan Overlay (DPO) requires a site assessment to be undertaken on these sites to confirm they are suitable for sensitive uses, prior to the development for such uses".

DTF requested a LFG assessment be undertaken to assess the potential for LFG to exist at the Site, based on the proposed residential redevelopment of the Site and in light of the comments provided within the EPAV letter.

### 3 Objective

The objective of the LFG assessment was to provide an indication of the potential for LFG to be present at the Site, which may represent a potential risk to the proposed future residential use of the Site.

### 4 Scope of Works

As part of the LFG Assessment, Prensa undertook the following:

- Review of environmental assessment reports relating to the Site;
- LFG Desktop review, including liaising with EPAV and the City of Monash;
- Site inspection and monitoring using a portable LFG monitor;
- Supervision of the service clearance of three (3) locations using a Telstra accredited service locator:
- Supervision of the installation of three (3) LFG bores;
- Supervision of leak testing and sampling of three (3) LFG bores, including methane confirmatory samples; and
- Preparation of this report outlining the findings.



Figures

Appendix A: EPA Documents
Appendix B: Council Documents

Appendix C: LFG Construction Borelogs

Appendix D: Eurofins MGT LFG Analytical Results



### **Table of Contents**

1			oduction	
2			kground	
3			ective	
4			pe of Works	
5			lings	
	5.3	1	Site History Findings	
		5.1.1		
		5.1.2		
		5.1.3		
		5.1.4	4 City of Monash Review	3
	5,:	2	Geology	1
	5.3	3	Hydrogeology	. 4
		5.5.1	1 Surface Water Receptors	1
		5.5.2	2 Groundwater Database Search	1
	5.4	4	LFG Monitoring	
	5.5	5	Intrusive LFG Assessment	į
		5.5.1	1 LFG Bore Installationនគ្នាក្រសួលការប្រការប្រការប្រការប្រការប្រការប្រការប្រការប្រការប្រការប្រការប្រការប	
		5.5.2	2 LFG Sampling	. (
		5.5.3	3 LFG Analytical Schedule	(
		5.5.4	4 LFG Criteria	(
		5.5.5	5 LFG Results	(
6		Cond	ceptual Site Model	7
	6.	1	Site Specific Geology	,
	6.	2	Potential Sources of LFG Contamination	
		6,2,1	1 Off Site	7
	6.	3	Contaminants of Potential Concern,	7
	6.	4	Transport Mechanisms and Exposure Pathways	7
	6.	5	Potential Receptors	7
7		Signi	nificance of Results	7
8		Con	clusionansimannanii	8
9			lication of this Report1	



### Statement of Limitations

This document has been prepared in response to specific instructions from Department of Treasury and Finance to whom the report has been addressed. The work has been undertaken with the usual care and thoroughness of the consulting profession. The work is based on generally accepted standards, practices of the time the work was undertaken. No other warranty, expressed or implied, is made as to the professional advice included in this report.

The report has been prepared for the use by Department of Treasury and Finance and the use of this report by other parties may lead to misinterpretation of the issues contained in this report. To avoid misuse of this report, Prensa advise that the report should only be relied upon by Department of Treasury and Finance and those parties expressly referred to in the introduction of the report. The report should not be separated or reproduced in part and Prensa should be retained to assist other professionals who may be affected by the Issues addressed in this report to ensure the report is not misused in any way.

Prensa is not a professional quantity surveyor (QS) organisation. Any areas, volumes, tonnages or any other quantities noted in this report are indicative estimates only. The services of a professional QS organisation should be engaged if quantities are to be relied upon.

### Sampling Risks

Prensa acknowledges that any scientifically designed sampling program cannot guarantee all sub-surface contamination will be detected. Sampling programs are designed based on known or suspected site conditions and the extent and nature of the sampling and analytical programs will be designed to achieve a level of confidence in the detection of known or suspected subsurface contamination. The sampling and analytical programs adopted will be those that maximises the probability of identifying contaminants. Department of Treasury and Finance must therefore accept a level of risk associated with the possible failure to detect certain sub-surface contamination where the sampling and analytical program misses such contamination. Prensa will detail the nature and extent of the sampling and analytical program used in the assessment in the assessment report provided.

Environmental site assessments identify actual subsurface conditions only at those points where samples are taken and when they are taken. Soil contamination can be expected to be non-homogeneous across the stratified soils where present on site, and the concentrations of contaminants may vary significantly within areas where contamination has occurred. In addition, the migration of contaminants through groundwater and soils may follow preferential pathways, such as areas of higher permeability, which may not be intersected by sampling events. Subsurface conditions including contaminant concentrations can also change over time. For this reason, the results should be regarded as representative only.

Department of Treasury and Finance recognises that sampling of subsurface conditions may result in some cross contamination. All care will be taken and the industry standards used to minimise the risk of such cross contamination occurring, however, Department of Treasury and Finance recognises this risk and walves any claims against Prensa and agrees to defend, indemnify and hold Prensa harmless from any claims or liability for injury or loss which may arise as a result of alleged cross contamination caused by sampling.

### Reliance on Information Provided by Others

Prensa notes that where information has been provided by other parties in order for the works to be undertaken, Prensa cannot guarantee the accuracy or completeness of this information. Department of Treasury and Finance therefore waives any claim against the company and agrees to indemnify Prensa for any loss, claim or liability arising from inaccuracies or omissions in information provided to Prensa by third parties. No indications were found during our assessments that information contained in this report, as provided to Prensa, is false.

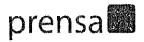
### Recommendations for Further Study

The industry recognised methods used in undertaking the works may dictate a staged approach to specific assessments. The findings therefore of this report may represent preliminary findings in accordance with these industry recognised methodologies. In accordance with these methodologies, recommendations contained in this report may include a need for further assessment or analytical analysis. The decision to accept these recommendations and incur additional costs in doing so will be at the sole discretion of Department of Treasury and Finance and Prensa recognises that that Department of Treasury and Finance will consider their specific needs and the business risks involved. Prensa does not accept any liability for losses incurred as a result of Department of Treasury and Finance not accepting the recommendations made within this report.



- There appeared to have been only relatively minor landfilling practices over a limited period of time at Talbot Park, with landfilling reported to be over a 2 year period only;
- LFG monitoring at Talbot Park undertaken approximately 5 years ago did not report elevated
   LFG concentrations;
- There have been large pockets of residential development in the vicinity of the Site and Talbot Park, both prior to and since the landfilling was undertaken, and there are no known incidences of LFG at hazardous concentrations within or nearby adjacent residences;
- Victorian guidance recommends the maintenance of a buffer around a former landfill for 30 years after which time LFG risks are considered to be low. The landfill has been closed for approximately 26 years, which is approaching the Victorian EPA 'minimum risk' requirement for the maintenance of a buffer (30 years);
- The level of capping (if any) installed upon closure of the landfill is unknown. Current nearby site
  conditions (with public open spaces and vacant areas) may potentially limit pressure build-up
  and lateral migration of LFG to the site;
- Lateral migration of LFG was not encountered during testing at three (3) locations (including two
   [2] stormwater drain locations and one [1] sprinkler valve location), tested in January 2014;
- No observable LFG odours or LFG issues were identified at the Site during recent sampling undertaken in January and February 2014; and
- A buffer distance of approximately 400 m exists between the Site and Talbot Park.

Based on the above information and the LFG monitoring undertaken at the Site, it is considered that the potential for methane gas to be present at the Site, which would pose a potential health risk to future low density residential users of the Site is low.



### **Executive Summary**

Prensa was engaged by the Department of Treasury and Finance (DTF) to undertake a landfill gas (LFG) assessment at former Clayton West Primary School, located at 10 Alvina Street, Oakleigh South (the Site).

A letter was issued by EPA Victoria (EPAV) relating to the proposed residential rezoning of the Site and its close proximity to the former Talbot Park landfill. The letter noted that the "Schedule to the Development Plan Overlay (DPO) requires a site assessment to be undertaken on these sites to confirm they are suitable for sensitive uses, prior to the redevelopment for such uses."

DTF requested an assessment that would assess the potential for LFG to exist at the Site, based on the proposed residential development and in light of the comments provided within the EPAV letter.

The objective of the assessment was to provide an indication of the potential for LFG to be present at the Site, which may represent a potential risk to the proposed future low density residential users of the Site.

Two (2) assessments have previously been undertaken relating to the Site. One (1) assessment involved a site history review, while the other assessment involved gridded soil sampling across the entire Site. The site history review noted the presence of a former quarry located south west of the Site, which was noted to be disused by 1984. Prensa undertook a review of the two (2) assessments and noted that the former quarry was rehabilitated into a park (Talbot Park) by 1984.

A desktop review of Talbot Park found that minimal information was publicly available regarding the use of Talbot Park as a former landfill. Information obtained from EPAV and the City of Monash, indicated that Talbot Park was backfilled with putrescible waste (and possibly also solid inert waste) between 1977-1978. Council records indicated that the landfill was converted into a park circa 1988-1991. Further information obtained from the City of Monash indicated that LFG sampling undertaken at Talbot Park, circa 5 years ago, indicated that methane gas was not migrating off-site from the park boundaries.

However, anecdotal evidence provided to Prensa indicated that LFG has been detected at the boundary between Talbot Park and the Centre Road quarry. As a consequence of the uncertainty regarding whether LFG is present at the Talbot Park boundaries, landfill gas sampling was conducted at the Site.

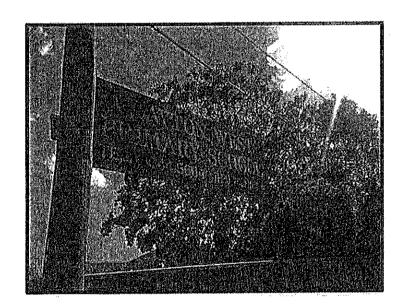
LFG monitoring was undertaken by Prensa using a hand held LFG meter at the former Clayton West Primary School in January 2014. The monitoring reported non-detectable concentrations of methane at the three (3) locations sampled, which predominantly comprised stormwater drains and service pits at the Site.

In addition, Prensa installed three (3) LFG bores in the southwest corner of the Site. LFG sampling and analysis did not report detectable concentrations of methane in the confirmatory samples collected.

Detailed information about the construction, operation or closure/capping of Talbot Park was largely unavailable, however based on the following multiple lines of evidence it appears unlikely that the Site would be at significant risk of LFG impacts from Talbot Park:

### Landfill Gas Assessment 10 Alvina Street Oakleigh South, Victoria

Department of Treasury and Finance March 2014





261-271 Wattletree Road
Malvern VIC 3144
T: 9508 0100
F: 9509 6125

E: admin@prensa.com.au

ABN: 12 142 106 581

Job No: 13991-01: Client No: D0003

### ATTACHMENT 3

Landfill Gas Assessment



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au Method blank Oct 13, 2008 mg/L < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.0101 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0.005 < 0:01 Balch Oct 13, 2008 % Recovery % Recovery S Batch 96 106 101 101 108 100 100 110 110 110 8 5 5 8 5 94 97 83 Š Oct 13, 2008 SPIKE % Весоvегу 5 5 Batch 118 108 122 122 113 103 128 95 89 5 115 105 12 117 Spike % Recovery Soil Oct 13, 2008 (<del>,</del> RPD Batch r<sub>V</sub> -V V. ¥ v v v V v Ÿ V v ٧ ٧. ٧ v v v V  $\overline{\mathbf{v}}$ Soll Client Sample D Sample Date Lab Number QA Description Matrix Units Tetrachioro-m-xylene (surr.) Organochlorine Pesticides Endosulfan sulphate Hexachlorobenzene Heotachlor epoxide Aima Environmental g-BHC (Lindane) Endrin aldehyde Richmond 3121 Endrin ketone Vlethoxychlor Endosuifan I Endosulfan II Тохорьеле Heptachlor 33 Dover St Chlordane 4.4'-DDE 4.4'-DDD 4.4-DDT Dieldrin PEHC 유민은 Endrin 244 Aldrin Jnit 6

MGT Report No. 235252 Page 3 of 3

[<sup>7</sup>] ...

(F)

e o

Ü

COMMENTS:



# Environmental Consulting Pty. Ltd.

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax, (03) 9564 7190 Email: mgt@mgtenv.com.au

Environmental	Client Sample ID				Collins
Unit 6	Lab Number	3	08-Oc04045	08-Oc04046	08-Oc04047
83 Dover St	Matrix		Soil	Soil	Soil
Richmond 3121	Sample Date		Oct 13, 2008	Oct 13, 2008	Oct 13, 2008
Analysis 1 ype with the property of the state of the stat	LOR	Units			
Organochiorine Pesticides Control of the Control of	· · · · · · · · · · · · · · · · · · ·				
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4.4-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4.4-007	0.05	тд/кд	0.10	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
5-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Chlordane	0.1	mg/kg	< 0.1	< 0.1	< 0.1
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Toxophene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	92	135	82
Tetrachloro-m-xylene (sur.)	-	%	79	118	72
1. 的名词形式 化二氯甲基基乙基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基	The second secon				
% Moisture	ť	%	6.8	7.2	6.8
				-	<del></del>

COMMENTS:

est a media

MGT Report No. 235252 Page 2 of 3

600 CONTRACTOR (1989)



### Environmental Consulting Pty. Ltd.

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190

Email: mgt@mgtenv.com.au

### CERTIFICATE OF ANALYSIS

Atma Environmental Unit 6 83 Dover St Richmond 3121 Site: Clayton West 589 Report Number: 235252 Page 1 of 3

Order Number:
Date Received: Oct 13, 2008
Date Sampled: Oct 13, 2008
Date Reported: Oct 14, 2008 Contact: Tim Robson

### Methods

- USEPA 8081A Organochlorine Pesticides
   Method 102 ANZECC % Moisture

### Comments

Notes

The results in this report supersede any previously corresponded results.
 All Soil Results are reported on a dry basis.

3. Samples are analysed on an as received basis.

4. LOR's are matrix dependent. Stated LOR's may be raised where sample extracts are diluted due to interferences.

**ABBREVIATIONS** 

mg/kg: milligrams per kilograms, mg/L: milligrams per litre, ppm: parts per million, LOR: Limit of Reporting

RPD : Relative Percent Difference CRM : Certified Reference Material LCS : Laboratory Control Sample

Authorised

Report Number: 235252

Michael Wright Laboratory Manager NATA Signatory

Rhonda Chournan Client Manager **NATA Signatory** 

Orlando Scalzo Chief Organic Chemist NATA Signatory Tornmy Lakeland Chief Inorganic Chemist



NATA Accredited

Laboratory (Number 126). The test, calibrations are measurements covered by this document have been performed in accordance with NATA frequirements which include the requirements of ISO/BEC 17025 and any traceable to national standards of measurement. This document shall not be reproduced, except in full.



Further Sampl	e A Date		ysi	s F	<b>Re</b> ( (San	que	est s Des	spate	ched	On:	1/10	log.	<b>A</b>	tm	a	Environmental
heet \ of \			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	··;cous at 11 10 11	Prev	ious	Rep	ort N	luml	er: 2	34	699	1	-1914 t-171 <b>0/100</b>	1	
ROJECT: (loyton	V	les	+				55	9	ecopy and solved and	ΔΝΔ	LYSI	S				COMPOSITING
SAMPLE NO.					MPI ATRI				T	FC						INSTRUCTIONS:
	DISCRETE	COMPOSITE	GRAB	SOIL	WATER		2 doo							·	CONTAINERS	
COMPI							/						-		<u> </u>	
COMP3 COMPS							Ź								1	
															,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Applications ,
		<u></u>														
								<u> </u>				.,,				
													(A)457AM1444			engapherik Ma
																**************************************
				<u> </u>											<u> </u>	
							-		<u> </u>	ļ						,
															-	**************************************
				1											-	, management
							-			<u>                                     </u>						**************************************
							_				<u> </u>					
														-		
TOTAL		_		-	-		1	-	-							(DATE/DIME
TOTAL: REQUESTED BY: (sign)			10 <sub>1</sub>	(DA	1671 102	ME)			B NA		<u>/: (alg</u>					
FINAL (TYPED) RESUL REMARKS:	F-1	mail	BE AV Resi	iits t	o:					HRS cho	hson	48 HF	naer	onive	nme	ntal.com)
	gì	eny	@alf	naen	viroi	me	alelic htal-	om		rm (cl:	ophil uke@	Hps@ Johns	izaten Ivozi	een Dom	ziron entál	mental:com :com
NOTE: Use only 50' Store all sar   Must be con	% of ea	ch jar cool,	lo ma dark j	ka co placa.	mpos	ile sa	mple.	Mix								50% out. aborstory.



ATMA ENVIRONMENTAL P/L CLAYTON WEST : 5 of 5 EM0608243 Page Work Order Project Client

### Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of farget analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Livide as per leboratory Data Quality Objectives (DQOs), ideal recovery ranges stated may be walved in the event of sample matrix interference.

Sub-Matrix; SOIL			- Control of the Cont	ene programment mangage and a special consideration of the control	Matrix Spike (MS) Report	J.L	Statement of the statement of the second statement of the
			derengering	Spike	Spike Recovery (%)	Recovery	Recovery Limits (%)
Laboratory sample ID	Client sample 10	Mathad: Compound	CAS Number	Concentration	SM	Low	Haga Haga
EGUISIT Total Metals	als by ICP-AES (QCLatt 774974)						
EM0808179-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	89.7	70	130
		EG005T; Cadmium	7440-43-9	50 mg/kg	102	70.	130
		EG005T: Chromium	7440-47-3	50 mg/kg	106	R	130
	No. (1)	EG005T: Copper	7440-50-8	50 mg/kg	107	2	130
		EGUST: Lead	7439-92-1	50 mg/kg	456	2	130
	عديد. تمنيز • • تمنيز • •	ECOUST: Nickel	7440-02-0	50 mg/kg	103	2	130
		ESOSTAIN	7440-66-6	50 mg/kg	84.7	70	130
EGUSSIT: Total Recov	ভিয়েইন্ট্রি Total Recoverable Nercury by FIMS (dol.ot ।774873)।				And the second s	Anna Manada	
EM0808175-004		EG035T:3Kercary	7439-97-6	5.0 mg/kg	72.2	70	130
EPDS0/074. Total Peu	EP080/071. Total Petroleum Hydrocarbons. (QCLot: 774855)				medican internation delignates that is addition and provinces arrange from	and the course of the second o	to the state of th
EM0808211-006	Anonymous	E7080; C6 - C9 Fraction		28 mg/kg	83.8		1
EP080/074; Total Petr	EP080/071: Total Petroleum Hydrocarbons (QCLot. 775970)	· 医二氏性 医二氏性 医二氏性 医二氏性 医二氏性 医二氏性 医二氏性 医二氏性		The second secon	material and compared and production of the compared Committee Com	or demonstrate destroys from the control of the con	A CONTRACT OF MARKET THE STATE OF MARKET THE
EM0808208-003	Anonymous	EP071: C10 - C14 Fraction		605 mg/kg	77.7	60	130
	denter .	EP071: C15 - C28 Fraction		1460 mg/kg	101	9	<del>(S</del>
enterphenological terminal action and temperature presents a consequence action only	and the second s	EP071: C29 - C36 Fraction	-	342 mg/kg	15	60	136



 Page
 : 4 of 5

 Work Order
 : EM0808243

 Client
 : ATMA ENVIRONMENTAL P/L

 Project
 : CLAYTON WEST

# Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: SOIL				Method Blank (MB)		Laboratory Control Spike (LCS) Report	S) Report	
				Report	Spike	Spike Recovery (%)	Recovery Limits (%)	imits (%)
Method: Compound	CAS Number	TOR	Unit	Result	Concentration	SD7	Low	High
EGUUST Total Melais by (CPAES (CCLob 774874)								
EG005T; Arsenic	7440-38-2	ιņ	mg/kg	\$	13.6 mg/kg	92.0	82.4	122
EstoST: Cadmium	7440-43-9		mg/kg	V	2.6 mg/kg	95.7	87.4	122
ESOBST: Chromium	7440-47-3	2	mg/kg	٧	60.9 mg/kg	102	88.5	117
EG0971: Copper	7440-50-8	5	mg/kg	20	55.1 mg/kg	69.3	89.2	121
ESUCT. Lead	7439-92-1	2	mg/kg	\$	54.9 mg/kg	97.7	88.2	118
EG005T: Nickel	7440-02-0	2	mg/kg	₹	55.1 mg/kg	98.8	86.8	117
EG085: Zinc	7440-66-6	2	mg/kg	\$	105 mg/kg	91.6	82	115
EGIXST: Total Recoverable Mercury by FIMS (GCLot: 774373)	(5)							
EG0351: Wercury	7439-97-6	0.1	mg/kg	1.0	1.47 mg/kg	87.9	71.9	119
EP080/071 Total Petroleum Hydrocarbons (QCLot: 774855)								
EP080; C6 - C9 Fraction	ì	10	mg/kg	<10	32 mg/kg	87.8	84	123
EP080/071 Total Petroleum Hydrocarbons (QCLot: 775670)								
EP071: C10 - C14 Fraction	Î	20	mg/kg	<50	606 mg/kg	69.8	69	123
EP071: C15 - C28 Fraction	1	100	mg/kg	<100	1460 mg/kg	94.2	69	127
EP071; C29 - C36 Fraction	1	100	mg/kg	<100	342 mg/kg	94.5	70	130

100 COUNTY OF

(\*) (\*) (\*)



Page : 3 of 5

Work Order ; EMOB018243
Citent ; ATMA ENVIRONMENTAL P.A.
Project ; CLAYTON WEST

# Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly splicited intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 limes LOR:- 0%, Result > 20 times LOR:- 0%, Result > 20 times LOR:- 0%, 20%,

Suly-Malrix: SOIL				American Commence of the Comme	Mary California of Statement of the Control of the	Laboratory D	aboratory Duplicate (DUP) Report	Company of the case of the second	the demonstration of the state
Leboratory sample ID	Chert sample ID	April 200	CAS Number	LOR	Unit	Orkitimi Result	Duplicate Result	RPD (%)	Receivery Limits (%)
EARSS Moisture Car	intent (QC Lot: 776257)								
EM0808271-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)		1.0	8	15,2	17.3	12.9	0%-50%
EM0809271-008	Anonymous	EA055-103: Moisture Content (dried @ 103°C)		0,	%	20.6	21.0	2.0	%02 - %0
EGUDUT TOISI MAISI	S or GPAES (QD Lat 7748	を 多種 (日本の) を 日本の (日本の)		ų.					
EM0808175-023	Ananymous	EG005T: Cadmium	7440-43-9	e	тщА	٧	٧	0.0	No Limit
		EG005T: Chromium	7440-47-3	Ŋ	mg/kg	27	<b>58</b>	0.0	0% - 50%
	····	EG005T: Nickel	7440-02-0	ry.	mg/kg	¥***	7	0.0	No Limit
		EG0057. Arsenic	7440-38-2	មល	mg/kg	v	. ₩	0.0	No Limit
		EG0051; Copper	7440-50-8	ij	тр/ка	<u>¥</u>	4	0.0	No Limit
	s ips	EG005T: Lead	7439-92-1	ιņ	mg/kg	16	- 2	0.8	No Limit
		EG005T: Znc	7440-56-6	) kra	mg/kg	25	37	36.5	No Limit
EM0808237-003	Anonymous	EG005T: Cadmium	7440-43-9		mg/kg	⊽	٧	0.0	No Limit
	No mon	EG005T: Chromium	7440-47-3	N	mg/kg	£5	9	9.4	0% - 20%
_ ~		EG005T: Nickel	7440-02-0	ત	то/ка	33	. <del> </del>	4.7	0% - 50%
		EG005T: Arsenic	7440-38-2	in.	mg/kg	₩.	٨.	0.0	No Limit
	****	EG035T: Copper	7440-50-8	up:	mg/kg	2	72	8,8	No Cimit
	to.	EG005T: Lead	7439-92-1	io.	mg/kg	99	43	10.7	No Limit
		EG0051: Zinc	7440-66-6	ura-	mg/kg	83	90	0.0	%05 - %0
EGUSST: Total Recu	overable Mercury by FIMIS (G	oc tours the second of the second of							
EM0803114-001	Applications of the second sec	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.3	0.8	87.5	No Limit
EM0808175-023	Anonymous	EG035T: Mercury	7439-97-6	0.	moko	.0 0.1	6.1	0.0	No Unit
EPUBLIOTA Total Pa	orarbons (O	C Lot 774856)							
EM0808211-005	Anonymous	EP080; C6 - C9 Fraction	1	13	mg/kg	ot>	₽	0.0	No Limit
EM0808211-011	Ananymaus	EP080: C6 - C9 Fraction	Ī	유	талка	40	€	0.0	No Limit
ST.	Petroleum Hydrocarbons (QC I	CONTROL OF STREET OF STREET							
EM0808208-001	Anonymous	EP071: C15 - C28 Fraction	Ī	100	mg/kg	140	190	26.5	No Limit
	and the same	EP071; C29 - C36 Fraction	1	100	mg/kg	190	250	25.1	No Limit
		EP071; C10 - C14 Fracition		8	Digu	<50 <	£Ş	0.0	No Limit
: EM0808241-001	Anonymous	EP071, 015-028 Fraction	I	2	mg/kg	01F	×100	0.0	No Limit
	or a second	EP071; C29 - C36 Fraction		8	Erycu.	×100	200	0.0	No Limit
A formation and the second of	ob oddy njemje na romania njemina popijanja popijania ovaja o o o o o o o o o o o o o o o o o o	EP071; O10 - C14 Fraction	Committee Commit	20	mg/kg	<50	<50	0.0	No Limit



: ATMA ENVIRONMENTAL P/L : 2 of 5 : EM0808243 Work Order Project

CLAYTON WEST

### General Comments

The analytical procedures used by the Environmental Division have been developed from established Internationally recognized procedures such as those published by the USEPA. APHA, AS and NEPIA. In house developed procedures are employed in the absence of documented standards or by client request.

Where maisture determination has been preformed, results are reported on a dry welch basis.

Where a reported less than (<) testit is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffert sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Anonymous = Refers to semples which are not specifically part of this work order but formed part of the QC process to

CAS Number - Chemistry Abstract Services number

LOR = Limit of reporting

RPD = Relative Percentage Difference

# = Indicates tailed QC

A Compisell Britiners Limited Company

# C C C

Service Const

# T

# ALS Laboratory Droup

ANALYTICAL CHEMISTRY & TESTING SERVICES



# Environmental Division

QUALITY CONTROL REPORT

Page : 10f5	Laboratory : Environmental Division Melboume Contact : Paul Loewy Address : 4 Westall Rd Springvale VIC Australia 3171	E-mail : 'paul.toewy@alsenviro.com Telephone : +61-3-8549 9600 Facsimile : +61-3-8549 9601	OC Level ; NEPM 1999 Schedule B(3) and ALS QCS3 requirement Date Samples Received ; 02-OCT-2008 Issue Date ; 09-OCT-2008 No. of samples repelved : 1 No. of samples analysed ; 1	This report supersodes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for
EM0808243	: ATMA ENVIRONMENTAL P/L  : MR TIM ROBSON  : 6/83 DOVER ST  RICHMOND VIC, AUSTRALIA 3121	. trobson@atmaenvironmental.com . +61 94296955 . +61 94295911	roject : CLAYTON WEST Re : 589 -O-C rumber : TR order rumber : — : ME/170/05	des any previous report(s) with this reference. Results
Work Order	Citeni Contaci Address	E-mail Telephone Pacsimile	Project Sta C-O-C number Sampler Crider number Cuder number	This report superset

This Quality Control Report contains the following information;

- Laboratory Dupicata (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
  - Malrix Spike (MS) Report; Recovery and Acceptance Limits



## NATA Accredited Laboratory 825

Signatories

accreditation requirements. This document is issued in accordance with NATA

Accredited for compliance with

NORLE RECOGNISED

tz\_

ISO/IEC 17025.

### carried out in compliance with procedures specified in 21 CFR Part 11. Position Signetories

Accreditation Category

Inorganics Organics

This document has been electronically signed by the authorized signatones indicated below. Electronic signing has been

Senior Inorganic Instrument Chemist Senior Organic Chemist Kumara Dadallage Dilani Fernando

A Westall Rd Springwele VIC Australia 3171
Tel. #(71-3-8049 9600 Fax +61-3-8549 9601 w.mv.alsglobal.com Environmental Division Melbourns Fair of the ALS Laboratory Group

A Cempbell Brothers Limited Company



e . . .

Page Work Order Client Project

: 4 of 4 : EM0308243 :: ATIMA ENVIRONMENTAL P/L : CLAYTON WEST

## Surrogate Control Limits

Sub-Matrix: SOIL		Recover	Recovery Limits (%)
Compound	CAS Number	Low	i High
EPOSOS: TPH(V)/B1EX Sumogates			
1.2-Dichloroethane-D4	17060-07-0	2	130
Toluene-D8	2037-26-5	70	130
4-Bromofluorobenzene	460-00-4	70	130



A Camphell Brothers Limited Company

: 3 of 4 EMDSD8243 ATMA ENVIRONMENTAL PAL CLAYTON WEST

> Page Work Order

Offent

Analytical Results

Sub-Matrix: SOIL		Š	Client sample ID	SPLITE-300908	]	neitsee	ļ	latinas		• ********	Ì	,
	Ğ	ent sampli	Client sampling date / time	01-OCT-2008 09:00		dere siden d	:   ]	- I vid lime	1		1	
compound	CAS Number	108	, net	EM0808243-001		Agricultury of	1	· wasserit	1	, (2)	1	•
EAUSS: Moisture Content											:	
* Moisture Content (dried @ 103*C)	1	1.0	%	7.4	1	Dažojime	1	s. Emarkon			1	,
EGODET TOTAL MEDIS BY CIP ACS							こうない はいままが					
Arsenic	7440-38-2	ເລ	Lmg/kg	\$					1	2384444	. :	
Cadmium	744043-9	-	mg/kg	TV		indiage.			!		:	. 1
Chromium	7440-47-3	N	mg/kg	42		ease t	1		.		1	
Copper	7440-50-8	in.	mg/kg	The state of the s		generals :	1	!	1		ì	
Lead	7439-92-1	· to	mg/kg	\$5			1		1		1	1
Nickel	7440-02-0	64	mg/kg	٧					1	<b>,</b> ,,,,,,,,,,		1
Zinc	7440-66-6	in.	тдКа	<b>F</b>	1	Mara-fel	1	mend	1	-on an	Ĭ	1
=5603517 . Total Recoverable Mercury by ≓ll	prouny by FIMS											•
Wercury	7439-97-6	£ 0	mg/kg	<0.1	l.		1		1	, private	1	
EP080/071, Total Petroleum Hydrocarbons								7				
C6 - C9 Fraction		10	mg/kg	<10	:1	ertings		dadra	1	Şuna (rçi		1.
C10 - C14 Fraction	an mai	윦	пд/ка	<50		(or 10 pr					. 1	
C15 - C28 Fraction		100	mg/kg	238	1		1	gerrate trace			1	
C29 - C36 Fraction		8	mg/kg	230	1		1	g- 44 <b>3</b> 4,4 8	1	********	1	•
EPOSUS: TPH(V)(ETEX Surrogates							1000年代の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の			٠.		
1.2-Dictioroethane-D4	17060-07-0	0.1	%	103		1414 P. P.		- then		ipooner:		
Tolkene-D8	2037-26-5	0,1	%	87,58			Topological Control of the Control o	et/Stributes	1	, A Bago	1	
4-Bromofitorobenzene	460-00-4	స	26	83.8	1	A STATE OF	İ	******	ı	Lidera		1



Page : 2 of 4
Work Order : EM0808243
Client : ATMA ENVIRONMENTAL PIL
Project : CLAYTON WEST

### General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA. APHA, AS and NEPIM in house developed procedures are employed in the absence of documented standards or by clent request.

Where moisture determination has been preformed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffrent sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and for time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

CAS Number = Chemistry Abstract Services number

LOR - Limit of reporting

A = This result is connected from individual analyte detections at or above the lavel of reporting

A Campbell Brothers Cinnied Company

\$100 mm

# ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES



# **Environmental Division**

CERTIFICATE OF ANALYSIS

Work Order	: EM0808243	ලු ක වූට	:10f4
Clent	ATMA ENVIRONMENTAL P/L	Latroratory	: Environmental Division Melbourne
Contact	MR TIM ROBSON	Contact	: Paul Loewy
Address	: 6/83 DOVER ST	Address	, 4 Westall Rd Springvale VIC Australia 3171
	RICHMOND VIC, AUSTRALIA 3121		
E-mexi	: trobson@atmaenvironmental.com	in in in in in in in in in in in in in i	; paul loewy@alsenviro.com
Telephone	: +61 94296955	Telephone	: +61-3-8549 9600
Facsimile	: +61 94295911	Facsimile	: +61-3-8549 9601
Froject	: CLAYTON WEST	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	The state of the s	rs.	
C-O-C number		Date Samples Received	; 02-OCT-2008
Sampler	TR	Issue Date	· 09-OCT-2008
0.44	5883	*	
	,	No. of samples received	ŤŢ.
Quote number	: ME/170/05	No. of samples analysed	Martin Control of the
This report supersedes any previous report	This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for	sample(s) as submitted.	All pages of this report have been checked and approved for

his Certificate of Analysis contains the following information:

release.

- General Comments
- Analytical Results
- Surrogate Control Limits



NATA Accredited Laboratory 825

Signatories

This document is issued in socreditation requirements. accordance with NATA

Accredited for compliance with ISO/IEC 17025.

WORLD REGOGNISED ACCREDITATION

نسلا

Senior Inorganic Instrument Chemist Senior Organic Chemist Kumara Dadallage Dilani Fernando Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been

carried out in compliance with procedures specified in 21 CFR Part 11.

Accreditation Category

Inorganics Organics

> 4 Westell Rd Springvete VIC Australia 3171 16f. HG-34549 9609 Fax. +61-3-8542 9801 www.alsglobal.nom Environmental Division Melbourne Part of the ALS Laboratory Group

Chain of Custo	dy	R	ec													Αt	m	a l	Envirogin engal		
(modified after US EPA chain of custody form)  Sheet of														hand of the same o							
PROJECT: <u>Claytor</u>	V	Ves	+	- <u></u>	Sigr San	nplei natui nplei	re: z 's	<u> </u>	T i		Ž	20	الرص	<u> </u>		<i>minim</i>	<del>ia</del>				
Site No: 589			DAT	ſĔ:	Nan 177	ne,	Ŕ.	<u></u>	! /,	//\ Tim	₽;		3 V	<u> </u>	:						
SAMPLE NO.	:			SA	AMPLE IATRIX:				ANALYSIS FOR:							· · · · · · · · · · · · · · · · · · ·	,	ЕСТЕР	COMPOSITING INSTRUCTIONS:		
	DISCRETE	COMPOSITE	GRAB	SOIL	WATER	BLANK/	8 metals	TRHS		e.							NO. of CONTAINERS	HIGH CONTAM EXPECTED			
SPLITE-300908	\			/			7	سي			<del></del>						L				
		_	********	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			*******				<u></u>	<del>                                     </del>	<u> </u>				<del> </del>	-			
41-2																			<b></b>		
			·*************************************	**********	***************************************		*********	<u> </u>		*******	<del></del> ,						┝				
																			<u> </u>		
		· · · · · · · · · · · · · · · · · · ·				,						<u> </u>	ļ		ļ.,	<u> </u>	_				
	***********									-		ļ				<u> </u>					
				******	***********		****			***************************************											
			×==:,					« <b>»</b>			NAME OF THE PERSON NAME OF THE P	<u> </u>					-				
												<u> </u>			ntal	اسا است	اماما	1	1		
					,,,,,		w.i.i.i.				است	— <u>C</u> II	virei ≬	n <del>ne</del> Aelb			5101	[-]	÷		
	***************************************	<u> </u>					·		·		_	1 7	<b>X</b>	Vork			· # . #4				
												L	EM	Ü	W	2	45	•			
		1		*****					******	ļ <u> </u>	1111		11111111						t. San		
And the state of t		ļ.,,,,,	*********															Ш	م <del>ند</del> ا		
												Teler			21.9.1	540	Deo.				
A CONTRACTOR OF THE PROPERTY O		<u> </u>		4**********						<del> </del>		i diele		21		8			1 		
																			<b>]</b>		
TOTAL: DISPATCHED BY: (sign)		ļ,	<u> </u>			(DAT	ZTIME	≣)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	REC	EIVE	D BY	() () (sin	n)	<u> </u>			<u> </u>	(DATE/TIME)		
				•					****		, <del>, , , , , , , , , , , , , , , , , , </del>		- /-ip	S.A.					- ,		
COURIERED BY: (sign), (DATE/TIME)											LAB NAME: ACS										
INITIAL RESULTS REQUES																					
REMARKS:	Plea	S0 0	mall	coc		24 F n roc			nip			firme		for o	ur re	***********	**********	-			
Please email results to: cellis@atmaerwirconnental.com tobson@atmaenvironmental.com riclarke@atmaenvironmental.com ricealise@atmaenvironmental.com																					
NOTE: A Must be completed by Atma Environmental Must be completed with date and time by laboratory.																					

Aug. 14:00 9/10

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgterv.com.au

Ama Environmentat	Client Sample	BH21/0.5	BH21/0 5	RPD	SPIKE	1	LCS Method blank
	D * The state of	9-15. \$Y.j.:		I			
វេកាដ ច	Lab Number	08-0<00952	08-Oc00952	08-Oc00952	08-0c00952	Batch	Batch
83 Dover St	QA Description		Duplicate	Duplicate % RPD	Spike % Recovery with the	% Recovery	
Richmond 3121		Soil	Soil	Soil	Sall Sales Company	ફ્રશા	Soil
:	Date :	1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
Analysis light	Units			0.4H %	% Recovery	% Recovery	mg/L
Heavy Metals	多。 在 五 五 五 五 五 五 五 五 五 五 五 五 五	でいてなるのである	神のないない				
Mercury		< 0.1	< 0.1	<1		108	< 0.005
	minsky y počensky s	- Living Street					

COMMENTS:

ال ا

MGT Report No. 234699 Page 26 of 26

4

3 Kingston Town Clase, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax (03) 9564 7190 Email: mgt@mgtenv.com.au

MGT Report No. 234699 Page 25 of 26

1 3

**1** 0

# \*\*\* \*\*\*

F. ...

5

Establishment of the state of t

Ž.

2.00 Page 2.00 P

COMMENTS:

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax: (13) 9564 7190 Email: mgt@mgfenv.com.au

MGT Report No. 234699 Page 24 of 26

Ħ,

g i

**(**) -

8-U

COMMENTS:

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgfenv.com.au

MGT Report No. 234699 Page 23 of 26

#17 - 11

6

**(** ()

COMMENTS:

É, Í,

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Pustal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Fleshone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt/@mgtenv.com.au

Alma Environmental	Client Sample	RPD	SPIKE	SOT	Method blank
Unite	Lab Number	Batch	Batch	Batch	Batch
83 Dover St	QA Description		Spike % Recovery	% Recovery	
Richmond 3121	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
Analysis Type Analysis Type	Junits		% Recovery	% Recovery	lmg/L
Chlorinated Hydrocarbons	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1				
1.3-Dichlorobenzene		۲۷	98	107	< 0.02
1.3.5-Trichlorobenzene		۸.	90	103	< 0.005
1.4-Dichlorobenzens	histope .	v	126	66	< 0.02
Benzai chloride		٧	110	107	< 0.005
Benzotrichloride	-	۲,	129	128	< 0.005
Benzyl chloride		A		•	< 0.02
Hexachlorobenzene		L V	128		< 0.005
Hexachlorobutadiene		V	105	108	< 0.005
Hexachiorocyclopentadiene		V	94	83	< 0.005
Hexachioroethane		V	66	101	<:0.005
Pentachlorobenzene		, V	106	1	< 0.005
Potychlorinated Biphenyls					
Aroclor-1016		1 >	ļ	<b>†</b> ;	< 0.01
Aroclor-1221			1	4	< 0.01
Aroclor-1232		<٦		4.	< 0.01
Aroclor-1242		^ 1	<b>.</b>	1.	< 0.01
Araclar-1248		v	•		< 0.01
Aroclar-1254			j.	<b>.</b>	< 0.01
Araclar-1260	-	٠, ۸	105	ł·	< 0.01
Yetal PCB		<1	105	77	< 0.1
Tetrachloro-m-xylene (surr.)		1	104	95	96
		化二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十		100° 110° 110° 110° 110° 110° 110° 110°	
Antimony		<1	95	113	< 0.25
Arsenic		<1	85	101	< 0.05
Beryllium		۸ ۲	86	104	< 0.2
Boron		<1	103	101	< 0.25
Cadmium		1	107	105	< 0.02
Сітотіцт		91	106	113	< 0.2

MGT Report No. 234699 Page 22 of 26

**5** "

1

6

:

ن. <u>تا</u>

COMMENTS

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgfenv.com.au

Айпа спујониела!	Client Sample ID	RPD	SPIKE	SOT	Method blank
Unit 6	Lab Number	Batch	Batch	Batch	Batch
83 Dover St	QA Description		Spike % Recovery	% Rесоvегу	
Richmond 3121	Matrix	Soil	Soil	Soil	Soil
	Sample Date	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
Analysis/Type	Units		% Recovery	% Recovery	mg/L
Oyanide (total)		, v	105	83	< 0.5
Organochlorine Pesticides	10 10 10 10 10 10 10 10 10 10 10 10 10 1				
4.4'-DDD		۸ ۲	128	124	< 0.005
4.4-DDE		\ \ \ \	108	127	< 0.005
4.4-DDT		L >	86	101	< 0.005
a-BHC		۸1	118	110	< 0.005
Aldrin		۸1	115	118	< 0.005
b-BHC		<1	105	121	< 0.005
Chlordane		\ - -	7.1	j.	< 0.01
d-BHC		٧.	117	125	< 0.005
Dieldrin		<1	118	118	< 0.005
Endosulfan I		<1	108	120	< 0.005
Endosulfan II		٠,	121	+11+	< 0.005
Endosulfan sulphate		1>	112	129	< 0.005
Endrin		- v	122	128	< 0.005
Endrin aldehyde		, · i	113	66	< 0.005
Endrin ketone		Ţ	103	125	< 0.005
g-BHC (Lindane)		v T	125	124	< 0.005
Heptachior		1>	116	129	< 0.005
Heptachlor epoxide		-1	110	26	< 0.005
Methoxychlor		۸1	35	119	< 0.005
Тохарћепе		t >	89	1	< 0.01
Chlorinated Hydrocarbons (1985)		A Section 1985 1985 1985 1985 1985 1985 1985 1985	Same of the state of the same	A CAN WAS ASSESSED.	\$ 400 S \$ 100 S
1.2-Dichlorobenzene		-1	98	•	< 0.02
1.2.3-Trichlorobenzene		- v	123	106	< 0.005
1.2.3.4-Tetrachlorobenzene		Ļ v	126	121	< 0.005
5		<1	+	,	< 0.005
1.2.4-Trichlorobenzene		۰ ۱	•		< 0.005
1.2.4.5-Tetrachiorobenzene	1	-	108	116	< 0.005

MGT Report No. 234699 Page 21 of 26 91

厚于

\$00 miles 1

Carrentes 1

COMMENTS

18 State 18

E.K

Unit 8

Method blank < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 Oct 1, 2008 Batch 3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au mg/L Sol % Recovery % Recovery I.CS Oct 1, 2008 109 114 115 108 901 Batch 7 E 5 5 5 8 2 8 112 128 ---8 23 22 장장 |= S SPIKE % Recovery 08-Oc00461 Oct 1, 2008 13 112 103 117 117 102 113 20 111 2 # 7 127 129 103 124 12 Spike % Recovery 121 12 20 7 Ξ 83 65 Sof Duplicate % RPD 08-Oc00461 Oct 1, 2008 RPD ۳. ۷ μ. V v у.... У v. Ņ , V v ٧ v Ÿ ٣ Ψ. V V v V v Α. v v % RPD Š Oct 1, 2008 08-Oc00461 < 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 Duplicate COMP1 So: 2008 08-Oc00461 ۸.0.1 < 0.1 < 0.1 × 0.1 < 0.1 0, < 0.1 < 0.1 v 0.1 < 0.1 A 0.1 , 0.1 < 0.1 < 0.1 5 Client Sample COMP1 Oct 1, Ö Matrix Sample Date Lab Number QA Description Units Polycyclic Aromatic Hydrocarbons 3&4-Methylphenol (m&p-Gresol) 2-Wethylphenol (o-Cresol) 4-Chloro-3-methylphenol ndeno(1.2.3-cd)pyrene Olbenz(a.h)anthracene Benzo(b)fluoranthene Benzo(k)fluoranthene 2.4.6-Trichlorophenal Benza(g.h.i)penylene 2.4-Dimethylphenol Benz(a)anthracene 2.4-Dichlorophenol Pentachlorophenol 2.6-Dichlorophenol Ama Environmental Acereolifiniere Benzo(a)pyrene 2-Chlorophenol Acenapirthene Richmond 3121 Phenanthrene Analysis Type -Nitrophenol -luoranthene laphthalene uthracene 33 Dover St Chrysene Huorene henofa Pyrene hend

MGT Report No. 234699 Page 20 of 26

F -

ا ا

٤. ا

نينا

COMMENTS:

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax, (03) 9564 7190 Email: mgt@mgtenv.com.au

Atma Environmental	Client Sample BH22/0.1	BH22/0.1	BH22/0,1	RPD	SPIKE
		08-Oc00456	08-Oc00456	38-Oc00456	08-Oc00456
	QA Description		licate	Duplicate % RPD	Spike % Recovery
Richmond 3121		Soil	Sail		Sail
	Sample Date	Oct 1, 2008	1, 2008		Oct 1, 2008
Analysis Type	Units			% RPD	% Recovery
pH (1:5 Aqueous extract)		6.9	0.7	ì	ì
				:	· ·

MGT Report No. 234699 Page 19 of 26

(1000) (

P

ë E

Manage Constants

A CHARLES

12 Company

\*\*\* - W

COMMENTS:

100 TO 100 M \$ C 

3 Kingston Town Close, Oakleigh, Victora 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victora 3166, Australia Telephone: (03) 9564 7055 Farc (03) 9564 7199 Emall: mgt@mgtenv.com.au

Ama Environmental	Client Sample ID	, RPD	SPIKE	801	Method blank
Unite	Lab Number	Batch	Batch	Batch	Batch
B3 Dover St	QA Description		Spike % Recovery	% Recovery	***************************************
Richmond 3121	Matrix	Sall	Soil	Soil	Soil
· · · · · · · · · · · · · · · · · · ·	Sample Date	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
Analysis Type	Units		% Recovery	% Recovery	mg/L
(Sulphate (S)		4.6	118	118	- V.

MGT Report No. 234699 Page 18 of 25

COMMENTS:

<u>e</u>-

 $\rho \, \, \gamma$ 

ديا

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone. (03) 9564 7055 Fax (03) 9564 7190 Email: mgt@mgtenv.com.au

	- 1	1					
Environmental	Client Sample D	BH6/0.1	BH6/0.1	.KPD	SPIKE	S)	Method blank
	Lab Number	08-Oc00453	08-Oc00453	08-Oc00453	08-Oc00453	Batch	Batch
83 Dover St	QA Description			Duplicate % RPD	Spike % Recovery	% Recovery	***************************************
Richmond 3121		Soil	Soil	Soil	Soil	Sail	Soil
	Sample Date	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
Analysis:Type - Analysis:	Units			% RPD	% Recovery	% Recovery	mg/L
Total Recoverable Hydrocarbons					[1] [1] [1] [1] [1] [1] [1] [1] [1] [1]		
TRH C6-C9 Fraction by GC		•	a .	3.9	84	114	< 0.02
TRH C10-C14 Fraction by GC		< 50	< 50	× 1	82	87	< 0.05
TRH C15-C28 Fraction by GC		< 100	< 100	<u></u>	.1	ì	< 0.1
TRH C29-C36 Fraction by GC		< 100	< 100	+ v		à	< 0.1
Monocyclic Aromatic Hydrocarbons							
Велгепе		*	,1	3.7	93	.1	< 0.005
Toluene		i	÷ŧ	6.5	83	ì	< 0.005
Ethylbenzene				3.8	06	1	< 0.005
Xylenes(ortho.meta and para)		ŀ		3.5	91	,	< 0.005

MGT Report No. 234699 Page 17 of 26

fy -

**6** 13

Street of the

95 65 6.

**4** 

COMMENTS:

16.3

**F** 3 . .

ve.



3 Kingston Town Close, Oakleigh, Victoria 3166. Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166. Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgl@mgfenv.com.au

Atma Environmental	Client Sample ID		DECON-300908	FIELD-300908	TRIP-300908
9 1141	Lab Number		08-Oc00477	08-Oc00479	08-Oc00480
83 Dover St	Matrix		Water	Water	Water
Richarond 3121	Sample Date		Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
Analysis Hype Andrews	U HOR	Units			
Total Recoverable Hydrocarbons	1000   1000			\$25.00 N 100 100 N	The specific of the State of th
TRH C6-C9 Fraction by GC	m 0.02	mg/L	< 0.02	1	ì
TRH C10-C14 Fraction by GC		тд/L	< 0.05		ŀ
TRH C15-C28 Fraction by GC	E	mg/L	< 0.1		+
TRH C29-C36 Fraction by GC		mg/L	<0.1		
Heavy Metals	ないできます。 あれているという。 かれているという。 かれているという。 のはない。 のない。 の。 のない。 の。 のない。 のない。 のない。 のない。 のない。 のない。 のない。 のない。 のない。 のない。 の。 の。 の。 の。 の。 の。 の。 の。 の。 の	か 一 の 機能の			
Anámony	0.005 m	mg/L	< 0.005	< 0.005	< 0.005
Arsenic	т 1.00.0	mg/L	< 0.001	< 0.001	< 0.001
Beryllum	ш 0.001	mg/L	< 0.001	> 0.001	< 0.001
Cadmium	0.0002 m	mg/L	< 0.0002	< 0.0002	< 0.0002
Chromium	0.001 m	mg/L	< 0.001	< 0.001	< 0.001
Cobalt	m 0.001	mg/L	< 0.001	< 0.001	< 0.001
Sec	m 9.001	mg/L	< 0.001	< 0.001	< 0.001
Lead	0.001	mg/L	< 0.001	< 0.001	< 0.001
Mercury	m 0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Wolybdenum	477807	mg/L	< 0.005	< 0.005	< 0.005
Nickel	6.001 š m	mg/L	< 0.001	< 0.001	< 0.001
Selenium	m	mg/L	< 0.001	< 0.001	< 0.001
	0.005	mg/L	< 0.005	< 0.005	< 0.005
Zinc	m 3 0.001	mg/L	< 0.001	< 0.001	< 0.001
					The continue was a second seco
and the second s					<del>and a second as the second as</del>
	ng sawa ta ay				.!

COMMENTS:

MGT Report No. 234699 Page 16 of 26

(F) u

يد قا



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (13) 9564 7055 Falephone: (13) 9564 7195 Eax (103) 9564 7190 Email: mgt@mgferv.com.au

Uniformity of the content of	Atma Environmental	Client Sample ID		DUPE-300908	BH21/0.1	BH21/0.5
121         Matrix         Soil         Soil         Soil         Soil         Soil         Soil         Soil         Soil         Soil         Soil         Soil         Soil         Cot 1, 2008         Oct 2, 2008         Oct	Unité	Lab Number		08-Oc00478	08-0c00951	08-0c00952
1   1,000		Matrix		Sail	Soil	Soil
LOR         Units         LOR         Units           clion by GC         20         mg/kg         < 20		1		Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
20 mg/kg		LOR	Units			
Consist Fraction by GC         20         ng/kg         <20            FOZE Fraction by GC         100         mg/kg         <-0						
The content of the	TRH C6-C9 Fraction by GC	20	mg/kg	< 20	•	f
F-C28 Fraction by GC  F-C36 Fraction by GC  F-C36 Fraction by GC  F-C36 Fraction by GC  F-C36 Fraction by GC  F-C36 Fraction by GC  F-C37 Fraction by GC	TRH C10-C14 Fraction by GC	50	mg/kg	< 50	•	•
Actable Faction by GC         100         mg/kg         < 100            Instant         10         %         7.5         4.0            Febris         10         mg/kg         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10 <t< td=""><td>TRH C15-C28 Fraction by GC</td><td>100</td><td>mg/kg</td><td>&lt; 100</td><td>,</td><td>,</td></t<>	TRH C15-C28 Fraction by GC	100	mg/kg	< 100	,	,
rue  language  l	TRH C29-C36 Fraction by GC	100	mg/kg	< 100	1	4
Materials         No.         7.5         4.0         Act         A						
y         ng/kg         < 10         r/10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         < 10         <	% Moisture	0.1	%	2.7	4.0	9.7
y     10     mg/kg     <10     <10       1     2.0     mg/kg     <2	Heavy Metals in Market and the second of the					
n     2.0     mg/kg     <2	Andinony	10	mg/kg	< 10	< 10	< 10
n         2         mg/kg         <2         <2           n         0.5         mg/kg         <2         <2           n         5         mg/kg         <5         <5           n         5         mg/kg         <5         <5           n         0.1         mg/kg         <5         <5           n         0.1         mg/kg         <0.1         <10           n         0         mg/kg         <0.1         <0.1           n         10         mg/kg         <0.1         <10           n         10         mg/kg         <10         <10           n         10         mg/kg         <10         <10           n         5         mg/kg         <10         <10           n         5         mg/kg         <10         <10           n         5         mg/kg         <10         <10	Arsenic	2.0	mg/kg	<2	<2	<2
применения         о.5         применения         < 5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5         < 6.5	Beryllium	2	тд/кд	<2	<2	<2
mm     5     mg/kg     <5     <5       5     mg/kg     <5	Cadmium	0.5	тд/кд	< 0.5	< 0.5	< 0.5
5         mg/kg         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <5         <	Chromlum	2	ша/ка	<5	<5	< 5
5     mg/kg     7.4     9.1       num     0.1     mg/kg     <5	Cobalt	LO	mg/kg	< 5	<5	<5
S mg/kg <5   <5   <5   <5   <5   <5   <5   <5	Copper	3	mg/kg	7.4	9.1	16
uny         0.1         mg/kg         < 0.1         < 0.1           bdenum         10         mg/kg         < 10	Lead	5	тд/кд	<5	<5	*-
bdenum bdenum 10 mg/kg <10 <10 <10 <10 <10 <10 <10 <10 <10 <10	Mercury	0.1	та/ка	< 0.1	< 0.1	< 0.1
eif     5     mg/kg     <5	Molybdenum	10	mg/kg	< 10	< 10	< 10
nium     2     72     62       10     mg/kg     <10	Nickel	52	mg/kg.	< 5	< 5	<5
10 mg/kg < 10 <10 <10 <10 <10 <10 <10 <10 <10 <1	Selenium	2	mg/kg	<2	<2	< 2
5 mg/kg 12 14	110	10	mg/kg	< 10	< 10	< 10
	Zinc	5	mg/kg	12	14	32

MGT Report No. 234699 Page 15 of 26

្ត

**1** 15 TE

COMMENTS:

.

Ġ.,i.



3 Kingston Town Glose, Oakleigh, Victor a 3165. Australia Posta address: P. O. Box 275, Cakleigh, Victor a 3165. Australia felephone: (03) 9564 7055 felephone: (03) 9564 7195 Eart (03) 9564 7190 Email: mgt@mgtenv.com.au

08-Oc00476 Soil < 0.1 < 10 so V Oct 1, 2008 COMP16 Oct 1, 2008 08-Oc00475 Soif COMP15 08-Oc00474 Soil < 10 × 10 × 5 2 2 4 8:0 Oct 1, 2008 COMP14 08-Oc00473 Soil 0.7 0.1 0.2 0.1 0.2 0.1 Oct 1, 2008 COMP13 Units mg/kg mg/kg mg/kg mg/kg Client Sample ID Sample Date
COLOR
0.1 Lab Number Matrix ĸ 일무 Afma Environmental Richmond 3121 Analysis Type Malybdenum 83 Dover St Selenium Mercuny Nicke

MGT Report No. 234699 Page 14 of 26

COMMENTS:



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Teleptione: (03) 9564 7055 Feleptione: (03) 9564 7190 Enail: mgt@mgtenv.com.au

Atma Environmental	Client Sample ID		COMP13	COMP14	COMP15	COMP16
Unite	Lab Number		08-Oc00473	08-Oc00474	08-0c00475	08-0c00476
83 Dover St	Matrix		Soil		Soil	Soil
Richmond 3121	Sample Date		Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
Analysis: Types & State of the	LOR	Units				
Polywylic Aromatic Hydrocarbons & Communic Aromatic Hydrocarbons						一 ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・
	0.1	mg/kg	< 0.1	: 9	< 0.1	٠
Aceranhthylene	0.1	mg/kg	< 0.1		< 0.1	,
Anthrarene	0.1	mg/kg	< 0.1	*	< 0.1	.1
Renz/a)anthracene	0.1	mg/kg	< 0.1	*	< 0.1	,
Benzo(a)ovrene	0.1	mg/kg	< 0.1	*	× 0,1	1
Benzo(b)fluoranthene	0.1	mg/kg	< 0.1	÷.	< 0.1	,
Benzold hilberylene	0.1	mg/kg	< 0.1	1	< 0.1	,
Benzulkitiuranthene	0.1	mg/kg	< 0.1		< 0.1	
Chrysene	0.1	mg/kg	< 0.1	1	< 0.1	1
Dihenz(a h)anthracene	0.1	mg/kg	< 0.1	1	< 0.1	1
Finanthene	0.1	mg/kg	< 0.1	ì	< 0.1	1
Flinene	1.0	mg/kg	< 0.1	1	< 0.1	-
Indeno(1,2,3-cd)pvrene	0.1	mg/kg	< 0.1	1	< 0.1	•
Naphthalene	0.1	gy/gm	< 0.1	ţ	< 0.1	
Phenanthrene	0.1	mg/kg	< 0.1	1	< 0.1	-
Pyrene	0.1	mg/kg	< 0.1	1	< 0.1	,
Total PAH	0.1	mg/kg	< 0.1	1	< 0.1	1
Chrysene-d12 (surt.)		%	08	*	06	1
(2-Fuorobioheny) (surr.)	_	%	123	1	131	,
	The second secon	Control of the second		The second secon	and the second of the second o	
	0.1	%	3.9	4.8	2.8	2.8
Heavy Metals with the second of the second o	A The State of the Control of the Co	and the second s	A Company of the Comp	A second	The Company of the Control of the Co	The first of the state of the s
Animany	10	mg/kg	< 10.	- to	× 10	< 10
Arsenic	2.0	mg/kg	< 2.	<2	<2	<2
Bervlium	2	mg/kg	<2	<2	<2	<2
Cadmim	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	3	mg/kg	ν ν	< 5	<5	< 5
Cobalt		mg/kg	<5	< 5	v S	v 521
Copper	2	mg/kg	< 5	< 5	<5	د ت
Lead	2	т.д/Кд	5.2	ง V	۸ 5	v V
				1 1000		

MGT Report No. 234699 Page 13 of 26 r.

<u>₽ - E</u>

**\$** =

i s

7

Astronoma .

Entrance of the second

COMMENTS:

Commercial Colors

1000

 $\xi^{\pm}$ 



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fac; Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7190 Email: mgti@mgfenv.com.au

Lab Number   Lab Number   Lab Number   Lab Number   Sample Bate   Loff	Street Street				1	1	
## ST ## ST	Allina Livis de Brichia		orientalis.				COMP12
Matter/st   Sant   Sa	e alien	Lab Number	Para	08-Oc00469	08-Oc00470	08-Oc00471	08-Oc60472
Sample Base   Coct 1, 2009   Coct	63 Dover St	Matrix		Soil	Soil	Sail	Soil
Section   Column	richmond 3121	Sample Date	Mark.	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2003
1		LOR		1722			
10	%. Moisture	0.1		3.4	3.7	4.0	5.4
10   mg/kg   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10		Professional Control of the Control		-	2		
2.0   mg/kg   <2   <2   <2	Ardimony	01	ūλ/βω	< 10	< 10	v 10	4 10
Heart   Control   Contro	Arsenic	2.0	mg/kg	<2	<2	< 2	<2
10   10   10   10   10   10   10   10	Beryllum	2	mg/kg	<2	<2	<2	<2
1	Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	× 0.5
1	Chromium	S	mg/kg	S V	< 5	× 55	رئ رئ
10   mg/kg   c5   c5   c5   c5   c5   c5   c5   c	Cobalt	us.	mg/kg	8 >	<5>	<5>	<5
1	Copper	5	mg/kg	< 5	< 5	A SO	, v
uny     0.1     Img/kg     < 0.1     < 0.1     < 0.1       bolenum     10     Img/kg     < 10	Lead	rΩ	mg/kg	<5	, A	V V	ر دی
10   mg/kg   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10   <10	Mercury	6.1	mg/kg	< 0.1	< 0.1	<0.1	<0.1
1	Molybdenum	10	mg/kg	× 10		< 10	× 10
10 mg/kg	Nickei	2	mg/kg	× 55	No.	× 5	A 55
10 mg/kg <10 <10 <10 <10 <10 <10 <10 <10 <10 <10	Selenium	2	mg/kg	<2	<2>	V 22	<2>
25 A 25 A 25 A 25 A 25 A 25 A 25 A 25 A		10	mg/kg	< 10	< 10	< 10	< 10
	ZNC	Ş	mg/kg	۸ ت	< 5	8,6	13

زيا

MGT Report No. 234699 Page 12 of 26

COMMENTS:



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au

invironmental	Client Sample ID		COMP5		COMP7	COMPB
	Lab Number		08-Oc00465	08-Oc00466	08-Oc00467	08-Oc00468
	Matrix		Soil		Soil	Soil
	Sample Date		Oct 1, 2008		Oct 1, 2008	Oct 1, 2008
Analysis/type@an	LOR	Units				
% Moisture	0.1	%	7.8	6.0	5.9	5.4
Cyanide (total)	52	mg/kg	<5	1	<u>-</u>	2,a
Heavy Metals					*	
Antimony	10	mg/kg	× 10	< 10	< 10	< 10
Arsenic	2.0	mg/kg	ς; Υ	< 2	< 2 × 2	<2
Beryllium	2	mg/kg	۷ ۲	< 2	<b>4</b> 2	2 >
Boron	10	mg/kg	ot >	ŀ	i	ŧ
Cadmium	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	5	mg/kg	۸ ښ	5.3	<5	, 5
Cobalt	5	mg/kg	< 5	<5	<5	<5
Copper	5	mg/kg	14	14	7.9	7.8
Lead	5	Бу/Бш	9.8	14	9.1	\ 55
Малдалеѕе	5	mg/kg	34	ŧ	í	ı
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Molybdenum	10	mg/kg	< 10	< 10	ot >	ot >
Nickel	5	mg/kg	<5	۸5	<5	< 5
Selenium	2	mg/kg	<2	<2	<2	<2
Tin	10	mg/kg	< 10	10 < 10	<10	< 10
Zinc	5	mg/kg	46	28	21	14
					··-	
					•	
			*************			

MGT Report No. 234699 Page 11 of 26

(1000) (1000)

100 Company (100 C

SEANATE OF

With the same of t

Entrange of

COMMENTS:

100 No. 100



S Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3168, Australia Telephone: (03) 9564 7055 Fac: (03) 9564 7190 Email: mgt@mgtenv.com.au

Alina Environmental	Client Sample ID		COMPS	COMPG	COMP7	COMPS
	l ah khimher		08-Oc00465	08-Oc00466	08-Oc00467	08-Oc00468
ver St	Watrix	. 1.2	Sail	Soil	Sail	Soil
	Sample Date	77.30	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
Analysis Ilype	LOR	Units				
J.B.	90'0	mg/kg	< 0.05	•		*****
9.	0.05	mg/kg	< 0.05			1
		%	-84	4	1	f.
Tetrachloro-m-xylene (surt.)		%	83			•
Polychlorinated Biphenyls						
Arbdiof=1016	0.1	mg/kg	< 0.1	<b>f</b> .	•	
Arodor-1221	0.1	тд/кд	< 0.1		ŗ	
Arodor 1232	0.1	mg/kg	< 0.1	<b>,</b>	£	ľ
Arador 1242	0.1	trig/kg	< 0.1		1	£.
Aroclor-1248	0.1	mg/kg	< 0.1		F.	,
Aroclar-1254	0,1		< 0.1	•	F.	
Aroclor-1260	0.1	mg/kg.	< 0.1	•		•
Total PCB	<b>***</b>	mg/kg	<1		<b>\$</b> ,	T.COMM.
Dibuty/chlorendate (stirr.)	-	%	91	•		,
Tetrachloro-rr-xylene (sum.)	-	%	සි		1	1
Phenois				The second secon		
2-Chlorophenol	0.1	та/ка	< 0,1		<b>3</b> .	1
2-Mathylphenol (o-Cresol)	0.1	mg/kg	< 0.1		1	•
2-Nitrophenol	0.5	mg/kg	< 0.5	*	•	,
2.4-Dichlorophenol	0.1	ву/вш	< 0.1	*	*	
2.4-Dimethylphenol	0.1	∮ mg/kg ∮	< 0.1	<b>6</b>	i i g	ią.
2.4.6-Trichlorophenol	0.1	⊺ шд/кд	< 0.1		•	
2.5-Dichlorophenol	0.1	mg/kg	< 0.1	,		\$
(3&4-Mathylphenol (m&p-Cresol))	0.2	mg/kg	< 0.2		A	,
4-Chloro-3-methylphenol	0.1	mg/kg	< 0.1	<b>t</b> o		,
Pentachiorophenol	0.5	: by/bu	< 0.5		•	
Phenol	0.1	mg/kg	< 0.1	*	i	ı
Phenol-d6 (surr.)	-	%	100	.1	- 1 A	1
				The second secon		

COMMENTS:

سقا

<u>~</u>

زخيا

MGT Report No. 234699 Page 10 of 28



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fact (03) 9564 7190 Email: mgt@mgtenv.com.au

Aima Environmental	Client Sample ID		COMPS	сомре	COMP7	COMP8
ຸດາທີ 6	Lab Number		08-Oc00465	08-Oc00466	08-Oc00467	08-Oc00468
83 Dover St	Matrix		Soil	Soil	Soil	Soil
Richmond 3121	Sample Date		Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
Analysis/ ype (\$1000000000000000000000000000000000000	E COR	Units	And the second of the second second second	the second of the second		and the second second of the second of the second
Endosulfan II	0.05	mg/kg	< 0.05	•	î	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	·ŧ	,	< 0.05
Endin	0.05	mg/kg	< 0.05	1	-	< 0.05
Endrin aidehyde	0.05	mg/kg	< 0.05	1	٠	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	i	'l	< 0.05
g-BHC(Lindane)	0.05	mg/kg	< 0.05	•		< 0.05
Hepiachlor	0.05	mg/kg	< 0.05		,	< 0.05
Heptachlor epoxide	0.05	тд/кд	< 0.05		4.	< 0.05
Hexachlorobenzene	0.05	ттд/Кд	< 0.05	·r		< 0.05
Methoxychior	0.05	mg/kg	< 0.05	<b>‡</b> .	<b>3</b> .	< 0.05
Toxaphene	0.1	mg/kg	< 0.1	l .	÷	< 0.1
Dibutylchlorendate (surr.)	_	%	91	<b>h</b>	4	103
Tetrachloro-m-xylene (sur.)	-	%	83	•	4	66
Chlorinated Hydrocarbons Control of the Control of Cont		The second second second	the second of the second second	Section of the second second second		The second second
1.2-Dichlorobenzene	0.2	mg/kg	< 0.2		•	g
1.2.3-Trichlorobenzene	0.05	mg/kg	< 0.05	•	į	f
1.2.3.4-Tetrachiorobenzene	0.05	тд/кд	< 0.05		78	
1.2.3.5-Tetrachlorobenzene	0.05	mg/kg	< 0.05		ł.	. *
1.2.4-Trichlorobenzene	0.05	mg/kg	< 0.05		1	,
1.2.4.5-Tetrachlorobenzene	50:0	та/ка	< 0.05	*	•	1
1.3-Dichlorobenzene	0.2	mg/kg	< 0.2	1	•	Ţ
1.3.5-Trichlorabenzene	0.05	mg/kg	< 0.05	1	t	
1.4-Dichlorobenzene	0.2	mg/kg	< 0.2	ŗ	*	.*
Benzal chloride	50.0	mg/kg	< 0.05	.1		,
Benzotrichloride	0.05	птд/кд	< 0.05	•	€.	ı
Benzyl chloride	0.2	mg/kg	< 0.2	í	is.	
Hexachiorobenzene	50.0	mg/kg	< 0.05	,	į	1
Hexachlorobutadiene	0.05	, mg/kg	< 0.05		•	-
Hexachlorocyclopentadiene	0:02	mg/kg	< 0.05	ŧ	ı	<u>.</u> †

COMMENTS:

Ġ,

MGT Report No. 234699 Page 9 of 26 30 -3 -3 -2 -3 -3 -3 -3 -3 -3 -3 -3

E .

P.

Mark Constitution

The same of the sa



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (13) 9564 7055 Fac; (13) 9564 7190 Email: mgt@mgtenv.com.au

				The first of the second		
Atma Environmental	Client Sample ID	<b>Garage</b>	COMPS	COMPS	COMPZ	COMP8
9 141	Lab Number		08-Oc00465	08-Oc00466	08-Oc00467	08-Cc00468
63 Dover St	Matrix	gger.	Soil	Soil	Soil	Soil
Richmond 3121	Sample Date	28.00	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
Analysis Type	TOR .	Units 💈	200			
Retycyclic Aromatic Hydrocarbons						
Acenaphibene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	0	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Eenz(a)anthracene	6,1	mg/kg	<0.1	0.1	< 0.1	< 0.1
Benzo(a)pyrene	0.1	By/6w	< 0.1	0.1	< 0.1	< 0.1
Benzo(b)iluoranthene	0.1	mg/kg	× 0.1	0.1	< 0.1	< 0.1
Benzo(g.h.i)perylene	0.1	mg/kg 🖺	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Chysene	1 0.1	mg/kg	< 0.1	0,1	< 0.1	< 0.1
Dibenz(a.h)anthracene	0.1	ing/kg	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	j.0	mg/kg	< 0.1	0.2	< 0.1	< 0.1
Fluorene	1.0	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1.2.3-cd)pyrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene	0.1	тд/ка	< 0.1	-0.1	< 0.1	< 0.1
Prenanthrene	0.1	пд/ка	< 0.1	< 0.1	< 0.1	< 0.1
Ругеле	0.1	бу/бш	< 0.1	0.2	< 0.1	< 0.1
Total PAH	0.1	S Styletu	< 0.1	9.0	< 0.1	< 0.1
Chrysene-d12 (sur.)	1	%	101	66	06	92
2-Fluorobiphenyl (sur.)	-	%	133	129	116	128
Organochibrine Pesticides					· 1000000000000000000000000000000000000	
4.4-000	90.0	т.д/кд	< 0.05	1	¥	< 0.05
4.4-DDE	0.05	mg/kg	< 0.05	,	e)	< 0.05
ኒ-ሲ-ህDT	0.05	mg/kg	< 0.05	,		< 0.05
E-8HC	0.05	mg/kg	< 0.05	*		< 0.05
Aldrin	0.05	ша/ка	< 0.05		:1	< 0.05
b-3HC	0.05	mg/kg	< 0.05		Ť	< 0.05
Chlordane	0.1	mg/kg	< 0.1	,		× 0.1
4-8HC	0.05	mg/kg	< 0.05	1	1	< 0.05
Disidrin	0.05	mg/kg	< 0.05	#.	j	< 0.05
Endosulian I	0.05	шд/ка	< 0.05	Among Street Control	.1	< 0.05
The state of the s						

COMMENTS:

د ها د ها

نييا

MGT Report No. 234699 Page 8 of 26



3 Kingston Town Close, Oakleigh, Victoria 3166. Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166. Australia Telephone: (03) 9564 7055 Factoria 3166. Australia Eaxi (03) 9564 7190 Email: mgt@mgtenv.com.au

Atma Environmental	Client Sample ID		COMP1			COMP4
			08-Oc00461	08-Oc00462	08-0c00463	08-Oc00464
	Matrix					Soil
Richmond 3121	Sample Date				1	Oct 1, 2008
Analysis Type	LOR	Units				
% Moisture	0.1	%	6.3	8.2	7.2	7.1
Cyanide (total)	£.	mg/kg	1	ş		Λ Ω
Heavy Metals and the control of the	1000 1000 1000 1000 1000 1000 1000 100		The second of the second second			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Antimony	10	mg/kg	< 10	< 10	× 10	> 10
Arsenic	2.0	mg/kg	<2	<2	< 2	^2
Beryllium	<b>C</b> 3	mg/kg	c/i	<2	<2	<2
Вогоп	10	mg/kg	-	F	*	< 10
Cadmium	0.5	mg/kg	< 0.5	<0.5	< 0.5	< 0.5
Chromium	. 5	mg/kg	5.9	<.5	5.4	× 55
Cobalt	τū	тід/ка	< 5	<.5	v 55	<5
Copper	2	mg/kg	8.5	11	7.2	۸ ئ
Lead	5	mg/kg	6.3	7.8	6.5	8.2
Manganese	2	mg/kg		,		17
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	<0.1
Molybdenum	10	mg/kg	< 10	> 10	< 10	< 10
Nickel	വ	тпд/ка	 S	<5	< 5	ν ν
Selenium	2	mg/kg	< 2	<2	<2	<2
	10	mg/kg	< 10	< 10	< 10	< 10
Zinc	Ð	mg/kg	29	26	46	29

Manage American

et i

£°

**6**70

\$200 (0.00) 100 (0.00)

**#** P

Account of the

MGT Report No. 234699 Page 7 of 25

COMMENTS:

Control of the state of the sta

E v



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Telephone: (03) 9564 71050 Email: mgl@mgtenv.com.au

Atma Environmental	Client Sample ID		Lanos	COMPZ	COMP3	COMP4
Unit 6	Lab Number		08-Oc00461	U8-Oc00462	08-Oc00463	08-Oc00464
83 Dover St	Matrix	ena.;:	Soil	Soil	Soil	Soil
Richmond 3121	Sample Date		Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
Analysis I ybe	TON TON	Units	The second secon			
Hexachloroethane	0.05	™g/kg		i	•	< 0.05
Pentachlorobenzene	0.05	mg/kg	•	,	j	< 0.5
Dibutylohlorendate (sur.)	-	%	,		ļ	92
Tetrachioro-m-xviene (sum.)	-	%			I	97
Polychlorinated Biphenyls						
Arodor-1016	0.1	. mg/kg	14	1	•	< 0.1
Aroctor-1221	0.1	mg/kg	ā	•	ı	< 0.1
Aroclor-1232	0.1	mg/kg		:1	T	< 0.1
Arctor-1242	0.1	mg/kg	•	•	1	< 0.1
Aroclor-1248	0.1	5y/6m			1	< 0.1
Arocior-1254	0.1	mg/kg		•	f	< 0.1
Arador-1260	0.1	Ey/ßш		•	j	< 0.1
Total PCB	-	mg/kg		•	l.	v
Dibutylchlorendate (sur.)	-	%		1.		92
Tetrachloro-m-xylene (sur.)	-	27			•	97
Phenois 是是是一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个	である。 で。 でる。 でる。 でる。 でる。 でる。 でる。 でる					
2-Chlorophenol	0.1	mg/kg		ļ.	1,	< 0.1
2-Methylphenoi (o-Cresol)	Ď	та/ка		*	ŧ,	< 0.1
2-Nitrophenol	0.5	mg/kg		1		< 0.5
2.4-Dichlorophenol	0.1	mg/kg	<b>)</b>	•	r	< 0.1
2.4-Dimethylphenol	0.1	mg/kg	II.	•		< 0.1
2.4.6-Trichlorophenol	0.1	mg/kg		,	•	< 0.1
2.5-Dichlorophenal	0.1	mg/kg	*		-	< 0.1
3&4-Wethylphenol (m&p:Oresol)	0.2	mg/kg		1	<b>k</b> ************************************	< 0.2
4-Chioro-3-methylphenal	0.1	mg/kg		•	ė,	< 0.1
Pentachtorophenol	0.5	mg/kg	<b>5</b>	ħ.	# ·	< 0.5
Pheno	1.0	mg/kg 🔞		f ·	ř	< 0.1
Phenol-d6 (sur.)		%		,	and the second s	94
		Pylyndy ( B.net				
COMMENTS:				MGT Rep	MGT Report No. 234699 Page 6 of 26	

نـ نَمَا

ſĭ.

ü.



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3168, Australia Telephone: (03) 9564 7055 Felephone: (03) 9564 7195 Eax. (03) 9564 7190 Email: mgt@mgfenv.com.au

Alma Environmental	Client Sample ID		COMP1	COMP2	COMP3	COMP4
Unit 6	Lab Number				08-Oc00463	08-Oc00464
er St	Matrix				Soil	Soil
121	Sample Date			Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
Analysis Type	LOR	Units		Service of the servic	A STATE OF THE STA	
Endosulfan	0.05	mg/kg	ſ	*		< 0.05
Endosulfan sulphafe	0.05	mg/kg	·	i		< 0.05
Footing	0.05	mg/kg	3	-	*	< 0.05
Endin aldehvde	0.05	mg/kg	1.	*.	š	< 0.05
Endrin ketone	0.05	mg/kg			ı	< 0.05
g-BHC (Lindane)	0.05	mg/kg	•	1		< 0.05
Hentaching	0.05	mg/kg	j.	ŧ	j	< 0.05
Hariachlor enoxide	0.05	mg/kg		1		< 0.05
Havachlarohanzana	0.05	mg/kg		. 1	ij.	< 0.05
Mathoxychlor	0.05	mg/kg	***************************************			< 0.05
Toyontana	0.1	mg/kg	ì	•	-	< 0.1
Dibuthology (eury)	,	%	à.		ì	92
Ulbuly Kallol Gridate (Suri.)	-	%	-	j	,	97
		2				
Chlorinated Hydrocarbons and the control of the con	The Control of the Co	2 - 3 - 3 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4	The second secon	Company of the second of the s		207
1.2-Dichiorobenzene	0.2	тд/кд				100
1.2.3-Trichlorobenzene	0.05	mg/kg	4	ž.	*	50.05
1.2.3.4-Tetrachlorobenzene	0.05	mg/kg	•	-	í	< 0.05
1.2.3.5-Tetrachlorobenzene	50.0	mg/kg	,	*	*	< 0.05
1.2.4-Trichlorobenzene	0.05	тід/кд			1	< 0.05
1.2.4.5-Tetrachlorobenzene	0.05	mg/kg				< 0.05
1.3-Dichlorobenzene	0.2	mg/kg	į.	٠	•	< 0.2
1.3.5-Trichlorobenzene	90.0	mg/kg	1		i	< 0.05
1.4-Dichlorobenzene	0.2	mg/kg	1.	4	1.	< 0.2
Banzal chlorida	0.05	mg/kg	·	•	À	< 0.05
Benzotrichloride	0.05	тg/kg		1.		< 0.05
Barzyl chloride	0.2	тд/кд	,	•	i	< 0.2
Bezachionobarzene	0.05	mg/kg	,	1	r	< 0.05
Hexachiorobitatiene	0.05	mg/kg		,		< 0.05
Hexachlorocyclopentacliene	0.05	mg/kg	¥°	į.	1	< 0.05
	······································		:			
				MGT Ren	MGT Report No. 234699	

COMMENTS:

MGT Report No. 234699 Page 5 of 26 20 m

ß.

1.52

**B** (5)

製造物の 大きな機

Management of the state of the

ASS SANTA

(A) (A) (A)

100 mm 100 mm 100 mm 100 mm 100 mm 100 mm 100 mm 100 mm 100 mm 100 mm 100 mm 100 mm 100 mm 100 mm 100 mm 100 mm

Carecando de la carecando de l

(Martin 1998)

la e



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address. P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephona: (03) 9564 7055 Faxr. (03) 9564 7190 Email: mgt@mgtenv.com.au

Alma Environmental	Client Sample ID	355 900.000	COMPI	COMP2	COMP3	COMP4
9347						
	Lab Number	b-sg\$	09-Oc00461	D8-Oc00462	08-Oc00463	08-Oc00464
83 Dover St	Matrix		Soll	Soil	Soil	Soil
Mchmond 3121	Sample Date	1000	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
Analysis Type	CONTRACTOR TORING	Units				
matic Hydrocarbons		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)				
Acenaphthene	0.1	ттд/кд	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	1.0	mg/kg	< 0.1	< 0.1	× 0.1	× 0.1
Anthracene	1.0	mg/kg	< 0.1	× 0.1	< 0.1	V 0.1
Benz(a)anthracene	0.1	mg/kg	× 0.1	< 0.1	< 0.1	× 0.1
Benzo(a)pyrene	1.0	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)lluoranthene	0.1	mg/kg	< 6.1	< 0.1	< 0.1	< 0.1
Benzo(g.h.i)perylene	0.1	mg/kg	< 0.1	< 0.1	× 0.1	< 0.1
Benzo(k)iluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Chysene	0.1	mg/kg	< 0.1	× 0.1	< 0.1	< 0.1
Divenzia njanimasene	1.0	mg/kg	< 0.1	× 0.1	< 0.1	< 0.1
Fluoranthene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Filorene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1.2.3-cd)pyrene	0.1	mg/kg	< 0.1	× 0.1	< 0.1	< 0.1
Naphthalene	1.0	mg/kg	< 0.1	< 0.1	× 0.1	< 0.1
Phenanthrene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	1.0	mg/kg	<0.1	< 0.1	< 0.1	< 0.1
Total PAH	r.o.	mg/kg	< 0.1	< 0.1	<0.1	< 0.1
Chrysene-d12 (surr.)	-	%	134	96	112	98
2-Fluorobiphenyl (surr.)	-	%	116	123	146	125
Organochlorine Pesticides	行人の女のない 一年 一日本の大学の大学の大学の大学の			(4)		
4.4'-DDD	0.05	mg/kg	*	*		0.10
4.4'-DDE	0.03	mg/kg			*	0.10
4.4'-DDT	0.05	mg/kg				0.09
a-BHC	0.05	mg/kg				< 0.05
Aldrin	0.05	mg/kg	ħ.	!	1	< 0.05
b-BHC	90.0	mg/kg	7	·	1.	< 0.05
Chlordane	0.1	mg/kg			_	< 0.1
d-BHC	. 0.05	тд/кд	,	ı	•	< 0.05
heldrin	0.05	mg/kg		,	· ·	< 0.05
Endosulian I	0.05	гпд/кд	,			< 0.05
COMMENTS:				AAGT Bor	MAGT Benort No. 094860	

MGT Report No. 234699 Page 4 of 26



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone (03) 9564 7055 Telephone (03) 9564 7195 Fax: (03) 9564 7190 Email: mgt@mgterv.com.au

						7 6, 55
Atma Environmental	Client Sample ID		BH25/0.1	BH25/0.1 (BH30/0.1	BH31/U.1	BH32/U.1
Unitie	Lab Number		08-Oc00457	08-0c00458	08-0c00459	08-Oc00460
83 Dover St	Matrix	:	Soil	Soil	Soil	Soil
Richmond 3121	Sample Date		Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
Analysis If ype Bally Salar Sa	LOR	Units			ML.;;\v	
Total Recoverable Hydrocarbons			a de la companya de l			
TRH C6-C9 Fraction by GC	.20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14 Fraction by GC	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28 Fraction by GC	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36 Fraction by GC	100	mg/kg	< 100	< 100	< 100	< 100
Monocyclic Aromatic Hydrocarbons	2.5	the constitution of the co				
	0.05	mg/kg	1	•	< 0.05	< 0.05
Toluene	0.05	mg/kg	,	ą	< 0.05	< 0.05
Ethylbenzene	0.05	mg/kg		•	< 0.05	< 0.05
(Xylenes(ortho.meta and para)	0.05	mg/kg	*	Ť	< 0.05	< 0.2
Fluorobenzene (surr.)	T.	%	•	•	80	72
から、	The second secon					A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
% Moisture	0.1	%	13	7.8	6.4	8.4
pH (1:5 Aqueous extract)	0.1	units	4.9	4		,
Sulphate (S)	10	mg/kg	< 10			
Heavy Metals Say assessment of the say of th		A CONTRACTOR OF THE STATE OF THE STATE OF	And the second s	The state of the s		
Antimony	10	mg/kg	y	< 10	1	1
Arsenic	2.0	mg/kg	٠,	<2		•
Beryllium	2	mg/kg	74	< 2	:4	1
Cadmium	6.5	mg/kg	•	< 0.5		
Chromium	5	mg/kg	- d	<5		
Cobalt	5	mg/kg	3	< 55	i i	
Copper	2	mg/kg		8.9	4	,
Lead	ın	mg/kg.		5.7	ř .	-1
Mercury	0.1	mg/kg	*	< 0.1		,
Мolybdenum	10	mg/kg	*	< 10	1.	*
Nicke!	5	mg/kg		< 5		ŧ
Selenium	2	mg/kg	*	<2		
	10	mg/kg	•	< 10		ŧ
Zinc	5	mg/kg	•	15		
· · · · · · · · · · · · · · · · · · ·	www.14-190					

MGT Report No. 234699 Page 3 of 26 R %

1

A.

West Colored

COMMENTS:

# Y

100



# Environmental Consulting Pay. Ltd.

3 Kingston Town Close, Oakleigh, Victor a 3166, Australia Postal address: P. C. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fact (03) 9564 7196 Email: mgt@mgtenv.com.au

Aima Environmentai	Cient Sample ID	age steed at	PHOUS.			
Unit 6	Lab Number		08-Oc00453	08-Oc00454	08-Oc00455	08-Oc00456
63 Dover St	Matrix		Soil	Soii	Soil	Soil
Richmond 3121	Sample Date	****	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008	Oct 1, 2008
Analysis Type	LOR	Units				
Total Recoverable Hydrocarbons	A CONTRACTOR	3	7 (A) A)			
TRH C6-C9 Fraction by GC	20	Dy/ficu	< 20	< 20	•	< 20
TRH C10-C14 Fraction by GC	50	mg/kg	< 50	< 50	1.	v 50
TRH C15-C28 Fraction by GC	100	mg/kg	< 100	× 180		× 100
TRH C29-C36 Fraction by GC	100	gy/gm	< 100	< 100	*	< 100
佐藤寺東京は大学等の連携できます。 でんしていていていたいできます スプリス 大学 大学 大学 大学 しょうしょ		elijos.				
°, Moisture	0.1	%	5.8	6.2	6.8	2,8
pH (1:5 Aqueous extract)	0.1	nuits		7	4.8	6.9
Sulphate (S)	10	mg/kg	34	ı	330	< 10
A STATE OF THE PROPERTY OF THE	1					une de la companya de

COMMENTS

MGT Report No. 234699 Page 2 of 26



## Environmental Consulting Pty. Ltd.

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7056 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au

# **CERTIFICATE OF ANALYSIS**

Atma Environmental Unit 6 83 Dover St Richmond 3121

Site: 589 CLAYTON WEST

Report Number: 234699 Page 1 of 26

Order Number:

Date Received: Oct 1, 2008 Date Sampled: Oct 1, 2008 Date Reported: Oct 9, 2008

Contact: Tim Robson

### Methods

- USEPA 6010B Heavy Metals & USEPA 7470/71

- Wercury
  USEPA 6020 Heavy Metals & USEPA 7470/71 Mercury
  USEPA 8270C Phenols
  USEPA 8082 Polychlorinated Biphenyls
  USEPA 8121 Chlorinated Hydrocarbons
  USEPA 8081A Organochlorine Pesticides
  USEPA 8270C Polycyclic Aromatic Hydrocarbons
  USEPA 8260B MGT 350A Monocyclic Aromatic
- Hydrocarbons MGT100A-GC ( based on USEPA8015)Total Recoverable Hydrocarbons
- USEPA 9010B Cyanide

- APHA 4500-SO4 (SO4 by Discrete Analyser)
  Method 102 ANZECC % Moisture
- APHA 4500 pH by Direct Measurement

### Comments

- The results in this report supersede any previously corresponded results.
   All Soil Results are reported on a dry basis.
   Samples are analysed on an as received basis.

- 4. LOR's are matrix dependent. Stated LOR's may be raised where sample extracts are diluted due to interferences. **ABBREVIATIONS**

mg/kg: milligrams per kilograms, mg/L: milligrams per litre, ppm: parts per million, LOR: Limit of Reporting

RPD: Relative Percent Difference CRM: Certified Reference Material LCS: Laboratory Control Sample

Authorised

Report Number: 234699

Michael Wright Laboratory Manager NATA Signatory

Rhonda Chouman Client Manager NATA Signatory

Orlando Scalzo Chief Organic Chemist NATA Signatory Tammy Lakeland Chief Inorganic Chemist



NATA Accredited
Laborshory Number 1261
The tests, calibrations or measurements covered by this document have been performed in accordance with NATA requirements which include the requirement of ISO/IEC 17025 and are usecable to national standards of measurement. This document shall not be reproduced, except in full.



Member

1 pm W. In Fa \_) ŧ. فن 🖫

Further Sampl	e A	ına	lys	is	Re	qu	les	t			1	1	فر	<b>A</b> tr	na	Envi	onnenta L
Sheet of \	Dat	e:1/	10/	98	(Sa:	mple vlou	es Di s Re	espa port	tche Nun	d Or sben	(발 22	doi La t				je di	ระบบ เลือง เลืองการเกลื่องการเก
· · · · · · · · · · · · · · · · · · ·		l le	4	<del></del>	- <del></del>	No:		-0	9			- 7	YH:RICHUS	-			
PROJECT: Glayton	\ \ \	Ų¢.	31. T	SA	эле ЧМР			Ò		AN	ALYS	SIS	, <u></u>	••• <del>••••••</del>		CO	MPOSITING
SAMPLE NO,					ATR			· · · · · · · · · · · · · · · · · · ·	1	F	OR:	<del></del>	i	<del> </del>		INST	RUCTION
								( ) ( ) ( ) ( ) ( ) ( )							SS.		
	Щ	COMPOSITE			·		440	44							CONTAINERS		
	DISCRETE	å.	9		WATER		0	前とな							MTA		
	SS	S	GRAB	SOIL	3		Č	Hians							8		N. C. (AMB AND THE THE THE TAX
CONF 8		-					1			ļ							
BH 31/01	1		-					-	ļ	ļ	ļ		-	<del></del>			
Bi- Iliasi	-						<del> </del>	<i>V</i>		ļ							
***************************************		<u> </u>			<u> </u>	-	-	<u> </u>								<del></del> -	-
														ļ		_	
				-	_	ļ	ļ			ļ		-					
<u> </u>		<u></u>		<u> </u>						<del> </del>			<u> </u>	-	<b> </b>		
	-	ļ				-	-						_			F	
**************************************					2	,			**********		***************************************						
													ļ				
		<u> </u>	ļ			ļ				ļ			<u> </u>	ļ			
45.44C-10-10-10-10-10-10-10-10-10-10-10-10-10-	ļ		-	-		ļ	ļ					ت ا		<u> </u>			
***************************************	-					سيبنب	<u> </u>			<u> </u>							*
		1															
										ļ				ļ	ļ		
****	<u> </u>		ļ				<del> </del> -	7. 4		<del>                                     </del>				<del> </del>	<u> </u>		
	<b>-</b>	<del> </del>					-	·		╁~~							
****	<del> </del>		<del> </del>				l	<u> </u>								<del></del>	
														ļ	ļ		
	Ţ							<u></u>		<b> </b>	-	<u> </u>		-			
		<u> </u>				ļ	ļ	-		├		ļ			<u> </u>		
TOTAL: REQUESTED BY: (sign)	1	1		(DAT	EVITA	[ 2)	Ħ	LAB	NAI	VE:	mgt	Env	iron	men	ţal	L	DATEM
A	and the second	e Ser	2/	My.	) q		REC	ro FC	)R LA	S BY	: (sign					44.×44*****	
FINAL (TYPED) RESULTS	SHA	LL BE	. AVA	ILAB	LEV	VITH	IIN:	<u> </u>	241	irs	4	8 HR	<b>s</b> -(	NOF	MAL	2	
REMARKS:	Em:	ail R	esul	is to	:					الاجتبارات	i in property	Tiestor	rejer'i	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	men	al.com	<b>7</b>
	sme ahe	oich@ rry@	uaim etms	isenv ivase	aron. Form	men nent	gal.co at.co	om m	€.	inor	philli	78(0) 18(0)	almi	env	conto	entalic	on on
an entre e	alal	ากรเติ	) alm	eenv	ironr	neni	al:co	m		fctar	ka@	unag	nyio	omne	ntal:co	3171	
NOTE: Use only 50% o	leach	jar lo	make	camp	osile	\$811	ple. I	viix co	nlent	ol la	s thor	oughly	/ befo	re tak	ing 50°	% out.	
Store all sample					niai			Musi	be a	ilama	led w	ilh dat	e and	Lime	by lab	orelory.	

@Further Sample Analysis Request Lest Updated on: 107272068 Sample added. 2/10/08.

Chain of Custo	dy	R	ec	ord	l	et	ſ.	. <i>î</i>	p							Αt	m	a	Environifiental
(modified allor US EPA chain of custody fo	rzn)				She	et "	<u>u</u> (	of	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					المارية المساوية المارية المارية المارية المارية المارية المارية المارية المارية المارية المارية المارية المار المارية المارية المارية المارية المارية المارية المارية المارية المارية المارية المارية المارية المارية المار		- Name of the last	anie ante	ex	A SHOULD STANDED
PROJECT: Clayle	-	M.	tv.			nple: natu	re l	<u>A</u>	سرسسس دانشششبر	, (	1	-	parce <sup>rso</sup>						
PROJECT.		-			Sar	nolei	r <sup>i</sup> s /	<u> </u>	111	4	R1	183 200	AA	1					
Site No: 587			DAT	ΓE:	Nar 1/1	ne: ///	0			Tim	e:	911	eres y		*****	<del></del>		. JANAL MAR	
	· · · · · · · · · · · · · · · · · · ·		<u> </u>	S/	MP	ĻE.	ľ	-	and the first of t	ALASS PARIS	ĄΝ	ALY	SIS	merch of public	***************************************	,		133	COMPOSITING INSTRUCTIONS:
SAMPLE NO.				M	ATR	IX:	ļ	1	T	· · · · · ·	<u> </u>	OR:	}	Γ	Í	T	83	HIGH CCHTAM EXPECTED	Matkooliono.
	111	ш					ŀ									İ	AINE	E E	
	DISCRETE	COMPOSITE			2												NO. of CIUNTAINERS	15	
	SCF	N.	GRAB	SOIL	WATER	BLANK											jo O	SHO OHO	
		ŏ	5	~~~~	3	Ø.	ļ		despiie.		-	tanama.		ļ		***********	2	L.	······································
SPLM A-300408	<i>y</i>			1			ļ							<u> </u>			-	-	Haw
SPLIT B -300908 SPLIT C-300908	1		ļ	7	appropriate in				ļ				<b></b>		-	-	-	<b> </b>	HOLD
SPL 17 0-300105	1	<b></b> -	-	1			<u> </u>			CHEST SALVES	2								-HO4D
	1			***************************************				.,,,,,,,,,,,	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	nin:num	LONG PROPERTY.		coliname.	Caratte Common 1	osanian			5.00	
								× 8.								, pianturinen	ļ	-	
					********		ļ	-		-				-	ļ	ļ.,,	-	-	- Artifornia
														ļ	-		-	<del> </del>	·
entral e empresa esta establica de la compresa en empresa en la compresa de la compresa de la compresa de la c La compresa de la compresa de la compresa de la compresa de la compresa de la compresa de la compresa de la co	45.4	127.45%	2	. Januageriji		A Second		سره داري پاهند	-64-v -47	***************************************	***************************************	4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		#4-70-F		نستنان ا	-	1	J. Marga was no a manga pangang sa katang pang
and the second s	**********		***************************************	;==:ww.		بالنياسيين	<u> </u>	****	*****	than ever				244					44
	**********																	ļ	sanctaine :
	بِ-اشد		******				<u> </u>								ļ		ļ	<u> </u>	
							<u> </u>				-	ļ					-	-	- ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
**************************************	*******						<u> </u>		ļ	-		-		ļ	-	<del> </del>		-	a personale
***************************************		ļ		·*···				-	ļ						<b></b>		1		
<u> </u>			successión de la constantida del constantida de la constantida del constantida de la constantida de la constantida de la constantida del constantida de la constantida del constantida del constantida del constantida del constantida del constantida del constantida del constantida del constantida del constantida del constantida del constantida del constantida del constantida del constantida	- «وندواطي			1						·						<u></u>
4-44-4																			
			ļ				<u> </u>	سنتند	-			antimotes		101110001110		new wee	<b>!</b> —	-	M
							<u> </u>						ļ				·		uiinin'
						ļ	-		ļ	<del> </del>		<del>                                     </del>	ļ		-		1	T	
aligasjasyalijasya kalanin kasalingka (keka faranan arang manasan)	-		-		*****		<b> </b>		<del>                                     </del>	-		<u> </u>	<b> </b>		-	<b>T</b>	1	<u></u>	· Lucacia
:		<b></b>	1777				<b>-</b>	.3 .4,0			,	112300				A - 101-2			<u></u>
TOTAL:	***************************************													Ĺ			L		(DATE/THAE)
DISPATCHED BY: (sign)		الم معادمات	4			TACI	EMM	E)	講	REC	EIVE:	D BY	': (sig	n)					The state of the s
A			ين وينافع								R		-}	-1	ب رس	541	[_C[	C,	7,1
COURIERED BY: (sign)	M. Control			<del> </del>	unione. L		E/IIM	E)				*		· ·	State of the State	- 1	٠ سـ	,	
1 parties of the same of	r mi	*,		کر چہر	, p.			·-		LAB	NAN	Æ:	N	C	م				and higher coloring. The
La Sur Spirit		1		زر په سينسسب	<i></i>	24 h	. <u>آ</u>	Mariante	<u></u>		8 HF		<i></i>	3.4 [	YAC		<i>E</i>	-NC	RMAL
INITIAL RESULTS REQUES	Plea	יט סעו ום סעו	mail	coc	upo	n cuc	ons Slopt	oi s	amp	06 8	1 001	dimi	tion			cord			
Please email results to:	- Prince		G fc	ellis@ darke	Dain Oda	naer Imae	iviro orivi	កាកទើ ក្រការ	ritali renta	con d <sub>e</sub> cor	n			Î.	hso	n@a	itma	ien Ima	vironmental.com
	gberry@atmaenvironmental:com  [E:																		
NOTE: A Must be complet	ed by	Alma	Envi	ronme	ntal	-	######################################	Mus	1060	HIDIE	180 W	un dai	e and	ane t	7 100	us el (Ol	y.	<b>KANAN</b> ANAN	in the second se

Chain of Custo	and the same of th														-	Αt	กา	a i	Environmental
Site No:	<del>}</del>	<del> </del>	DAT					Li	·····	Tim	e:	Al YS	<u>//                                   </u>	-	<del>,,,,,,,,,</del> ,,		Γ-		COMPOSITING
SAMPLE NO.				1	ATR							OR:						EXPECTED	INSTRUCTIONS:
	DISCRETE	COMPOSITE	GRAB	SOIL	WATER	BLANK/	EPASGIONAL	PAHS	TRHS	W	Su lohate	Ŧ	4				NO. of CONTAINERS	HIGH CONTAM EXP	
COWEL				.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,										ļ	-	-	-	-	- De pa
COMP 2								-		المعمودا					-	-		-	_Valeatiieta
COMP 3				.,				4.00	- <del></del>	ا محودا			·		╁	<del>                                     </del>	1	-	
COMPL						-17/25	5				7			-	1-	-			
COMPS	***************************************		_		Deletar / 200/c		-		******			.,,,,,,,,,,				·			Constituent
COMPT								سمرة			7/								
COMPS				2 7				سسنا		-							<u></u>		u
COMPA										سرر									· <del>······</del>
COMPIO	IMPIO																		
COMPIL										4								ļ	
COMP12							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,								ļ	-	┞-	<u> </u>	
COMPIS		ļ	ļ											-	ļ	├	┨		<u></u>
COMPIL	7MP 14 7MP 15																		
COMPIS	OMP 15 OMP 16																		
	ECON-300908 - HOLD															·····			
The state of the s	1000 - 300908 - HOLD															-HOLD			
	UPA - 300403 UPB - 300908																		
DUPS - 300908	UPB-300908 - HOLD																		
BUDD ZADEAU	UPC-300908 / HOLD																		
UNE - 300 403	1	<u> </u>		.,,				<u> </u>	/										
EIETU-300008	<del></del>	<b> </b>	-		<b></b>	<b></b>				/									
TRIP-300908														,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u> </u>				<del></del>
											·				ļ		<u> </u>		maintelli.
TOTAL:							2	8	2.	18		<u></u>					<u></u>		(DATE/TIME)
DISPATCHED BY: (sign)	(DATE/TIME)																		
COURIERED BY: (sign)	·····		<del></del>	1		(DAT	E/TIM	Ē)	1							( {			
LABNAME: 1/10 / LABNAME: 1916																			
	NITIAL RESULTS REQUESTED WITHIN: 24 Hits																		
REMARKS:																			
fclarke@atmaenvironmental.com rmcphillips@atmaenvironmental.com gberry@atmaenvironmental.com																			
NOTE: \(\Delta\) Must be complet	ed by	Atma	Envi	onme	ntal		-	Mus	be c	omple	led w	ith dat	e and	time i	y lab	orator	y	*******	

E #

The first of the second

Chain of Custo		R	ecc	ord	She	et_(	<u>_</u> 0	f_\$	a L	v.	e e e e e e e e e e e e e e e e e e e	<del>H. C. C. C. C. C. C. C. C. C. C. C. C. C.</del>	54+1×11091-0-1			Atr	T1 8	a E	Environmental		
PROJECT: Clay for	DJECT: Clayton West Sampler's Signature: A TIM ROBSON Name; DATE: 18008 Time: gam																				
Site No: <u>531</u>	<i>#</i>	·	DAT	E:	14	4		, was		Ime	ÄNZ	TYS	IS			1	156	۵	COMPOSITING		
SAMPLE NO.					ATR		- Ka	,,,, <u>,,,,,,,,,,,,,,,,,,,,,,,,</u> ,,,,		5		OR;		· ·			ERS	EXPECTE	INSTRUCTIONS:		
	DISCRETE	COMPOSITE	GRAB	SOIL	WATER	BLANK!	EPA Spelly	PARS	TRHS	HIM Sere	Se. 10/a-	1		anawinio:			NO OF CONTAINERS	HIGH CONTAN EXPECTED	h A area		
PH25/01	,,	-	Acres marge	مسمده			*******		1/		3/	/					į	,	-comp 7 -compig		
EAZS 10 S	1.7			_									.iv,/ii	<del></del>			1		-HOLD		
PH25/1.0	مہمد								ļ						adres ( ) sejena		, i	-	- COMP7		
BHZ (101				1			i.	٠	ļ				·	· · · · · · · · · · · · · · · · · · ·			ī		COMPIS		
BH2610.5					verament?	соезната	resource.	ļ		******	*********	MANAGETT					į	-	-HOLD		
RHZ6/110	West of the last		ļ	-		<u>نيب</u>	7.7.2							÷-+			f		-COMP7		
EH 27/01		ļ	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Higgs states	RIYJANI S	np. de	nil in	रेस्ट्र कर्न	has constitute		in page 1834	n of the state of	in a second	d ar sen	r sucrès	1-	POLICINE.	La COMPIS		
<u> Вичл [0.5</u>	1	-	ستسيرا	-				<u> </u>	<u> </u>	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			·/····································				1		HOLD		
642711.0	- The state of the		<del> </del>		******	V				-							Î		-COMP8		
8473/01 8428/05		-	-													,	1	-	- COMPIG - HOLD		
BH28/1-0	200	-	-	المراسعون						10							1	ļ	- COMPS		
BH 29 /0 1		<b></b>					-5					Ĺ,					Ì	ļ	- COMPIG:		
6429 10 S	-	1		1						بسننا							1		HOLD		
R6129/10				بمميد								Distriction of the last	-			u medianomo		┡	() () () () () () () () () () () () () (		
BH30 10 1				-			ļ		1	1	ļ				-		1	-	-HOLD		
BH30/05	1,000	*		3,900			ļ	,				inapital		-	-		4	<b>-</b>	HOLD		
6H30/1.0				معموا	<u> </u>					1					-	ļ	1	-	EUR E 57		
BH31/0-1	سمنا			1	_	ļ.,	<u> </u>		<del> </del>			-		<del> </del>	-		Ĭ	-	-COMP13		
RH21105	Com			2,000		ļ	ļ			ļ					ļ	e i i i i i i i i i i i i i i i i i i i		-	HOLD		
GH 31/1.0	1	1_		-			-	ļ-	-	<del> </del>		-	-	-	-	-	ĭ	+	-GOOMETE		
BH32/01	12			غمروز د		ļ	-			-	-	<del> </del>	-		1		1	1	-COMP12		
70H32/05	-			Ľ	177	-	linion.	1	1					+	1	أننستم	1	1	- HOLD		
BH32/1.0	200	_				-	-	-	-	╅—		-			-	·					
		-	-	20				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-		,				ne intermenta	, permitters	2	7			
TOTAL: DISPATCHED BY: (sign)	[25] Z	4		دِيكاـ			TE/TU			Re		Μ	Y: (sk	cus.	£-1	, <b>7</b> 3	ر در ک	. C.	( 10		
COURIERED BY: (sign)			,: <del></del>				16/11) ;	AE)		LAE	3 NAI		Μ	G	-		- 7	, ""	· •		
	المراز وميد				1	نبانیا		********	ļ.,		,,,,,,,,,,,			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	; ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;		4144999474	, N/	DRMAU		
INITIAL RESULTS REQU	ESTE	DW	ITHIN	۲.		mout.	1.127.62	4. 4. 4. 2. 1	7,000	Jan's	di ili	SS. Hilim	สปกา		ML LE	card		1213	ice to a main and the comment of the		
INITIAL RESULTS REQUESTED WITHIN: 24 CR.  REMARKS: Please email COC upon reciept of samples as confirmation for our records.  (icobson@atmaenvironmental.com)  Please email results to: calls@atmaenvironmental.com (resphillips@atmaenvironmental.com)  fclprks@atmaenvironmental.com  resphillips@atmaenvironmental.com																					
NOTE: \(\Delta\) Must be camp	leted t	ý Atr								Spainy@classesvironmental.com  NOTE: \$\triangle \text{Must be completed by Atma Environmental} \text{\sqrt{Must be completed with date and time by laboratory}}											

Chain of Custo															Αſ	m	а	Environmental	
PROJECT: Clayfon West Sampler's Signature: Sampler's Name: A TIM ROBSON Time: 9 arm																			
DIGETYO.	T	<u> </u>	T				<del>                                     </del>	·			AN	ALY	SIS	***************************************		7	T	A	COMPOSITING
SAMPLE NO,				M	ATR	IX:		<del>,,,,,,,,,,</del>	<u></u>	·····		OR:	T	<del>,,</del>	4	т	_ ا	ECT	INSTRUCTIONS:
	DISCRETE	COMPOSITE	GRAB	SOIL	WATER	BLANK/	EPA SCREET	PAHS	74 H 24 H 24 H 24 H 24 H 24 H 24 H 24 H	HIN SCRES	Sulphiche	1	<b>V</b>			- moiem	NO. of CONTAINERS	HIGH CONTAM EXPECTED	
BH17/01	1			1,000			<b> </b>		·				<u> </u>	<del></del>	-		L		-comp 6
BHIT/0.5	-						ļ				***************************************	**********			-	<del> </del>	1		-COMP14
PUIDIO I I I I I I I I I I I I I I I I I I														-comp6					
RH (8 / 0 · 5	7				مسنم				**********						<del> </del>		ì		- COMPIL
EH18 11.0	mark.	*****			***********	**********	- THE STATE OF		****		******			**************************************			1		- HOLD
BH19 10-1	200			Sept.								:							-comp6
BH 19 10.5	v -			./							-				<u> </u>				- COMPIL
BH 19/1-0	-											***********				ļ			-comp6
BHROTOL	1			-						·····	···						-		- COMPIL
8H20/05	*			war.				1. 1. 1. 1. 1.							<del> </del>		j. 4		-HOCD
B420/10			******								·····			_		<u> </u>		•••••	- HOLD
BH21/01	94			*/							<del></del>				<del> </del>	<b> </b>			- HOLD
EH21/05 EHZI/10	مهمو اش	-	,	7					.,						Ë	-	į,		-HOLD
BH22/01	7			-		, <del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>			7			ممحما	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					*****	-comps
BHZZ 05	1		<b></b>	مربر مربر	Ť				-			_		**********			1	******	-comple
BH22/10		••••••				****				*****	7		********				1		- HOLD
EH 23/0-1	مسمب			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,													1		-comp8
PH23/0.5	٠													********					- COMPIS
BH23/1.0	4												***************************************				1		HOLD
BH 24/0·1	2,000			مبسد			]		•								1	<u></u>	-comp7
BH2410.5				-										-			H		- COMPIS
BH24/10	**						····				<del></del>	,				******			- HOLD
					<del></del>					-							$\vdash$		1
TOTAL:	24		استنا	24		TÁC	71045	أننح		REC	FIVE	D BY	: {sigi	4	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	····			(DATE/TIME)
DISPATCHED BY: (sign)  Annew  1/10  Resort # 834699																			
COURIERED BY: (sign)  (DATE/TIME)  LAB NAME: M ( T																			
INITIAL RESULTS REQUES	TED	WIT	HÏÑ			24 H			<del></del>	48	HR	 3		3-4 C	ΑY		6	NOF	RMAL
REMARKS:	Pleas	se or	nail (	OC				) f sa	alam			lma				ords	1		
Please email results to:																			

g.A

per properties and and the court of the second section of the court of the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the section is the second section in the section is the section in the section is the section in the section is the section in the section is the section in the section in the section is the section in the section is the section in the section is the section in the section is the section in the section is the section in the section in the section is the section in the section is the section in the section is the section in the section is the section in the section is the sec	-Manighage.		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,															ا د	
Chain of Custo															,	٩tı	ma	a E	rivirojimental
្រោត្តពីអាវា aller US GPA chain of custody lo	nn)				She	et	a	f	<u> </u>					<del> </del>	-	-	<del></del>		Amount from
<u> </u>	,	la c	_	*	Sam	pler	s A		مورون ودورد مورون ودورد	>.	*/.		,		•		•		
PROJECT: Clayter	- A	/ <del>C</del> 3	1		Sign Sam	atur Inler	0: ''' 's			-	Œ		نا ن	j				1	
~ n n					Nam L/(4	ie.	Δ.	Ĭ	$\mathbb{Z}^{N}$	\ <u> </u>	0	<u> </u>	<u>Of</u>	<u>V</u> _					
SILE NO: 584			DAI				Q.	piegeseaseWP	arimina.	Time	) . 	ባ (፲೪ <u>\$</u>	10		110, X4.	***************************************			COMPOSITING
**************************************					MP							SELIS DR:	*5-3					EXPECTED	INSTRUCTIONS:
SAMPLE NO.				IV!	ATR!	^:	-	,,,,,,,,,,,		/	<del></del> -			.,			RS.	AP E	
		끧					EM SCHAIN			AM Serean	Su laharte		i	: 4			NO. of CONTAINERS	2	
	1	Σ			~		47	· Lor	, U)	4	2			-			NO.	2110	
	<b>F</b>	JP(	59	1	끨	ž	1	-	~/	الامل مسين		<u> </u>					o.	HIGH CONTAIN	
	DISCRETE	COMPOSITIE	GRAB	SOIL	WATER	BLANK!	ũ	à	TRHS	Service Service	5	α.	<b>.</b>					ž	AND THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN
NICIA I	اسم سمور	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-	7			*********	<b></b>	1	******	ommont.		- CONTRACTOR				1		COMPI
<u>PH910-i</u>				200													7		= COMP9
RHq/0.5	-		-				4,000			***************************************	,					orant 44 Philips	-		- HOLD
BHIC/OA	1		, in the second	90000		, <del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				1 	والمحاصيتين	Ţ		-compl
RH10/0:5					-										WANT VERS			أننز	-COMP9
	منسر		-		-monowe	Semone.	***********	<u> </u>		**************************************					,,,,,,,,,,,,				HOLD
BH10/1-0 BH11/01			-	4			·										1		-COMP5
		7777	*****	2		409BBA	amerias c	1 2 12 17.1	10: A 19 3600	Control of	making tuan	b. Noves . N	San Against .	taroneuer	er servari	11-02-000		LONG OF STREET	-Campia
BH 11/05		,,,,,,,	-	ندستند نمر													1		- HOLD
CATTLE C	سيدا				<b></b>	77.47							-		-	-			-COMP5
BH12/0-1		-	COMPANIES N	MARCH THE	A PROSTO		Ī.,	Ī									1		-comf13
BH12/05 BH12/10	-	ļ	-	/	-														HOLD
BH 13 10-1	-	-									1/	1					1	<u> </u>	-COMP4
RH 18 /0-5		-	-	. John Stranger													ļ	ļ	-COMP 12
BH 13/1.0	مرز	1															LL.		- HOLD
RH14-10-1		-	-	Les Constitution													1	-	-COMP4 -COMP12
BH16. 10.5	/	1		Jane .										**************	ļ.,		ļ.	ļ	
BH14 11.0				مبسنيد									ļ	ļ			Ļ	<u> </u>	FROLD
BH IS / DI		-	·							<u></u>	ļ.,			<u> </u>	-	ļ	1	╬┈	-COMPII
EHIS 105		1		\$ xxxx	1								-				Ш		- NOLO
BAIS / F.C	Sept.	1		5			1									-	ļ	-	-COMP3
BH 16 (0-1	-		Τ.	ممين			1_					<u> </u>			-	-	1	-	COMPIL
8H16 105					1		ime								<del> </del>	-		-	HOLD
RH16/11-0				***	1		L			ļ				<u> </u>			+-	<b>-</b>	
331313							ļ	_	-	ļ				a viente	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-	Z		1
TOTAL:	24					ببيبا	L.	<u> </u>	L		neiv	EO B	V- This		ļ.,	2000	.14)	<u>دا</u>	(DATE/TIME)
DISPATCHED BY: (sign)						(OA	TE/TI	ALI.	167	ISE	ĊĖIV	siù u	Δ	<u>Annyasa</u>	tio i	3			. 1 1
	1											.=-			á				1/10
A 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4			- 1499-150 1	**********	<del>,,,</del>	(UA	TËM'II	AE)	-			<b>k</b> <	Care	J	1	T.		ŞΨ	Pdd.
COURIERED BY: (sign)	COURIERED BY: (sign) (DATE/IME)																		
	C 2 9779 /2 48 HRS 3-4 DAY NORMAL																		
INITIAL RESULTS REQUI	STE	DW	ITHII	4:		24	HRS	i 	danie grav	سبب 	48 H	RS milion	after	3-4	DAY	corr	ls:	14.6	EX FINALESTIC
REMARKS	Pl	doo	olna	I GO								ntlrm	21.(7)	المرابعة المارة المرابع	Carlo Maria		######################################		ulcomontal com
Please email results to	Please email results to: cellis@atmaenvironmental.com (Irobson@atmaenvironmental.com)  [clarke@atmaenvironmental.com mrcphillips@atmaenvironmental.com]																		
				fclafi	10@	aima	епу	iron:	m <del>ont</del>	əl-6€	HT3			r	uch	unix	a little	41115	DMR 304 SEPARE VER SAMME A AMERICAN MEMORITY
				gbor	ry@a	atma			nogt.			<u>س</u> ۇنىزىرىن					.,,,,,		Description of the frame production of the transportation of the section of the s
NOTE: A Must be comp	eled I	y Atr	na Eri	vlionn	nental	01380H04H04	į.	Mı	st be	comp	icted :	with de	ile an	d time	by (a)	oreto	ry.	accumus d	A STATE OF THE PARTY OF THE PAR
The Cold and the c	www.	وملعن يبقن	erideligan fyritti	CARRIED CONTRACTOR	And in column 2 is not as a second		- in the same		17										

Chain of Cust																Αt	m	a ,	Environmental
(modified after US EPA chain of custody	form)			•	She	et	<u></u> c	)† <b>.</b> []	-									4:4:4:4	
PROJECT: Claytor	. W	(5)	<u>.</u>		Sign	natui	ге: <sup>Д</sup>	7		<b>P</b> ,	85.	d in			-				
•					Sar Nar	nplei ne:	rs Z	7 7	M	ſċ	0	350	211	1					
Site No: 589			DA	TE: _	111	10	8	<u>مج</u>		Tim	e. v	41×	are no se				<u> </u>		
0				1	MP							ÁLY:	318					급	COMPOSITING
SAMPLE NO.				M.	ATR				1	1	-	OR:	·····		T	1	ιχ	HGH CONTAM EXPECTED	INSTRUCTIONS:
		ш					ζ			\$	ů.						NH.	ğ	
	世	IS.					2	w	ζV1	1	3						NTA	₹.	
	K	PO	m		黑	¥	Š	工	-1	Š	Sulphate	I					8	Ŝ	
	DISCRETE	COMPOSITE	GRAB	SOIL	WATER	BLANK /	7	4	TRHS	5	Š	~1~ Q:					NO. of CONTAINERS	뜐	
	<u>C</u>	0	9	(2)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	100		*****					.,,,,,,,,			-	-	<del></del>	- COMPI
BAL/OI	1	ļ	ļ	-					-						<del> </del>	ļ			COMPA
BHI 10-5	4					Serve i		-							<del> </del> -		1		HOLD
BH (1.0	1		<b></b>		*******					<b></b>	<del></del>	<del></del>			<del> </del>		1		- COMPI
BH2/01	رد	ļ	<u> </u>	سرا								**************************************	==7:		╁~~	-	-	-101010411	- COMP9
BUZ/0.5	-								<del>                                     </del>					ļ	<del> </del>		-		- HOLD
BH2/1.0	- V		_						-			<i></i>			$\vdash$		1		-comp2
BH3/01	1	<u> </u>	ļ	-/-			<del> </del> -		<del></del>		7				-		1		-COMP10
BH3/0.5	سعة ا		<u> </u>	المعربين المعربين				·····	<u> </u>		<u>.</u>	.,	<u> </u>	ļ			1	****	- NOLD
RH3/1.0	2000	-	ļ	1		12.7.7	-		-		<u></u>		********	ļ	-				-COMP2
H 6/0-1 C 01/0-1																			
	H6/05 HC/0																		
H4/10 / / / / / / / / / / / / / / / / / /																			
BH5/01	<u> </u>	ļ				<del></del>		- 17 1							-				-COMPH
RHS 10-3	H5/0.5 COMP 1) HOLD																		
	H5/1:6															ł ·			
	KGO-1 COMP3																		
8H6/0.5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2																			
EH 6/1.0				-	···.														
COMP2																			
PH 1105	200		*****			*****		·					www.n		-		7		- HOLD
RH 1/1-0				500			$\left  - \right $							<del></del>	<del> </del>		1		-camp2
BHS/OT	-		<b></b>							أنستنا					<del> </del>		-		COMPIO
BH8/0.5	المراسية	ļ								******					<del> </del>		+		- HOLD
BH 8/1.0	<del> </del>												·			<del>  </del>	-		ruma
TOTAL	4			24		·	-	*********	1				*****	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-		2.¢	*****	
TOTAL: DISPATCHED BY: (sign)	124	<u></u>	<u> </u>			(DATE	TIME	7		REC	EIVE	D BY	: (sig	n)` <b>/</b> √	ŻŪ	Autoritation in		لـــــ	(DATE/TIME)
101911) 1. (01911) 1. (01911) 1. (01911) 1. (01911)												المرسود	_		•				
A - M	Je Jak		····yosh			,		_			₹~ .~"Y	4~~~ <u>~</u> }	~~?? ?	~~~ N	eriyer	المرسيسيار		7	s Ipm
COURIERED BY; (sign)			************			(DATE	TIME	()			£ ~~~	∠∀ <sup>ase</sup>	war vir	¥	-veico-} 		(S)	1	799
1/2-55 MGT -2701																			
INITIAL RESULTS REQUE	STEC	TIW i	HIN:			24 H	RS		· · · · · · · · · · · · · · · · · · ·		HR			3-4 L				NOI	RMAL)
REMARKS:																			
Please email results to:			f¢	ellis@ larke	(Cal	m <del>a</del> e	nvite	) Piriti	ental	100°	١								ionmental.com
gbeny@almasavironmental.com																			
OTE: 🛆 Must be completed by Atma Environmental 🔲 Must be complited with date and time by Jaboratory,																			

# APPENDIX

Chain of Custody & Laboratory Reports

# Soil Borehole Log

Atma Environmental

Project: Clayton West (#589)

Engineer: Tim Robson

Date: 30/09/08

Page No.: 16 of 16

BOREHOLE/TESTPIT No.: BH31

Diameter: 70 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
0.00 	Disturbed soil SILTY SAND - Dark brown, fine grained, loose	DΡ	0.1		minor brick, basalt gravel
 0.50	SILTY SAND - Dark brown/grey, fine grained, loose	DP	0.5		
1.00	SANDY SILT - Dark brown, fine grained, loose EOH @ 1.0m	DP.	1.0	Carrier and Assessment	
Remark	S;				

BOREHOLE/TESTPIT No.: BH32

Diameter: 70 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
<u></u> 0.00 ⋅	Disturbed Soil		in an about the		
<u></u>	DISTURBED - Silty sand, dark brown, fine grained, loose	DP	0.1		minor porcelain
0.50		DP	0.5		minor glass
				,	
	SAND - Grey			***************************************	
1.00	EOH @ 1.0m	DP	1.0		
Remark	(8:				

WATER CONTENT: DR - dry; DP - damp; M - moist; S - saturated

Atma Environmental

Project: Clayton West (#589)

Engineer: Tim Robson

Date: 30/09/08

Page No.: 15 of 16

BOREHOLE/TESTPIT No.: BH29

Diameter: 90 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
	Grass SILTY SAND - Dark brown, low organic matter, fine grained, loose	DP	0.1		
1 no	SAND - Grey, fine grained, loose EOH @ 1.0m	DP	1.0	0.000	

BOREHOLE/TESTPIT No.: BH30

Diameter: 90 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
<b>0</b> .00	Grass SILTY SAND - Dark brown, low organic matter, fine grained, loose	DP	0.1		DUPE & SPLITE taken
- - 0.50 -	SANDY SILT - Dark brown, fine grained, loose	DP	0.5	Allegary (g. y y y y y y y y y y y y y y y y y y y	
<b></b>	SILTY SAND - Dark brown/grey, fine grained, loose	DP			
1.00	EOH @ 1.0m	-	1.0		

Atma Environmental

Project: Clayton West (#589)

Engineer: Tim Robson

Date: 30/09/08

Page No.: 14 of 16

**BOREHOLE/TESTPIT No.: BH27** 

Diameter: 90 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Wafer	Samples Collected	OVA Reading	Additional Observations
	Grass				****
nýva:	SILTY SAND - Dark brown, low organic matter, fine grained, loose	DP	0.1		
<b>0.</b> 50	SILTY SAND - Dark brown/grey, fine grained, loose	DP	0.5	LA MARIENTA	
-					
Edward or const	SAND - Grey, fine grained, loose	DP		**************************************	A second of the
1.00	EOH @ 1.0m		1.0	The state of the s	
Remark	rs:				

BOREHOLE/TESTPIT No.: BH28

Diameter: 90 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
	Grass		diselementary and a second	, in mineranna	
	SILTY SAND - Dark brown, low organic matter, fine grained, loose	DP	0.1		
-ifma		-			
— — 0.50 —	SAND - Grey, fine grained, loose	DP	0.5		
			The second secon		
	SANDY SILT - Dark brown/black, fine grained	DP			medium density
	EOH @ 1.0m	•	1.0		

WATER CONTENT: DR - dry; DP - damp; M - moist; S - saturated

Atma Environmental

Project: Clayton West (#589)

Engineer: Tim Robson

Date: 30/09/08

Page No.: 13 of 16

BOREHOLE/TESTPIT No.: BH25

Diameter: 70mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
	Disturbed soil				
	SILTY SAND - Dark brown, low organic matter, fine grained, loose	DP	0.1		DUPD & SPLITD taken
		T. T.			
— 0.50 —	SILTY SAND - Dark brown/grey, fine grained, loose	DP	0.5		
	SAND - Grey, fine grained, loose	DP			
D	EOH @ 1.0m				

Remarks:

**BOREHOLE/TESTPIT No.: BH26** 

Diameter: 70 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
— U.UU	Grass SILTY SAND - Dark brown, low organic matter, fine grained, loose	DP	0.1		
	inc granica, 10030		3, <u>1</u>		
0.50 	SILTY SAND - Dark brown/grey, fine grained, loose	DP	0.5		**************************************
	SAND - Grey, fine grained, loose	DP			
Romark	EOH @ 0.6m	- communication de la comm	1.0		

Atma Environmental

Project: Clayton West (#589)

Engineer: Tim Robson

Date: 30/09/08

Page No.: 12 of 16

**BOREHOLE/TESTPIT No.: BH23** 

Diameter: 70 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Sampiles Collected	ovA Reading	Additional Observations
- 0.00	Grass DISTURBED - Silty sand, dark brown Silty SAND - Dark brown, low organic matter, fine grained	DP	0.1		low OM, loose, minor clay
	SAND - Grey, fine grained, loose	DP	0.5		
100	SANDY SILT - Dark brown/orange, fine grained, medium density EOH @ 1.0m	DP	1.0		

Remarks:

BOREHOLE/TESTPIT No.: BH24

Diameter: 70 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
	Grass	Column Column	***************************************		
	Silty SAND - Dark brown/grey, low organic matter,	DP	4		
	fine grained, loose		0.1		
0.50	SAND - Grey, fine grained, loose	T3:70			
L		DP	0.5		
<u></u>					
_	SANDY SILT - Dark brown/black/orange, fine grained	DP	Listinday resistant of dame?	- Minimum and American American	100se
Z			10		A COSC
Comment.	EOH @ 1.0m		T 1.0	L	

Remarks:

WATER CONTENT: DR - dry; DP - damp; M - moist; S - saturated



Project: Clayton West (#589)

Englneer: Tim Robson

Date: 30/09/08

Page No.: 11 of 16

BOREHOLE/TESTPIT No.: BH21

Diameter: 70 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
— 0,00	Grass SILTY SAND - Dark brown, fine grained, loose	DP	0.1		
—0.50 — —	SILTY SAND - Dark brown/grey, fine grained, loose	DP	0.5		
	SAND - Grey, fine grained, loose	DP			
— 1.00	EOH @ 1.0m		1,0		

**BOREHOLE/TESTPIT No.:** BH22

Diameter: 70 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
<b>—</b> 0.00					<u> </u>
	SILTY SAND - Dark brown, low organic matter,	DR	0.1		' -
	fine grained, loose	DP	0.1		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
· .	SILTY SAND - Dark brown/grey, fine grained, loose				
-0.50	SAND - Grey, fine grained, loose				
0.50		DP	0.5		
<b>-</b>	SANDY SILT - Orange, fine grained, loose				
1.00	EOH @ 1.0m	DP	1,0		
Remark					

Atma Environmental

Project: Clayton West (#589)

Engineer: Tim Robson

Date: 30/09/08

Page No.: 10 of 16

BOREHOLE/TESTPIT No.: BH19

Diameter: 70 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
0,00	Grass SILTY SAND - Dark brown, low organic matter, fine grained, loose	DP	0.1		DUPC & SPLITC taken
— <b>0</b> .50	SILTY SAND - Dark brown/grey, fine grained, loose	DP	0.5		
1.00	EOH @ 1.0m	100 00 00 00 00 00 00 00 00 00 00 00 00	1.0		

Remarks:

BOREHOLE/TESTPIT No.: BH20

Diameter: 70 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
-0,00	Grass				
. 0,00	SILTY SAND - Dark brown, low organic matter,	DР			fine grained, loose
	SILTY SAND - Dark brown, fine grained, loose	DP	0.1		
; ;					
0.50			0.5		
			0.5		
<b></b>					4
1.00	EOH @ 1.0m		1,()		
Remark	Q.				

WATER CONTENT: DR - dry; DP - damp; M - moist; S - saturated

Atma Environmental

Project: Clayton West (#589)

Engineer: Tim Robson

Date: 30/09/08

Page No.: 9 of 16

BOREHOLE/TESTPIT No.: BH17

Diameter: 90 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
	Grass SILTY SAND - Bark brown, medium organic matter, fine grained, loose	DP	0.1	·	
	SILTY SAND - Dark brown/grey, fine grained, loose	DP	0.5		V
1,00	SAND - Grey, fine grain, loose				
- 1,00	EOH @ 1.0	<u></u>	1.0		

Remarks:

**BOREHOLE/TESTPIT No.: BH18** 

Diameter: 90 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
0,00	Grass	TOB			
	SILTY SAND - Dark brown, medium organic matter, fine grained, loose	DP	0.1		
0.50		DP	0.5		
	SILTY SAND - Dark brown/grey, fine grained, loose				
1.00	EOH @ 1.0m		1.0		

Atma Environmental

Project: Clayton West (#589)

Engineer: Tim Robson

Date: 30/09/08

Page No.: 8 of 16

**BOREHOLE/TESTPIT No.: BH15** 

Diameter: 700 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
-0.00	Tanbark				
	FILL - Silty sand, Dark brown,	DP			minor tanbark, basalt gravel
	low organic matter, fine grained, loose		0.1		DUPB & SPLITB taken
	SILTY SAND - Dark brown, low organic matter,	DP	************************		
	fine grained, loose				: 
	SILTY SAND - Dark brown/grey, low organic matter,		0.5		
	fine grained, loose				
person .					
la de la compania	Companyor transfer who we are no reasonable to the second	DΡ	r upor president i anno marchine. Paragraphica del Paragraphica THE STREET, INC.	**************************************	
	SAND - grey, fine grained, loose	Ul.	***************************************	eloanesterrencon elece	
	EOH @ 1.0m	<del>////</del>	1.0		

Remarks:

BOREHOLE/TESTPIT No.: BH16

Diameter: 700 mm

Method: Solid Stem Auger

Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
0 Grass				
SILTY SAND - Dark brown, low orga	nic matter, DP			17 (12)
fine grained, loose		0.1		
		;		
SILTY SAND - Dark brown/grey, fine	grain, loose DP			<del>ilan ja ja ja ja ja ja ja ja ja ja ja ja ja </del>
0 SILI I BAND - Dark blown grey, time		0.5		
A		\$\forage interval and an an an an an an an an an an an an an		
SAND - Grey, fine grain, loose	DP	1.0		
0 EOH @ 1.0m		T.U		



Project: Clayton West (#589)

Engineer: Tim Robson

Date: 30/09/08

Page No.: 7 of 16

**BOREHOLE/TESTPIT No.: BH13** 

Diameter: 900 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
-0.00	Disturbed Soil				
	DISTURBED - Silty sand, dark brown,				minor brick, glass
	low organic matter, fine grained, loose	DP	0.1	######################################	
	SILTY SAND - Dark brown, fine grained, loose				
···	· ·				
0.50					
	1.				
****					
·····	SAND - Grey, fine grained, loose	DP			W. W. W. W. W. W. W. W. W. W. W. W. W. W
	DIELE Brance, 10000	~ .			
<b></b> 1.00	EOH @ 1.0m		1.0		
Remark	S;	<u> </u>	UMI) 187		

BOREHOLE/TESTPIT No.: BH14

Diameter: 900 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
	Disturbed Soil		<del>/////////////////////////////////////</del>		, , , , , , , , , , , , , , , , , , ,
	DISTURBED - Silty sand, dark brown,	DP			
	low organic matter, fine grained, loose		0.1		
	SILTY SAND - dark brown, fine grained, loose	DP			
 0.50 			0,5		
	SAND - Dark brown, fine grain, loose	DP			
<b>—</b> 1.00	EOH @ 1.0m		1.0		

Atma Environmental

Project: Clayton West (#589)

Engineer: Tim Robson

Date: 30/09/08

Page No.: 6 of 16

BOREHOLE/TESTPIT No.: BH11

Diameter: 700 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	0VA Reading	Additional Observations
	Disturbed Soil				
	DISTURBED - Silty sand, dark brown,				
	low organic matter, fine grained, loose	DP	0.1		very minor concrete,
	DISTURBED - Sand, grey, fine grained, loose	'			1 "
<u></u>			ļ	1	sandstone gravel
0.50			0.5		
	SAND - Grey, fine grained, loose				:
		lama er a tarr		and the state of t	emplote make the control of the cont
	A Marie Committee of th				
1.00	EOH @ 1.0m		1.0		
Remark	G.				
1					

BOREHOLE/TESTPIT No.: BH12

Diameter: 700 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
	Disturbed Soil		1 Commence of the late		and the contraction of the contr
l	DISTURBED - Silty sand, dark brown,	DP			
	low organic matter, fine grained, loose		0.1		
-					
0.50			0.5		
	,	ļ			:
-	SAND - Grey, fine grained, loose				
I		DP			
1.00			in the second	eller (nimber (ff. Mei ff.)	AND THE PROPERTY OF THE PROPER
1.00	EOH @ 1.0m	<u> </u>	1.0	-	An work the commence and construction in the part of the property of the part
Remark	KS.				

Atma Environmental

Project: Clayton West (#589)

Engineer: Tim Robson

Date: 30/09/08

Page No.: 5 of 16

BOREHOLE/TESTPIT No.: BH9

Diameter: 100 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
	Gravel (150mm)				
0.00	DISTURBED - Silty sand, dark brown, low OM	DP			fine grained, loose
	SILTY SAND - Dark Brown, low organic matter, fine grain, loose	DP	0.1		
— 0,50 —	SAND - Grey, fine grained, loose	DP	0.5		,
			ļ		
— 1.00	SANDY SILT - Dark brown, fine grained, loose	DP			
- 1.00	EOH @ 1.0m		1.0_		

Remarks:

BOREHOLE/TESTPIT No.: BH10

Diameter: 100 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
	Disturbed Soil FILL - Silty sand, dark brown, low organic matter, fine grained, loose	DP	0.1		Small clay content, minor brick, basalt gravel
 0.50	SILTY SAND - Dark brown, fine grained, loose	DP	0.5		
	SAND - Grey, fine grained, loose				
1.00	ЕОН @ 1.0 ш		1.0		

Atma Environmental

Project: Clayton West (#589)

Engineer: Tim Robson

Date: 30/09/08

Page No.: 4 of 16

BOREHOLE/TESTPIT No.: BH7

Diameter: 700 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
	Grass SILTY SAND - Dark brown, medium organic matter, fine grained, loose	DP	0.1		
0.50	SILTY SAND - Dark brown/grey, fine grained, loose	DP	0.5		
	SAND - Grey, fine grained, loose	t a maranto tra a troch a	da a sant Na sa awar sa agin	dan o ana di Padelle Se	The second of th
—1.00 Remark	EOH @ 1.0m	DP	1.0		

BOREHOLE/TESTPIT No.: BH8

Diameter: 700 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
0.00	Disturbed Soil		material and a state of the sta	of our sleeps SIC SIC	The company of the second of t
	SILTY SAND - Dark brown, medium organic matter, fine grained, loose	DP	0.1		
	SILTY SAND - Dark brown, medium organic matter,	DP	*********************	***************************************	contact of the state of the sta
0.50 	fine grained, loose		0.5		
<u> </u>					
1,00	FOH @1.0m	DP	1.0		
Remark	(8;				

Atma Environmental

Project: Clayton West (#589)

Engineer: Tim Robson

Date: 30/09/08

Page No.: 3 of 16

**BOREHOLE/TESTPIT No.: BH5** 

Diameter: 700 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
0.00	Disturbed Soil				
0,00	DISTURBED - Silty sand, dark brown, medium	DP			minor basalt gravel
	organic matter, fine grained, loose	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.1		DUPA & SPLITA taken
	SILTY SAND - Dark brown, medium organic matter,	DP			
	fine grain, loose				
0.50	SILTY SAND - Dark brown, low organic matter,	DP	<u> </u>		
	fine grain		0.5		2.22.2
	SAND - Grey, fine grained, loose				
_					
<b>—</b> 1.00	EOH @ 1.0m		1.0		
Remark	(C.				

Remarks:

BOREHOLE/TESTPIT No.: BH6

Diameter: 700 mm

Method: Solid Stem Auger

			************		
Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
- 0.00	Disturbed Soil				
- 0.00	DISTURBED - Silty sand, dark brown,	DP	0.1		
	medium organic matter, fine grain, loose				
6-in/4	SILTY SAND - dark brown/grey, fine grain, loose	DP			· ·
<del></del>					
<del></del> 0.50			0.5		
·	SANDY SILT - Dark brown, fine grain, loose	-339AKQSAHAMAN			Orange colouring throughout
<b>-</b> .					
4.00					
<b>—</b> 1.00	ЕОН @ 0.6ш		1.0		
Remark	rs:				



Project: Clayton West (#589)

Engineer: Tim Robson

Date: 30/09/08

Page No.: 2 of 16

BOREHOLE/TESTPIT No.: BH3

Diameter: 90 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
0,00	Grass SILTY SAND - dark brown, low organic matter, fine grained, loose	DP	0.1		
 0.50	SILTY SAND - dark brown/grey, fine grained, loose	DP	.0.5		
	SAND - Grey, fine grained, loose	DP	angeste kalander vor far.	as place in the secondary	n jannenna os salentados estados astenialendos entre en en en en en entre entre entre en entre e
1.00		*************	1.0	**************	
1,00	EOH @ 1.0m	<u></u>			

Remarks:

BOREHOLE/TESTPIT No.: BH4

Diameter: 100 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
0.00	Grass SILTY SAND - Dark brown, low organic matter, fine grain, loose	DP	0.1		
0.50	SILTY SAND - Dark brown/grey, fine grained, loose	DP	0.5		
	SAND - Grey, fine grained, loose		1.0		
-1.00	EOH @ 1.0m				



Project: Clayton West (#589)

Engineer: Tim Robson

Date: 30/09/08

Page No.: 1 of 16

BOREHOLE No.: BH1

Diameter: 90 mm

Method: Solid Stem Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
- 0.00	Gravel				
	DISTURBED - Sandy Silt, dark brown, medium organic matter, fine grained, loose	DP	0.1		minor basalt, basalt gravel NATURAL at 0.1 m, grey sand
· ,	SILTY SAND - Dark brown, no organic matter, fine grained, loose	DP			
	SAND - Grey, fine grained, loose	DP	0.5		
	SANDY SILT - Dark brown/orange, fine grained, loose	DP			
	EOH @ 1.0m		1.0		

Remarks:

BOREHOLE/TESTPIT No.: BH2

Diameter: 70 mm

Method: Hand Auger

Depth (m)	Soil Description	Water	Samples Collected	OVA Reading	Additional Observations
-0.00	Grass				
0.00	Silty SAND - Dark brown, medium organic matter,	DP			·
	fine grained, loose		0.1		
	37. (1.1)				
0.50	Silty SAND - Dark brown/grey,	DP			
	medium organic matter, fine grained, loose		0.5		
_		ĺ			
1.00					
1,00	EOH @ 1.0m				
Remark	S.	· · · · · · · · · · · · · · · · · · ·			

# ルプリアにシング

Soil Testpit Logs

- 1. Remove soil adhering to the augers, drill stem and other equipment by scraping, brushing or wiping.
- 2. Thoroughly pressure wash equipment with tap water and phosphate free detergent using a steam cleaner.
- 3. Thoroughly rinse equipment with distilled water using a sprayer, collecting the rinsate blank if required and preserve it in accordance with AS2031.
- 4. Keep the equipment clean between uses by wrapping it in protective sheeting (e.g. plastic, aluminum foil, etc.).

Quality Procedure:	AEPLOP\E006
Pages	2
Last Updated Date!	27/10/05
Revision	
Reviewed by Signature:	GRB

# **Equipment Decontamination**

[E006]

For both manual and large equipment decontamination work it is preferable to conduct the equipment decontamination activities in a dedicated area located away from sampling activities thereby removing a possible source of cross contamination.

At a minimum, collect one Quality Assurance Rinsate Water (RW) blank per each day of fieldwork (see 'Quality Assurance Samples' Procedure).

### 1. Manual Sampling Equipment

In general, always plan the sampling program so that bores having the HIGHEST level of anticipated CONTAMINATION are sampled LAST and the least contaminated are sampled first.

The procedure for decontamination of manual sampling equipment (e.g. hand augers, bailers, split spoons) used to collect INORGANIC samples is as follows:

- 1. Remove soil adhering to the sampling equipment by scraping, brushing or wiping. A disposable towel may be used for this purpose. Previously used rags may introduce contaminants and should not be used.
- 2. Wash thoroughly in a bucket with phosphate-free detergent (e.g. NapiSan) and tap water using dedicated brushes or disposable towels. Wipe clean.
- 3. Shake off excess water and wash again in a second bucket containing only tap water. Wipe clean.
- 4. Shake off excess water and liberally rinse with deionised water from a squirt bottle.
- 5. If sampling for ORGANIC parameters, further rinse the equipment with a 1:1 mixture of laboratory grade hexane & acetone.
- 6. Allow equipment to air dry prior to use on a clean sheet of paper or suspended above ground.

Refresh the wash water every 50 pieces cleaned or more often, depending on field conditions.

### 2. Large Equipment

The procedure for decontaminating large equipment is as follows:

a clean sample container. Avoid using an intermediate container to collect the rinsate sample (e.g. a bucket).

- c) FREQUENCY. Collect one quality assurance rinsate blank per day or for every 50 pieces of equipment washed (i.e. soil samples collected) with minimum of 1 per day, where manual sampling equipment is used (e.g. hand augers, spatulas etc). If the rinsate blank is to be collected for inorganic analysis, preserve this in accordance with AS 2031. If the rinsate blank is to be collected for organic analysis, use a glass or PTFE container, preserve this in accordance with AS 2031 and ensure there is a tight seal to minimize loss of liquid.
- d) Enter the rinsate sample number on the Sample Master List as DECON A, DECON B, etc. followed by a dash and then the date, e.g. DECON A-060606, and label the sample accordingly.

### 3. Collection of Field Blank Samples

Field Blanks are for the purpose of providing a control against contamination potentially introduced to samples during field works. The procedure for collecting Field Blank samples is as follows:

- a) A fresh, unused sample jar is to be opened and exposed to the environmental conditions at the sampling locations for a 20 minute period, during the fieldwork, once a day.
- b) After 20 minutes, the jar should be filled with deionised water, sealed, labelled as FIELD followed by a dash and then the date written as DDMMYY (e.g. FIELD-230206) and entered on the Atma Environmental Sample Master List and Chain of Custody form, before being sent along with the soil samples to the analytical laboratory for testing.

### 4. Collection of Trip Blanks

A Trip Blank is for the purpose of providing a control sample against contamination potentially introduced during transport of samples from the field to the laboratory.

- a) Trip jars are provided from MGT, already filled with de-ionised water.
- b) This container is checked to ensure it is sealed and is taken everywhere that samples are collected.
- c) The Trip Blank is entered into the Sample Master List below the primary sample Ids and onto the Chain of Custody form, it is labelled TRIP, followed by the date written as DDMMYY (e.g, TRIP-150106). If sampling occurs over several days, sequential numbering should be used for each day.

Quality Procedure:	AEPLOP\E005
Pages:	2
Last Updated Date:	25/07/06
Revision;	
Reviewed by Signature:	GRB

# **Quality Assurance Samples**

[E005]

### 1. Collection of Split and Duplicate Samples

The procedure for collection of duplication/split samples is as follows:

- a) A duplicate sample is collected along with the first primary sample collected so that there is at least one QA sample for every sampling program. Duplicate samples are then collected every +/- 20 samples thereafter.
- b) A split sample is collected about the 10<sup>th</sup> primary sample and every +/- 20 samples thereafter.
- c) Split/duplicate samples should be taken from the same depth interval in a single action. The removed soil is then placed within a clean stainless steel pan where it is mixed thoroughly by hand (wearing latex glove) or clean spatula to homogenise the soil, after which it is then divided into two jars.
- d) Duplicate samples are labelled in such a manner to disguise the sample from its replicate or original (primary) sample in a blind test. The convention used by Atma Environmental is DUP A, DUP B, etc. sequentially in the order they are sampled, then a dash and the date written as DDMMYY e.g. DUP A-230106. Duplicate samples are then submitted to the same laboratory. Duplicate sample numbers are entered alongside the primary sample ID on the Atma Sample Master List.
- e) Collection of 'Split' samples follow the same procedure as 'Duplicates' but are submitted to a secondary laboratory to check on the proficiency of the primary lab. Conventionally, split sample IDs are prefixed by the word "SPLIT", followed by a sequential letter, a dash, and then the date written as DDMMYY e.g. SPLIT C-010106. Split samples should be tested by the secondary laboratory for the same parameter(s) as the primary sample using the same analytical methods as the primary laboratory. Split sample numbers are entered alongside the primary sample ID on the Atma Sample Master List.

### 2. Collection of Rinsate Blanks

The procedures for collection of rinsate samples are as follows:

- a) Decontaminate equipment used for sampling in accordance with decontamination procedures.
- b) Using laboratory grade deionised water pour an amount of rinsate water over the part of the decontaminated equipment contacting the soil. Collect the rinsate water directly into

- 14. Transport iced samples via courier with Chain of Custody to a National Association of Testing Authorities (NATA) accredited environmental laboratory.
- 15. Store samples not sent to laboratory for one month after issue of report.

Quality Procedure:	AEPLOP\E002
Pages:	2
Last Updated Date:	30/06/2006
Revision:	Rev
Reviewed by Signature:	& Berry
	1/

- 5. Advance sampler to desired depth. Put on disposable latex sampling gloves prior to sampling; collect samples. Samples are removed from the soil by auger and placed into 150 ml (minimum) clean single use glass jars using latex sampling gloves after trimming the sample of any extraneous borehole sidewall material with a decontaminated knife. Sample containers must be completely filled in such a way as to minimise air pockets within the jar. The sample container is then capped with a lined lid. On specific projects, solvent and acid washed jars may be more appropriate for the application.
- 6. Label sample container using waterproof pen. Labels to include:
  - (a) Sample identification number (i.e. borehole number and sample depth)
  - (b) Project reference or job number
  - (c) Date and time of sample collection
- 7. Check to make sure that the sample is tightly sealed and place in cooler immediately.
- 8. Log the sample unique identification number onto the Sample Master List AS THEY ARE COLLECTED. Note any corresponding replicate samples collected on the Sample Master List opposite the entry for the primary sample. In this fashion any suspected incidence of cross contamination may be tracked down by looking at the order in which samples are collected.
- 9. Log the soil retrieved from the bore on the Field Bore Log sheet or on the Monitoring Well Log. Log sheet information is to include:
  - (a) Soil/rock type,
  - (b) Colour (primary and secondary),
  - (c) Grainsize, sorting, angularity, inclusions,
  - (d) Moisture conditions, and
  - (e) Staining and odour.
- 10. Reiterate steps '3' to '9' until sampling program is completed.
- 11. Fill out a Chain of Custody form for delivery of samples to the laboratory.
- 12. If the samples are to be tested for organic vapour, a bag of soil should be collected and sealed at the same time that the sample jar is filled. At the end of the day these bags of soil are tested using an Organic Vapour Analyser or OVA. The AEPL OVA is an RKI Eagle Portable Gas Detector which uses an electrical resistance sensor to detect hydrocarbons. Turn the OVA on using the Power/Enter key. The instrument will go through its self-check and be ready to use in about 3-5 minutes. Once ready hold down the AIR key to obtain the background air reading. Then use the LEL/PPM key to set to PPM or "parts per million". Attach the sample line and probe to the instrument. Poke the probe into the soil bag and leave it there for several seconds or until the reading stabilises. Record the value on the Sample Master List.

NOTE: If a MiniRAE is hired for the organic vapour analysis, follow the instructions provided with the instrument.

13. Store samples under refrigeration or on ice after sampling and prior to transportation.



### Soil Sampling

[E002]

Soil assessments are required to provide the necessary information to determine the environment condition of soils within a site or the effects of any contaminated soil on a proposal. Prior to the commencement of soil sampling a Sampling and Analysis Plan should be devised (See Procedure AEPLQP\PM012) containing the specifics of the project objectives.

### 1. Sampling Equipment

Environmental sampling of soil and groundwater should consider the type of contaminant and the data quality objectives of the program, including the depth at which samples are required. Soil samples are commonly obtained from: surface sampling, test pits, or boreholes. Accordingly, the type of equipment required to obtain samples shall vary and the choice of method requires consideration of -

- · Ground conditions;
- Depth required;
- Nature of the contamination:
- Ease of access; and
- Acceptable site disturbance.

Hand augurs may be used for collection of relatively shallow soil samples. Where volatile compounds are being sampled use of a push tube sampler should be considered. Drill rigs with a wide variety of capabilities are also available. Ideally, equipment for undisturbed sampling ought to be utilised. Where use of an excavator is employed, sample collection should commence from the deepest portion of the trench to avoid cross-contamination and samples obtained directly from the walls and base.

### 2. Sampling Procedure

- 1. Discuss sampling locations with site personnel to clear any underground utilities, use cable locating service when appropriate.
- 2. Determine appropriate site safety conditions (water hazards, traffic zones, etc.).
- 3. Take two Field Blanks per day of fieldwork, as specified in the Quality Assurance sampling procedure.
- 4. Decontaminate and rinse all sampling equipment prior to commencing and between sampling locations to prevent cross contamination.

AEPL Investigation Procedures

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au

Lab Number   Batch   Splik   Splik   Splik   Soli   Splik   Soli   Sol	nvironmental	Client Sample ID	RPD	SPIKE	Method blank
OAA   OAA		Lab Number	Batch	Batch	Batch
Sample Date   May 26, 2008   May 2		QA Description		Spike % Recovery	
Sample Date May 26, 2008 May 26, 2008  1			Soil	Soil	Soil
Units   % Recovery   mg/l		e Date	May 26, 2008	May 26, 2008	May 26, 2008
	· 不可以 · · · · · · · · · · · · · · · · · · ·	Units		% Recovery	mg/L
	Total Recoverable Hydrocarbons				
	TRH C6-C9 Fraction by GC		L >	96	< 0.02
	TRH C10-C14 Fraction by GC		<b>V</b>	95	< 0.05
	TRH C15-C28 Fraction by GC		16	-	< 0.1
	TRH C29-C36 Fraction by GC		12	đ	< 0.1
•					

MGT Report No. 227492 Page 25 of 25

Section 1

And the second s

44 .

COMMENTS:

ê z

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Fielphone: (03) 9564 7055 Felphone: (03) 9564 7195 Eau; (03) 9564 7190 Email: mgt@mgfenv.com.au

May 26, 2008 mg/L Method blank < 3.005 < 0.25 < 0.05 < 0.25 Batch May 26, 2008 08-MY10374 SPIKE % Recovery 118 5 E 8 8 Spike % Recovery Soff RPD 08-MY10374 May 26, 2008 Duplicate % RPD Ļ, 7 ÿ Ÿ ۳--۷ ۸. v v ₩ ν... V v ~~ V % RPD Soil Soil May 26, 2008 SV2 08-MY10374 × 0.1 Soil May 26, 2008 SV2 08-MY10374 < 0.1 Sample Date Client Sample Lab Number QA Description Matrix Halogenated Volatile Organics trans-1.3-Dicinioropropene trans-1.2-Dichloroethene Trichlorofluoromethane 4tma Environmental Methylene chloride **Tetrachlomethene** Volatile Organics richloroethene Richmond 3121 Heavy Metals Analysis Type Winyi chloride Molybdenum 83 Dover St Selenium Mercury Silver UM 6

MGT Feport No. 227492 Page 24 of 25

М ¬ С

P

....

COMMENTS:

لستأ

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3165, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au

Atma Environmental	Client Sample	L RPD	SPIKE
July 6	Lab Number	Batch	Batch
83:Dover St	Q.A. Description		Spike % Recovery
Nichmond 3121	Matrix	Soil	Soli
	Sample Date	May 26, 2008	May 26, 2008
Analysis Type Comment of the Comment	Units		% Recovery
Heavy Metals (7)			
Zinc		1	.1
Halogenated Wolattle Organics			
1.1-Dichloroethane		۲۷	87
1.1-Dichloroethene		÷	79
1.1.1-Trichloroethane			106
1.1.1.2-Tetrachforoethane		-V	·#.
1.1.2-Trichloroethane		- V	,
1.1.2.2-Tetrachloroethane		۲ <sub>۷</sub>	- 4
1.2-Dibromoethane		٧	
1.2-Dichlorobenzene		- V	117
1.2-Dichloroethane		۸	85
1.2-Dichloropropane		٠ ۲	,
1.2.3- Trichloropropane		L >	-1
1.3-Dichlorobenzene		د ا	-it
1.3-Dichloropropane		V	-
1.4-Dichiarobenzene		v	1
Bromodichloromethane		Ÿ	1
Вготобогт		\ \- \-	,
Bromomethane		1.	ı
Carbon Tetrachloride		V	<del>5</del> 6
Chlorobenzene		^	
Chloroform		٧,	1
Chloromethane		1>	
cis-1.2-Dichlaraethene		- 1	1
cis-1.3-Dichloropropene		v	į
Dibromochloromethane	10.000	V	9
Dibromomethane		<1	ů.
lodomethane		Ļ	ř

MGT Report No. 227492 Page 23 of 25 100 mg

Constitution of the consti

Mark Assessed

COMMENTS:

100 Sec. 100

STATE OF STATE

۲ آ ا ا

R i

 $\bigcap_{i=1}^{n}$ 

COMMENTS:

3 Kingston Town Clase, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3168, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au

			10000	the state of the same
Arrae Environmental	Client Sample	D-X		Nemod Diank
Sta Dover St	OA Description		Spike %	
Richmond 3121	Matrix	Sail	Soil	Soil
	Sample Date	May 26, 2008	May 26, 2008	May 26, 2008
Analysis Tyberson	nuis		% Recovery	mg/L
diocarbons				
1,3,5-Trichlorobenzene		V	81	< 0.005
1.4-Dichlorobenzens		, v	77	< 0.02
Benzal chloride		, T	78	< 0.005
Berzotichlonde	11.000	r L	83	< 0.005
Benzyl chloride	***************************************	V	į	< 0.02
Hexachlorobenzene		v	107	< 0.005
Hexachlorobutadiene		Ą	85	< 0.005
Hexachlorovyclopentacliene		, ,	100	< 0.005
Hexachloroethane	dian	v	82	< 0.005
Pentachlorobenzene		- V	88	< 0.005
Polychiorinated Biphenyls				
Aroclor-1016		v	1	< 0.01
Aroclor-1221		٧.	1	< 0.01
Arocior-1232		v	•	< 0.01
Aroclor-1242		V	ŧ	< 0.01
Arocler-1248		v	ţ.	< 0.01
Arocior-1254	-	, ,	*	< 0.01
Aroclor-1260		<1	105	< 0.01
Total PCB		>	ŧ	< 0.1
Dibutylchlorendate (surr.)		\$	98	110
Tetrachloro-m-xylene (surr.)		£	84	85
Heavy Wetals (7)				
Arsenic		11	91	< 0.05
Cadmium	-	<1	83	< 0.02
Сhromium	·	8.1	83	< 0.2
Copper		48	82	< 0.2
pear	51414×14	2,1	· J.	< 0.05
Nickel	www.	8.6	85	< 0.2

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au

Ama Environmenta)	Client Sample D	RPD	SPIKE	Method blank
Unit 6	Lab Number	Batch	Baich	Batch
	OA Description		Spike % Recovery	
Richmond 3121	Matrix	Soil	Soil	Soil
	Sample Date	May 26, 2008	May 26, 2008	May 26, 2008
Analysis,Type See See See See See See See See See S	Units		% Весочелу	mg/L
Organochlorine Pesticides				
4.4'-DDD		v	108	< 0.005
4.4-DDE		- v	112	< 0.005
4.4-DDT		- ×	16	< 0.005
a-BHC		, ,	106	< 0.005
Akdrin		, t >	123	< 0.005
b-BHC		<del>r.</del> V	123	< 0.005
Chlordane		v		< 0.01
d-BHC		<1	117	< 0.005
Dieldrin		- v	115	< 0.005
Endosulfan I		× 1	114	< 0.005
Endosulfan II		٠ 1	102	< 0.005
Endosulfan sulphate		۸1	120	< 0.005
Endrin		۲×	129	< 0.005
Endrin aldehyde		r V	124	< 0.005
Endrin ketone		۲,	112	< 0.005
g-BHC (Lindane)		د <u>۱</u>	114	< 0.005
Heptachlor		\ - -	122	< 0.005
Heptachlor epoxide		٧.	118	< 0.005
Methoxychlor		۰ 1	66	< 0.005
Taxaphene		<b>1</b> >		< 0.01
Chlorinated Hydrocarbons	The Same of the sa			
1.2-Dichlorobenzene		۲ ×	9,2	< 0.02
1.2.3-Trichlorobenzene		V	7.1	< 0.005
1.2.3.4~Tetrachlorobenzene		1 >	82	< 0.005
1.2.3.5-Tetrachlorobenzene		<1	Ų.	< 0.005
1.2.4-Trichlorobenzene		<1	1.	< 0.005
1.2.4.5-Tetrachiorobenzene		<1	20	< 0.005
1.3-Dichlarobenzene		<1	98	< 0.02

MGT Report No. 227492 Page 21 of 25 (\* 75 \* 75 \* 75

(\$ \bar{\pi}\_1

Mar .

600 C. T. F.

COMMENTS:

Mary Constitution of the C

100 × 100 ×

ē a

Sur. 6

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3165, Australia 1616 phone: (03) 9564 7055 Telephone: (03) 9564 7190 Email: mgt@mgfenv.com.au Method blank May 26, 2008 < 3.005 < 3.005 < 0.005 < 0.005 Batch mg/L So May 26, 2008 % Recovery 08-MY10373 Spike % Recovery SPIKE 113 101 97 So. May 26, 2008 % RPD 08-MY10373 Duplicate % RPD RPD ~ ~ ~ ₽ Soil May 26, 2008 08-MY10373 × 0.05 × 0.05 × 0.05 Duplicate sV1 Soil May 26, 2008 08-MY10373 < 0.05 < 0.05 < 0.05 < 0.05 8 Client Sample SV1 Soil Sample Date QA Description Lab Number Units Matrix Monocyclic Aromatic Hydrocarbons. Xylenes(ortho.meta and para) Fluorobenzene (surr.) Atrus Environmental Schmond 3121 Analysis Type Ethylbertzene 83 Dover St Benzene Toluene

MGT Report No. 227492 Page 20 of 25

Ø, u\_

Ī

<u>u</u>\_

Ŋ.,

.

COMMENTS:

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3165, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au

Method blank Batch May 26, 2008 <0.01 < 0.01 < 75 ⊒/gш So Spike % Recovery Soil May 26, 2008 % Recovery SPIKE Batch 111 124 8 May 26, 2008 RPD Batch ~ V ÷ Š Lab Number QA Description Matrix Sample Date Client Sample Atma Environmental Unit 6 Pentachlorophenol Phenol-d6 (surr.) Analysis Type Richmond 3121 83 Dover St Phenol

MGT Report No. 227492 Page 19 of 25

State of the state of

- The state of the

COMMENTS:

·

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Telephone: (03) 9564 71050 Email: mgt@mgtenv.com.au

Aima Environmental		Cient Sample D	RPD	SPIKE	Weellon Galla
unite		Lab Number	Batch	Batch	Batch
53 Dover St		QA Description		Spike % Recovery	ودور ومناهد
Fachmond 3121		Matrix	Soil	Soil	Soil
	10.00	Sample Date	May 26, 2008	May 25, 2008	May 26, 2008
Analysis Type		Units		% Весоvету	mg/L.
Potycyclic Aromatic Hydrocarbons	がないというという	主義がないのでは			
Acenaphthene			ŗ	128	< 6.02
Acenaphthylene			ا د با	108	< 0.02
Anthracene			<u>ب</u> ۷	124	< 0.02
Benz(a)anthracene	100		4.4	97	< 0.02
Benzofalowene			19	94	< 0.02
Benzo(b)fluoranthene			20	92	< 0.02
Benzo(d.h.l)perylene			٧	118	< 0.02
(Benzo(K) Nitoranthene			Α	106	< 0.02
Chrysene			52	102	< 0.02
Dibenz(a.h)anthracene			Ÿ	125	< 0.02
Fluoranthene			20	81	< 0.02
Filorene			د ا	124	< 0.02
Indeno(1.23-cd) wrene			- v	121	< 0.02
Naphthalene			۲,	26	< 0.02
Phenanthrene			v 	117	< 0.02
Pvene			- 17	80	< 0.02
Total PAH			۸ ۲	•	< 0.02
Chrysene-d12 (surt.)			1	88	114
2-Flubrobibheny (surt.)			1	53	80
Phenoispace	等ななな となるを !!				
2-Chlorophenol	rus		<1	118	< 0.01
(2-Methylphenol (o-Cresol)	ati"		٧.	115	10.0>
2-Nitrophenol	1		<1	96	< 0.05
2.4-Dichlorophenol			, t	. 111	< 0.01
2.4-Dimethylphenol			- <1	127	< 0.01
2.4.6-Trichlarophenol			<1	110	< 0.01
2.5-Dichlorophenol	,•		- 1 - 1	124	× 0.01
3&4-Methylphenol (m&p-Cresol)			V	125	< 0.02
		winn,			. 120

COMMENTS:

.



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au

Afma Environmental	Client Sample ID		SV3	SV4: 38: 54: 55: 55: 55: 55: 55: 55: 55: 55: 55	SV5	SV6
	Lab Number		08-MY10375	08-MY10376	08-MY10377	08-MY10378
	Matrix		Soil	Soil	Soil	Soil
	Sample Date		May 26, 2008	May 26, 2008	May 26, 2008	May 26, 2008
Analysis Type	LOR	Units				
Nickel	5	mg/kg	4	42	í	
Zinc	5	mg/kg	in the second	16	1	
Préaty Metais y Sing Agent Control of the Control o	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			なから、マルグ、		81
Mercury	0.1	mg/kg	.1	< 0.1	E.	
Malybdenum	10	mg/kg	1	< 10	*	1
Selenium	2	mg/kg	ŀ	<2		Ť
Silver	5	mg/kg	1	< 5	,	
UL.	10	mg/kg	4	< 10	·	
		Pu Si				

MGT Report No. 227492 Page 17 of 25 #250 Company

Mark Services

Extraor Adj

Control of the Control

Contraction (C)

Branzerra

COMMENTS:

A STATE OF THE STA

Consultation of the consul

1. The second

15 - - - - - - 15 M



3 Kingston Town Glose, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fac. (03) 9564 7190 Email: mgi @mgtenv.com.au

08-MY10378 Soil May 26, 2008 SV6 08-MY10377 Soil May 26, 2008 8 2 3/5 08-MY10376 Soil May 26, 2008 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.5 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 × 100 v 5 5.6 ري کا v ۲) ۷ 4 5.7 8 SV4 May 26, 2008 08-MY10375 4 SV3 Soil mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg тд/kg тд/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg Units mg/kg æ % Client Sample ID Lab Number Matrix 0.05 0.05 0.05 0.05 Sample Date 0.05 0.05 0.05 100 ເດ 0.05 9.05 ໝ 0 rans-1,3-Dichloropropene rans-1,2-Dichloroethene cis-1.3-Dichloropropene rchlorofluoromethane Chromium (hexavalent) Dibromochloromethane cis-1,2-Dichloroethene -lugrobenzene (surr.) Atma Environmental Volatile Organics Methylene chloride strachlordethene Heavy Metals (7) 2) bromomethane richloroethene Richmond 3121 Chloromethane Analysis Type Syanide (total) Chlorobenzene

'imyt chlaride

% Moisture

Styrene

Huoride

Arsenic

adomethane

85 Dover St

Chloroform

MGT Report No. 227492 Page 16 of 25

**f** -

اد **ال**ا

ال

Chromium Cadmium

Copper

read



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3165, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au

Alma Environmental	Client Sample ID		SV3	SV4	SV5	SV6
Unit 6	I ah Numbor	The second second	OC SEVEN OF THE CO.	CHARLES OF THE CO.		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
83 Dover St	במה ואתוווהפו		US-901 T 1U3 / 3	US-MIY1U3/B	UB-MY10377	08-MY10378
Dishmond 2394	Matrix		Soil	Soil	Soil	Soil
וויניוווים פוליו	Sample Date	,	May 26, 2008	May 26, 2008	May 26, 2008	May 26, 2008
Analysis lype with the control of th	LOR	Units	The boundary of the state of th			
2-Nitropheno)	0.5	mg/kg		< 0.5	*	
2.4-Dichiorophenal	1.0	mg/kg	.3	< 0.1	. 9	4
2.4-Dimethylphenol	0.1	mg/kg	·······································	<0.1	,	
2.4.6. Trichlorophenol	0.1	mg/kg	7	< 0.1		
2.6-Dichloiophend	0.1	mg/kg	*	< 0.1		1
3&4-Methylphenol (m&p-Cresol)	0.2	mg/kg		< 0.2		12
(4-Chloro-3-methylpheno)	0.1	mg/kg	•	< 0.1		
Pentachlorophenol	0.5	mg/kg		< 0.5		
Phenol	0.1	mg/kg	Ť	< 0.1	1	
Phenoi-d6 (surt.)	_	%	1	82		f
Halogenated Volatile Organics				The state of the s		
1.1-Dichloroethane	0,05	mg/kg	4	< 0.05	,	1
1.1-Dichloroethene	0,05	mg/kg	1	< 0.05		1
1.1.1-Trichloroethane	0.05	mg/kg	M	< 0.05	•	1
1.1.1.2-Tetrachloroethane	50.0	mg/kg	ŧ	< 0.05	7	1
1.1.2-Trichloroethane	0.05	mg/kg	7	< 0.05		1
1.1.2.2-Tetrachloroethane	0.05	mg/kg	Ę	< 0.05		į
1.2-Dibromoethane	0.05	mg/kg		< 0.05	f	
1.2-Dichlorobenzene	0.05	mg/kg	+	< 0.05		
1.2-Dichloroethane	0.05	mg/kg		< 0.05	ŧ	1
1.2-Dichlotopane	0.05	mg/kg	1	< 0.05		1
1.2.3-Trichloropropane	0.05	mg/kg	- 5	< 0.05		*
1.3-Dichlorobenzene	50.0	mg/kg		< 0.05		
1.3-Dichloropropane	0.05	mg/kg	*	< 0.05	,	
1.4-Dichlorobenzene	0.05	тд/кд		< 0.05	*	
Bromodichloromethane	0.05	mg/kg	1	< 0.05		
Вголюбогт	0.05	mg/kg	-	< 0.05	-	,
Bromomethane	0.05	mg/kg		< 0.05		1
Carbon Tetrachloride	0.05	mg/kg		< 0.05	į.	te

MGT Report No. 227492 Page 15 of 25 G \*

ů ž

्र अ. . .

Entertainments

Market Stand

Mark States

A CONTRACTOR OF THE PARTY OF TH

A CONTRACTOR

Carlo Carlos

100 Mary 100

.. 8 -

COMMENTS:



3 Kingston Town Glose, Oakleigh, Victor a 3166, Australia Postal address: P. C. Box 276, Oakleigh, Victor a 3166. Australia Telephoru: (33) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au

	Client Samuel	· 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	SV3	SV4	SV5	SV6
Alma Environmentai						
33	Lab Number	1.00m	08-MY10375	08-MY10376	08-WY10377	D8-MY10378
S Douer St	Matrix		Soil	Soil	Soil	Soil
Birkmond 3101	Sample Date		May 26, 2008	May 26, 2008	May 26, 2008	May 26, 2008
	LOR	Units				A STATE OF THE STA
AND THE RESERVE OF THE PROPERTY OF THE PROPERT	0.05	ma/kg		< 0.05	. • .	,
1.2.4-Irichlorobenzene	50.0	ma/ka		< 0.05	Ŧ	1
1.2.4.5-Tetrachiorobenzene	200	Sale.		< 0.2	*	,
1.3-Dichlorobenzene	0.2	fw/fill		1007	,	
1.3.5-Trionlorobenzene.	0.05	mg/kg	,	20.0		
1.4-Dichlorobenzene	0.2	mg/kg	*	< 0.2		
Benzal chioride	0.05	mg/kg	,	< 0.05		1
Banzottichiorida	0.05	mg/kg		< 0.05		•
Banyl chinida	0.2	mg/kg	1	< 0.2	,	
PLOSICAL VISITATION CONTRACTOR CO	0.05	i mg/kg		< 0.05	ŧ	ì
1 icharitation de la company d	0.05	mg/kg	•	< 0.05	,	1
Figure de la contraction de la	0.05	mg/kg		< 0.05	<b>*</b>	
nekaci ilorogici idanieria	0.05	ma/ka	1	< 0.05	•	1
rackaciac de la factoria del la factoria del la factoria del la factoria de la factoria de la factoria de la factoria de la factoria de la factoria del la factoria del la factoria del la factoria del la factoria del la factoria del	0.05	ma/ka		< 0.05		*
	-	%	,	66	1	,
Urbuty/chlorendale (sum.)		70	-	65		1
		0/				
Polychiorinated Bipheryls						
Arociar-1016	0.1	mg/kg		< 0.1		
Aroclor-1221	0.1	mg/kg	<b>‡</b> .	< 0.1	-	*
ACCION 222	0.1	mg/kg	•	< 0.1	1	*
Aracion 1242	r.o	mg/kg		< 0.1		
Aroclor-1248	0.1	mg/kg		< 0.1		
Arction-1254	0.1	mg/kg	5.	< 0.1		•
A:0cior-1260	0.1	mg/kg	1	< 0.1		
Total PCB	<b>y</b>	mg/kg	1	V V		
Dibutyichiorendate (surr.)	<b>***</b>	%		06	*	
Tetrachion-m-volene (surc.)	-	%	1	92		
Observing the property of the		i i i i i i i i i i i i i i i i i i i		7		
2. Chironisonal	0.1	. mg/kg		< 0.1	.1	*.
2. Methylphene (o. Fress)	1.0	mg/kg		< 0.1	ì	1
COMMENTS:				MGT Fe	MGT Feport No. 227492 Page 14 of 25	
		••				

fi T

ز ن

ن ا



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3168, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au

Policities Commence of the Com	Client Sample ID Lab Number Matrix Sample Date 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.0		SV3. 08-MY10375 Soil May 26, 2008	Sv4 Soll May 26, 2008	10376 10376 6, 2008 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	SV5 3376 08-MY10377 Soil 2008 May 26, 2008 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0
Endesulian I Endesulian II	0.05	mg/kg mg/kg	i i	V	< 0.05 < 0.05	0.05
Endosulfan sulphate Endrin	0.05	mg/kg mg/kg			< 0.05	.05
Endrin algehyde Endrin ketone	0.05	mg/kg ma/ka		o s	59.	
9-BHC (Lindane)	0.05	mg/kg	,	0 0	92	.05
neptachlor Heptachlor epoxide	0.05	mg/kg mg/kg		0 0	59 5	05 05
Нехасиютеле	0.05	mg/kg		< 0.05	ما د	177
Methoxychlor	0.05	ттд/кд		< 0.0	2	
Loxophene Dibutvichlorendate (surr.)	0.1	mg/kg	T'	< 0.1		
Tetrachloro-m-xylene (surr.)		%		06 6		, it
Chlorinated Hydrocarbons			April 128 min to the Total	1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	(4) (4) (4)	
1.2-Dichlorobenzene	0.2	mg/kg	ż	< 0.2		
.2.3- f rchlorobenzene	0.05	mg/kg	·	< 0.05		
.z.3-letrachlorobenzene	0.05	тд/кд	•	< 0.05		
1.2.3.5-1 etrachlorobenzene	0.05	та/ка		< 0.05		€.

MGT Report No. 227492 Page 13 of 25 5. 61.

Bren Land

COMMENTS:

.

ě.



3 Kingston Town Close, Oakleigh, Victoria 3166. Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166. Australia Telephone: (03) 9564 7055 Farc (03) 9564 7190 Email: mgt@mgtenv.com.au

		ance		9		
Atma Environmental	Client Sample ID		SV3	<b>S</b> /4	9/8 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	Svo
130116	Lab Number		08-MY10375	08-MY10376	08-MY10377	08-MY10378
83 Dover St	Watrix	1-42	Soil	Soil	Soil	Soil
Richmond 3121	Sample Date		May 26, 2008	May 26, 2008	May 26, 2008	May 26, 2008
Shawsis Tyne	LOR	Units				
Total Recoverable Hydrocarbons		and Stock				****
	20	тд/ка	< 20	< 20	< 20	<20
TRH C10-C14 Fraction by GC	50	mg/kg	< 50	< 50	< 50	< 50
TOP CAS Proving by GC	100	mg/kg	< 100	< 100	< 100	× 100
TRH COS-CSA Fraction by GC	100	mg/kg	< 100	< 100	< 100	< 100
Management Hodrocarbons					- 1	y E
Ranzona	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Tolkon a	0.05	mg/kg	< 0.05	\$0.05	< 0.05	< 0.05
- VIEW IN	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Walnut and and and anemy	0.05	me/kg	< 0.05	< 0.05	< 0.05	< 0.05
Wielestungen and Lineral	-	%	38	66	102	75
FRUNDLINGER CAME.	-	230-27	95			
Polycycle Arona Hydrodycas	0.1	ma/kg	,	× 0.1	ì	•
Additional little	10	ma/kg		× 0.1	·	<b>,</b>
Participality (circle)	0.1	markg	L.	< 0.1		•
Name (a) and (a) and (b) and (b) and (c) and (	0.1	mg/kg		< 0.1		
Source of the stat	0.1	i mg/kg	j	< 0.1	39"	i i
Sarte Military and the sarth and	0.1	mg/kg	li i	< 0.1	-1	
Description of the contract of	0.1	mg/kg	Y	< 0.1	1	*
Sanzo (Vifiorenthana	0.1	mg/kg		< 0.1	4	
Chrysque	0.1	mg/kg	∯s.	< 0.1	i	
Dhenz(a h)anthracene	.0.1	mg/kg	é	< 0.1	ï	Y
Fluoranthene	0.1	mg/kg	1	< 0.1		•
FIDERS	0.1	mg/kg	<b>#</b> 3.	< 0.1		
indepolt 2.3-cd ovrane	0.1	mg/kg	į	- 0°1		
Naphthalene	0.1	mg/kg	ì	< 0.1	•	
Phenanthrene	0.1	mg/kg	ì	×0,1		
Syratio	0.1	mg/kg	,	< 0.1		•
17.515 17.115 P.A.H.	0.1	mg/kg		< 0.1	•	
Thysana-d19 (surr)	-	%	-	121		-
2-Fluorobiphenyl (surr.)	4	%	1	<b>2</b> 2	•	
COMMENTS:				MGT Re	MGT Fleport No. 227492 Page 12 of 25	
					) }	

تنسفا



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au

	Client Sample ID		<b>1</b> /6	TV10	SV1	SV2
	Lab Number				08-MY10373	08-MY10374
	Matrix			Soil	Soil	Soil
	Sample Date				May 26, 2008	May 26, 2008
Analysish presidence and active second secon	LOR	Units	があいない。 では、 では、 が、 は、 が、 は、 が、 は、 が、 は、 が、 は、 に、 に、 に、 に、 に、 に、 に、 に、 に、 に	· · · · · · · · · · · · · · · · · · ·		
Nickel	5	mg/kg		1	1	د ئ
Zinc	5	mg/kg	í	1	1.	5.3
Heavy Metals & value and the second of the s				tien mannetinker ogstik	Control of the second s	
Mercury	0.1	mg/kg	·f	***************************************		< 0.1
Molybdenum	10	mg/kg		-	•	< 10
Selentum	2	mg/kg		- 1	,	< 2
Silver	5	mg/kg	11.	1		<5
Tin	10	mg/kg	i		f	< 10

MGT Report No. 227492 Page 11 of 25 Ŗ£

100 marks

Marian State

Mark Symposium Co.

COMMENTS:

Mary Constant



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephona: (03) 9564 7055 Fac (03) 9564 7190 Email: mgf@mgfenv.com.au

Afma Environmental	Client Sample ID		179	17/10	FAS LAS	SV2
						Section of the sectio
Unit 6	Lab Number		08-MY10371	08-MV10372	08-MY10373	08-MY10374
83 Dover St	Matrix		Soil	Soil	Soil	Soil
Richmond 3127	Sample Date	THEN.	May 25, 2008	May 26, 2008	May 26, 2008	May 25, 2008
Analysis with the state of the	LOR	Units		A STATE OF THE STA	and the state of t	
Chlorobanzene	0.05	бу/бш	4		*	< 0.05
Chloroform	0.05	mg/kg	,	*	ì	< 0.05
Chloromethane	0.05	mg/kg	,	.1	•	< 0.05
cis-1.2-Dichloraethene	0.05	mg/kg	*		*	< 0.05
cis-1.3. Dichloropropere.	0.05	mg/kg	5	ř	~~~~	< 0.05
Dibromochloromethane	0.05	mg/kg	+		l-	< 0.05
Dibromomethane	0.05	mg/kg	1			< 0.05
lodomethane	0.05	mg/kg		1	•	< 0.05
Wethylene chloride	0.05	та/ка	1 			< 0.05
Tetrachioroethene	0.05	mg/kg		,	ı	< 0.05
frans-1,2-Dichloroethena	0.05	mg/kg			-	< 0.05
Irans-1.3-Dichloropropane	0.05	mg/kg	1	ı	ı	< 0.05
Trichioroethene	0.05	mg/kg	i,	•	•	< 0.05
Trichlorofluoromethane	0.05	mg/kg	•	•	1	< 0.05
Vinyl chloride	0.05	mg/kg		1	*	< 0.05
Fluorobenzene (sur.)		%	l.	*	•••••	102
Volatile Organics				7		
Sylene	0.05	gy/gm	1	•		< 0.05
		diffe				
% Woisture	0.1	%	7.7	10	5.9	5.5
Chromium (hexavaient)		mg/kg			•	<b>Y</b>
Cyanide (total)	ហ	mg/kg		,	-1	۸5
Fluoride	100	mg/kg	1	1	•	< 100
Heavy Metals (7)			A CONTRACTOR OF THE PARTY OF TH			N. S. S. S. S. S. S. S. S. S. S. S. S. S.
ASSING	N	mg/kg		1	1	× 2
Cadmium	0.5	mg/kg		1	†	< 0.5
Chromium	വ	mg/kg	j j	. j	,	. <5
Copper	ī,	mg/kg	-	,	,	v Si
pee	r)	mg/kg	*	1	<b>*</b>	v V

MGT Report No. 227492 Page 10 of 25

u ..

医二

ريا

ندقا

لد 🌡

التيقأ



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7065 Factoria (03) 9564 7190 Email: mgt@mgtenv.com.au

			•			
Atma Environmental	Client Sample ID		779	<b>171</b>	<b>SV1</b>	SVZ
Unit 6	Lab Number		08-MY10371	0372	08-MY10373	08-MY10374
83 Dover St	Matrix		Soil	ŀ	Soil	Soil
Richmond 3121	Sample Date		May 26, 2008	26, 2008	May 26, 2008	May 26, 2008
AnalysisType	LOR	Units			War office of the section of	
2-Nitrophenol	0.5	mg/kg	*	*	·F	< 0.5
2.4-Dichlorophenol	0.1	mg/kg	-1		•	< 0.1
2.4-Dimethylphenol	0.1	mg/kg	1		ą.	< 0.1
2.4.6-Trichlorophenol	0.1	mg/kg				< 0.1
2.6-Dichlorophenol	0.1	mg/kg		,	,	< 0.1
3&4-Methylphenol (m&p-Cresol)	0.2	mg/kg	1		τ	< 0.2
4-Chloro-3-methylphenol	0.1	mg/kg	1	-	*	< 0.1
Pentachlorophenol	6.0	mg/kg	1		7	< 0.5
Рћепо	0.1	mg/kg	٠		(	< 0.1
Phenol-d6 (surr.)	+	%	1		•	113
Halogenated Volatile Organics of the second	A section of the sect					
1.1-Dichloroethane	0.05	tmg/kg	1			< 0.05
1.1-Dichloroethene	0.05	mg/kg	1		7	< 0.05
1.1.1-Trichloroethane	0.05	mgÆg	1		1	< 0.05
1.1.1.2-Tetrachloroethane	0.05	mg/kg		f	1	< 0,05
1.1.2-Trichloroethane	0.05	mg/kg	ì	1		< 0.05
1.1.2.2-Tetrachloroethane	0.05	mg/kg	•	1	ŀ	< 0.05
1.2-Dibromoethane	0.05	mg/kg	1	,		< 0.05
1.2-Dichlorobenzene	0.05	mg/kg	. 1		1	< 0.05
1.2-Dichloroethane	0.05	mg/kg	•		,	< 0.05
1.2-Dichloropropane	0.05	mg/kg	,3	,	i	< 0.05
1.2.3-Trichloropropane	0.05	mg/kg	·	í	,	< 0.05
1.3-Dichlarabenzene	0.05	mg/kg	1	1		< 0.05
1.3-Dichloropropane	0.05	mg/kg	1		ï	< 0.05
1.4-Dichiorobenzene	0.05	mg/kg	. *	1		< 0.05
Bromodichloromethane	0.05	mg/kg	*	,	ŧ	< 0.05
Bromoform	0.05	mg/kg	*	•		< 0.05
Bromornethane	0.05	mg/kg	¥		1	< 0.05
Carbon letrachloride	0.05	mg/kg	<b>.</b>	E	,	< 0.05
	*				ا	

MGT Report No. 227492 Page 9 of 25 **B** (100)

**6**9000000

NAME OF STREET

関心を必須

Francisco de la constante de l

Section works

Series series

Secretary Secretary

En one

Carrier State

i E Z



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Felephone: (03) 9564 7190 Far: (03) 9564 7190 Email: mgt@mgtenv:com.au

	Ciont Cample II	. 100	TVB.	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SVI	SV2
Aima Environmenta					35	And the second s
units	Lab Number		08-MY10371	08-MY10372	08-MY10373	08-MY10374
ES Dover St	Matrix	<b>1.</b>	Soil	Soil		Soil
Richmond 3121	Sample Date		May 26, 2008	May 26, 2008		May 26, 2003
Analysis Total Control of the Contro	LOR	Units				
1.2.4-Trichlorobenzene	0.05	mg/kg	,	. •	4	< 0.05
1.2.4.5-Tetrachlorobenzene	0.05	та/ка	4.			< 0.05
1.3-Dichlorobenzene	0.2	mg/kg		1	1	< 0.2
1.3.5-Trichlorobenzene	0.05	mg/kg	,	1	1	< 0.05
1.4 Dichlorobenzene	0.2	mg/kg		4	Ţ	< 0.2
Benzal chloride	0.05	mg/kg	,	•	*	< 0.05
Benzotrichloride	0.05	mg/kg	+	*	Î	< 0.05
Benzyi chloride	0.2	mg/kg	3	f	į	< 0.2
Hexachlorobenzene	0.05	теу/ка	,	1		< 0.05
Hexachioroutaciene	0.05	mg/kg			•	< 0.05
Hexachlorocyclopentagene	0.05	те/ке			j	< 0.05
Hexachloroethane	0.05	mg/kg	*		Į-	< 0.05
Pentachlorobenzene	0.05	тпд/ка	•	*	1	< 0.05
Diouvichiorendate (surr.)	-	%	•		,	97
Tetrachloro-m-kylene (sur.)	1	%	1	1.		100
Polychlorinated Biphenyls						
1	0.1	mg/kg	4	_	1	< 0.1
Araclor-1221	0.1	mg/kg	*	1	1	< 0.1
Araclor-1232	1.0	mg/kg	•	ĭ	•	< 0.1
Aroclor-1242	0.1	mg/kg	•	1		< 0.1
Arocior-1248	6.1	mg/kg		ŧ.	-1	× 0.1
Aroclor-1254	0.1	mg/kg.		,	1	< 0.1
Aroclor-1260	0.1	™g/kg	ì	•		< 0.1
Total PCB	-	mg/kg	1	*		7
Dibutylchiorendate (surr.)		%	1	•	-	97
Tetrachioro-m-xylene (sur.)	-	%	1	<b>\$</b> -	·······	100
Phenois and the second of the		entition.				
2-Chlorophenol	0.1	mg/kg	•	•		< 0.1
2-Methyphenol (o-Cresol)	0.1	mg/kg	· ·		1	× 0.1
		,.				200

COMMENTS:

MGT Feport No. 227492 Page 8 of 25

67

<u>.</u>

Ľ,

1000

i....i



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3165, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au

Atma Environmental						
	Cilent Sample ID			TV10	SV1	SV2
Unit 6	ST NICHTON	and the second s	The second of th	X 12		
83 Dover St	Man Number		08-MY10371	08-MY10372	08-MY10373	08-MY10374
Richmond 3121	Matrix		Soil	Soil	Sail	Soil
the second secon	Sample Date		May 26, 2008	May 26, 2008	May 26, 2008	May 26 2008
Alialysis Lypey	LOR	Units	A THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS N	A Company of the Comp		May 20, 2000
Organochiorine Pesticides 製作品 化二氯甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基		THE PARTY OF THE P				And the second s
4.4°.DDD	700	4		が 2000年2000年 - 100mm (東海でき	10 0 10 10 10 10 10 10 10 10 10 10 10 10	
4.4'-DDE	20.0	mg/kg		,	•	< 0.05
4.4.507	0.05	тд/кд	₹ <b>a</b>	ř		< 0.05
Cuta.	0.05	mg/kg	,	i.		< 0.05
a-u-i-	0.05	mg/kg	1			20.07
Alui!)	0.05	mg/kg		į	,	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
U-5HC	0.05	ma/ka				CONO
Chlordane	0.1	malka				< 0.05
CH8-P	50.0	Surg		,	1	< 0.1
Dieldrin	200	HIGHE	*	,	,	< 0.05
Endosulfan 1	0.00	mg/kg		ŋ	ı	< 0.05
Endosultan II	¢0'0	mg/kg	•	. •	1	< 0.05
Thologistan cultiplets	0.05	mg/kg	•	•		< 0.05
רויסטטומון מחוקומות	0.05	mg/kg				0.00
בתמווו	0.05	ma/ka	-			CU:0 >
Endrin aldehyde	0.05	malka				<0.0>
Endrin ketone	50.0	Su/Ser		1	3	< 0.05
g-BHC (Lindane)	2000	ing/mg	•	.=		< 0.05
Heptachior	0.03	mg/kg.	•		•	< 0.05
Heptachlor epoxide	COO	mg/kg	,	,	•	< 0.05
Hexachlorobenzene	0.00	mg/kg			,	< 0.05
Methoxychlor	50.0	mg/kg	•	•	a.	< 0.05
Тохорнепе	0.00	ттд/кд	•	-	4	< 0.05
Dibutylchlorendate (surr.)	1.0	mg/kg		*		< 0.1
Tetrachloro-m-xviene (surr.)	-	%			•	97
The second secon		%		ŧ.		100
1 2-Dichlorden and	· · · · · · · · · · · · · · · · · · ·	And the state of the state of the state of	E Commence of the Control of the Con	我是一个人一个一个一个	其 清 三二十四年 子養五	一年 人名英格兰 医神经
1 0 4 Trichlorohaman	0.2	mg/kg	•	1		< 0.2
1 2 2 4 Table 1	0.05	mg/kg	,			< 0.05
1.c.3.4-i etrachlorobenzene	0.05	mg/kg				20.07
1.2.3.5-Tetrachlorobenzene	0.05	mo/ka				50.0 >
	-	n h	ŗ	ı.	,	< 0.05
			•			•

MGT Report No. 227492 Page 7 of 25 ł2...

(4

6

1

ر الما

1

F ...

الق

G.

(ii)....

COMMENTS;



3 Kingston Town Close, Oakleigh, Victoria 3166. Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166. Australia Flephone: (03) 9564 7055 Fact (03) 9564 7190 Email: mgl@mgfenv.com.au

Atma Environmental	Client Sample ID	11375-201	6VT	TV10	SV1	SV2
the second secon	1 ob Bismbor		GR-MV10371	08-MY10372	08-MY10373	08-MY10374
Unit 5	Lab Nulliue		100	Soil	Soil	Soil
83 Dover St	Matrix	, I	3016	2000	May 26 2008	May 25 2888
Richmond 3121	Sample Date	ı	May 26, 2008	May Zo, Zuco	ואומא כמי ייימטים	, , , , , , , , , , , , , , , , , , ,
Carl Carl	LOR	Units				
Castaly 2020 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		and dept.				
Signis	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C9 Fraction by GC	50	тла/ка	< 50	05 ×	< 50	< 50
TRH C10-C14 Fraction by GC	100	mo/kn	< 100	× 100	> 100	< 100
TRH C15-C28 Fraction by GC	200	D. J. D. L.	100	< 100	< 100	< 100
	001	B)	1			
Monoeyclic Aromatic Hydrocarbons				Ĭ	< 0.05	< 0.05
Benzene	0.05	mg/Kg	A U.03	2000	50.07	< 0.05
Tolitene	0.05	mg/kg	cn:0 >	20,00	2000	70 05
Filwihanzane	0.05	mg/kg	< 0.05	< 0.05	CU.U.S	20.0
1 LL 1 2 LL L L L L L L L L L L L L L L	0.05	mg/kg	< 0.05	< 0.05	< 0.05	C0.0 >
Xytenes(offho.meta arto para)	-	%	108	104	86	102
				20 20 20 20	The state of the s	
matic Hydrocarbons				7		< 0.1
Acenaphthene	1.0	fu/fill				× 0.1
Acenaphthylene	0.1	nìg/kg			*	100
Astronome	0.1	mg/kg	,			+ 0
Bantuacene	0.1	mg/kg	•	•		.0.
	0.1	mg/kg	1	Τ,	t.	- n -
מאולת שלוה אותו ב	0.1	та/ка	,	*	t.	< 0.1
Benzo(b)(luoranmene	100	ma/ka			1	< 0.1
Benzo(g.h.)perylene	5 6	By Bu			*	< 0.1
Benzo(k) fluoranthene	7.0	Sw/file				1 × 0.1
Супузете	0.1	mg/kg			1	× 0.1
Dibenz(a.h)anthracene	0.1	mg/kg	,			
Fuoranthene	0.1	mg/kg		*		100
Fluorene	0.1	mg/kg	341			107
todanott o Zodinirana	0.1	mg/kg	1		,	1.0
Transfer of the second	0.1	mg/kg	,		1	V 0.1
inapplication and the second s	F 0	ma/ka	,	1		< 0.1
Phenanthrene		S. S.			ŗ	< 0.1
Pyrene	6.1	Support of the suppor			,	< 0.1
Total PAH	0.7	Ing/kg		*		122
Chrysene-d12 (sur.)	1	/a				112
2-Fluorobiphenyl (surr.)	Υ-	9/	•	***************************************		
				MGTF	MGT Feport No. 227492	
COMMENTAL					Page 6 of 25	

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mglenv.com.au

Atma Environmental						
	Client cample ID		<b>TV</b>	176	7.7	TV8
Unit 6			では、一般の一大のでは、一般の一大のでは、			· · · · · · · · · · · · · · · · · · ·
83 Dover St	Lao Number		08-MY10367	08-MY10368	08-MY10369	08-MY10370
Bichmond 3193	Matrix		Soll	Soil	Soil	Soil
	Sample Date		May 26, 2008	May 26, 2008	May 26, 2008	May 26 2008
		Units	おおりませんのというという		ではるないないのでは、	
Phenois and Andrews (1995) 1995 1995 1995 1995 1995 1995 1995	上の一個の方面を表する	And the second s	The second second	Consideration of the second of the second of		1、1の間間を変える
2-Chlorophenol		malka			0.000	
2.Methylphanol (o-Cresol)	,	2.9-1		20.1	,	.1
2-Nitrophenol	-00	mg/kg		< 0.1		
2.4-Dichlorombenol	0.5	mg/kg	-	< 0.5		
	0.1	тдЛед		< 0.1	p	
7.4-Dinemyphenol	0.1	mg/kg		< 0.1	3.	,
c.+.o-Tilcilopiteroi	0.1	mg/kg		< 0.1	,	
Z-b-Lichildrophenol	0.1	mg/kg		< 0.1		
oog-tweinylphienol (m&p-Cresol)	0.5	mg/kg		< 0.2		
4-Critoro-3-metryiphenol	0.1	mg/kg		< 0.1	1	
Pentachlorophenei	0.5	mg/kg		× 0.5		
Phenoi	1.0	HoAd				1
Phenol-d6 (sur.)	5	ing/ng	•	< 0.1		-
このことには、これには、これには、これには、これには、これには、これには、これには、これ	-	١		105	.,•	•
: [ .			不 のでは のでは ないかいきんしゅ	The state of the s	A CHARACTER	
arnisini ez	0.1	%	3.8	2.8	er, er,	8/
					200	4.0
			20 20 20 20 20 20 20 20 20 20 20 20 20 2			
					****	
	7			-		_

MGT Report No. 227492 Page 5 of 25 ļ# -

Li.

ز ز ﷺ

<u>.</u>

نين



3 Kingston Town Glose, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Farc (03) 9564 7190 Email: mgt@mgtenv.com.au

	40		177/5	ITV6	TV7	TV8
Atina Environmental	Client Sample ID	ten (The				
The state of the s	1 ah Number		08-MY10357	08-MY10368	08-MY10369	08-MY10370
Chaire	Allatriv		Soil	Soil	Sail	Soil
83 bover St	Sample Date		May 26, 2008	May 26, 2008	May 26, 2008	May 26, 2008
עוכוונוווער פויכן	101	Units				
		ioin.	22.00			
arbons	20	md/ka	< 20	< 20	< 20	× 20
TRH C6-C8 Fraction by GC	50	marka	× 50	< 50	> 50	< 50
TRH C10-C14 Fraction by GC	3 5	TO ACC	100	× 100	100	> 100
TRH C15-C28 Fraction by GC	nai	Barbin	0017	< 100	> 100	× 100
- 1	001	fly/fitt				
Monocyclic Aromatic Hydrocarbons		101	70.05	< 0.05	< 0.05	< 0.05
Benzene	0.05	ING/AU.	20.05	Z 0 05	< 0.05	< 0.05
91910	0.05	mg/kg	20.0 4	30 0	× 0.05	× 0.65
Effytherzene	0.05	тд/кд	CU.U.>	30.0	> 0.05	< 0.05
Card Contract Annual Contract	0.05	mg/kg	cn.u.>	00.0 ×	22.5	201
Ayerestorine and paray	-	%	7.8	105	115	
			4			
mane rygrocardons	10	тпа/ка	4	< 0.1	-	
Acenaphinene	0.1	ma/ka		<0.1	,	
Acenaphthylens	-	ma/kn	,	< 0.1	•	•
Anthracene	0.0	TO/ko	,	. < 0.1		•
Benz(a)anihracena	0.1	S. Pari	,	< 0,1	,	
Benzo(a)pyrene	0.1	Su/Siri		-07		,
Benzo(b)fluoranthene	0.1	Dy/g(L		100		
Senzo(g.h.l)penylene	0.1	mg/kg		100		
Benzolkhluorantherie	0.1	mg/kg	-	*6		
Carysere	0.1	mg/kg	•	700	·	ì
Dibenzija It)anthracene	0.1	mg/kg	E L	0.0		F
Fluoranthene	0.1	mg/kg		10/0	-	
Fluorene	0.1	mg/kg	•	100		,
Indeno(1,2,3-cd)pyrene	0.1	mg/kg	1	107		
Naphthalene	0.1	mg/kg		V 0.1	j	. 1
Daoanthrana	0.1	mg/kg	,	< 0.1		
Deray	0.1	mg/kg	,	< 0.1	-	
Total DAL	0.1	mg/kg	,	< 0.1	1	
1.0(a) 1.751 [Pirander 4.640 Person]	-	%	٠	66	'	
Z.Fluorobibenyl (sur.)	_	%	f	F.	ì	
				a FOA	opert No. 997492	
COMMENTS:					Page 4 of 25	



3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (103) 9564 7055 Fax: (103) 9564 7190 Email: mgt@mgtenv.com.au

A trace Erestant and a feet						
	Client Sample ID		TWI TO A STATE OF	TV2		TVA
Unit 6						1000年
83 Dover St	Lab Number		08-MY10363	08-MY10364	08-MY10365	08-MY10366
Richmond 3121	Matrix		Soil	Soil	Soil	Soil
	Sample Date		May 26, 2008	May 26, 2008	26 2008	16 20 20 00 00 00 00 00 00 00 00 00 00 00
Analysis, I ype for some property of the solution of the solut	が記述 COR Separate	TO SERVICE THE PROPERTY OF THE PERSON NAMED IN COLUMN TWO IN COLUMN TO SERVICE THE PERSON NAMED IN COLUMN TWO IN COLUMN TO SERVICE THE PERSON NAMED IN COLUMN TWO IN COLUM	前を京都をからからかる 歌	19 10 mm 1 mm 1 mm 1 mm 1 mm 1 mm 1 mm 1	may Lu, Luud	Mdy 20, 2008
不公子有可看是原於公司各行子以行為就是成不行以問題時代公院在各位所以的機能是於機能是所機能						A TO THE ABOVE THE REAL PROPERTY AND THE PAR
			4	The second secon		The second secon
2-Methylphenol (o-Cresoil)		rng/kg	< 0.1	<b>*</b>	i g	,
	0.1	mg/kg	< 0.1	1	1	
2.4-Dichlorophagai	0.5	mg/kg	< 0.5	1	4	
2 A Divertible	0.1	тд/кд	< 0.1			
2.4-Unitetriyiphenol	0.1	тд/кд	< 0.1			1 4
2.4.0-1 Icrioraphenel	0.1	mg/kg	< 0.1	'4		
Z.b-Dichlorophenol	0.1	mg/kg	< 0.1			
3&4-Methylphenol (m&p-Cresol)	0.2	ma/ka	- 607			
4-Chloro-3-methylphenol	0.1	modka	10.4			P
Pentachlorophenol	0.5	Sylva.	7.0		•	
Phenol	7	By /Bill				,
Phenol-d6 (surr.)		mg/kg		,	,	•
The state of the s	-	%	112	,		
· 克勒斯斯斯· 不得 不可以使用的人员有多数的复数形式 医甲状腺 电线线 解析的 医水素溶液 医乳状状态 医阴茎 医三氯苯甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基	THE REPORT OF THE PARTY OF THE	前の直接の場合のして あ	The land of the second of the second of	Same of the state	The second of th	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
% Moisture	1	70	0.7		The state of the s	これに 神経病の とような
		9/	5.4	4.2	2.9	4.2
			•			
						ale attai
						<del>((2</del>
				-		
	···········					
		- <del> </del>	,			
CT: ATENA						

MGT Report No. 227492 Page 3 of 25

度 1 证:

E −

زيا

لقا

ات تقا

لييا



Environmental Consulting Pty. Ltd.

Skingston Town Close, Oakleigh, Victora 3166, Australia
Postal address: P. O. Box 276, Oakleigh, Victora 3166, Australia
Postal address: P. O. Box 276, Oakleigh, Victora 3169, Australia
Fact (03) 9564 7195
Fact (03) 9564 7195
Email: mgti@mgtenv.com.au

	Client Sample ID		TV1	172	TV3	<b>TV</b> 4
Atma Environmental			Cooking to	75001711 00	08.MY16365	08-MY10356
Units	Lab Number		U8-MI 10363	-0001 1W-001	2001	Coil
83 Doyer St	Matrix		Soil	Soil	3000	May 26 2008
Richmond 3121	Sample Date		May 26, 2008	May 26, 2008	מומא לסי כחתם	and the second
	LOR	Units				
Analysis: yes						
Total/Recoverable/Hydrocarbons	000	ma/ka	× 20	< 20	< 20	< 20
TRH C6-C9 Fraction by GC	2	ma/kn	× 50	< 50	< 50	< 50
TRH C10-C14 Fraction by GC	3	n sayour	< 100	< 100	< 100	< 100
TRH C15-C28 Fraction by GC	70.5	Swigting Collection	7.100	< 100	v 199	< 100
TRH C29-C36 Fraction by GC	100	- Burfinu	2017			
Monocyclic Aromatic Hydrocarbons		100 CA	7.0.05	< 0.05	< 0.05	< 0.05
Benzene	0.02	ENDIN	7 6 05	< 0.05	< 0.05	< 0.05
Toluene	50.0	- Bw/bill	50.0	7 0 05	< 0.05	< 0.05
Ethylbenzene	0.05	เกิดู/หฐ	× 0.05	< 0.05	< 0.05	< 0.05
Xylenes(ortho,meta and para)	CD:0	Fu/fill	08	OB .	117	87
Figorobenzene (surr.)	-	%	200	3		
Polycyclic Aromatic Hydrocarbons		2494			,	1
Acenanthene	0.1	mg/kg	- NO V			-
thomanathylone	0.1	mg/kg	< 0.1	,		
Archington	0.1	mg/kg	< 0.1	,	5	
	0.1	тд/кд	< 0.1	,	,	
Derickalanter	0.1	mg/kg	< 0.1	,	ì	
Benzola)pyrene	0.1	mg/kg	< 0.1	•		1
Benzo(b)fluoranthene	10	ma/ka	< 0.1	,	,	,
Benzo(g.h.i)perylene	- r	חימיולים	< 0.1		.1	,
Benzo(k)fluoranthene	1.0	Su/Su	201			,
Carysene	0.1	EN PLIT	10,			
Dibenz(ah)amtiracene	0.1	EW/NEI	, c	,	,	•
Fluoranthene	0.3	ga/giii	1.0 0		-	,
Fluorene	0.1	By/Bill	- 6 /	-		
Indeno(1,2,3-cd)pyrene	0.1	ซีฟ/ชีเม	500			
Naphthalene	0.1	By/6m	7			
Phenanthrene	0.1	mg/kg	< 0.1			_
Pyrene	0.1	тд/кд	< 0.1			1
Total total	0.1	mg/kg	< 0.1	•		
Decision of States		%	106	,		
Chaystic dist. (sur.). 2-Fluorbiohenvi (sur.).	,	%	74	•	•	1

MGT Feport No. 227492 Page 2 of 25



# Environmental Consulting Pty. Ltd.

3 Kingston Town Close, Oakleigh, Victoria 3166, Australia Postal address: P. O. Box 276, Oakleigh, Victoria 3166, Australia Telephone: (03) 9564 7055 Fax: (03) 9564 7190 Email: mgt@mgtenv.com.au

# CERTIFICATE OF ANALYSIS

Atma Environmental Unit 6 83 Dover St Richmond 3121

**Site: 541-CLAYTON WEST** 

Report Number: 227492 Page 1 of 25

Order Number:

Date Received: May 27, 2008 Date Sampled: May 26, 2008 Date Reported: May 29, 2008 Contact: Flynn Clarke

### Methods

- USEPA 8260B, MGT 350A Halogenated Volatile Organics
- **USEPA 8270C Phenols**
- USEPA 6010B Heavy Metals & USEPA 7470/71

- Mercury

  USEPA 8082 Polychlorinated Biphenyls

  USEPA 8121 Chlorinated Hydrocarbons

  USEPA 8081A Organochlorine Pesticides

  USEPA 8270C Polycyclic Aromatic Hydrocarbons

  USEPA 8260B MGT 350A Monocyclic Aromatic Hydrocarbons MGT100A-GC Total Recoverable Hydrocarbons
- USEPA 9010B Cyanide

- Method 102 ANZECC % Moisture
   APHA 3500-Cr Hexavalent Chromium-(Extraction:- USEPA3060)
- USEPA 8260B MGT 350A Volatile Organics by GCMS

e a

NEPM 404 (Fusion followed by ISE)

### Comments

# **Notes**

- 1. The results in this report supersede any previously corresponded results.

- All Soil Results are reported on a dry basis.
   Samples are analysed on an as received basis.
   LOR's are matrix dependent. Stated LOR's may be raised where sample extracts are diluted due to interferences. ABBREVIATIONS
- mg/kg: milligrams per kilograms, mg/L: milligrams per litre, ppm: parts per million,
- LOR: Limit of Reporting
- RPD : Relative Percent Difference CRM : Certified Reference Material LCS: Laboratory Control Sample

Authorised

Report Number: 227492

Michael Wright Laboratory Manager NATA Signatory

Rhonda Chouman NATA Signatory

Orlando Scalzo Chief Organic Chemist NATA Signatory

Tammy Lakeland Chief Inorganic Chemist



NATA Accredited Laboratory Number 1201
The tests, elibrations or measurements covered by this document have been performed in accordance with NATA requirements which include the requirements of ISO/IEC 17025 and are traceable to national standards of measurement. This document shall not be reproduced, except in full.





NOTE:

# Validation Log Sheet



CLIENT: Shorley Minayer ent sovices

JOB TITLE: CLAYTON WEST

JOB NUMBER: 541 DATE: 26/5/08

LOGGED BY:

INSTRUMENT TYPE: O VA

CALIBRATION STATUS:

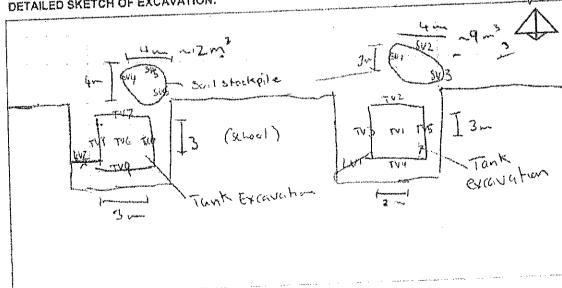
FIELD LOGBOOK REFERENCE:

Page | of /

ocation No.	Depth	Field Rank	PID Hspace	Sample ID	Soil Type	Duplicate details, tank sizes, fate of soil, other details.
(Sketch)	(m)	(0-3)	(ppm)	(1)		1818 Of SON, United Columns of the Column of
TV I	04	O,	0	·	Sayld	manage and the second s
TVZ			Ŏ			- Conference and Conf
TV3			6 1			process as well "become grade region" and a property specific for the second specific for the second specific and a second specific for the second spe
*****************************		<del>                                     </del>	0	Control of the Contro		The state of the s
TUH			0			The state of the s
1V.S	<del></del>		0	بالمجاملية ويجرون واستند وميميكا واحواليا ووراد وكالمسب		the state of the s
74.6			0	Andrew Constitute States on the State Constitute States on the States of States on the States of States on the Sta	Carrier	And the state of t
tv 7				pages describes palaciette en els 2140 years als terri		Respond the
TVK		, personal p	18	ى دىدەردى دورۇپ ئاسىيىلى ئەربىيە دورۇپ ئاسىيىلى دورۇپ ئىلىنى دۇرۇپ ئاسىيىلى ئاسىيىلى ئاسىيىلى ئاسىيىلى بىلىنىڭ ئاسىيىلى ئاسىيىلى ئاسىيىلى ئاسىيىلى ئاسىيىلى ئاسىيىلى ئاسىيىلى ئاسىيىلى ئاسىيىلى ئاسىيىلى ئاسىيىلى ئاسىيىلى ئى		And have a gip-th fight from the Augustus and Fig. 70-1 pages of the field of
tv a			10	·		300
7V 10	W.		0			XV2-266564
SU I	014		0	i ganada ay	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
31 /			0	A STATE OF THE PARTY OF THE PAR	Selja Sukan Kusika kuan markata 🗝	وه المرابعة والم
SV 3			A Company of the comp	consecções de Lond Dynamero Menores de Conse		SPUT-260508
SVY			0			The state of the s
5 V S			C	or and 1338/333990 to take to continuous grassid season	ox colors and an incident and a second and a	and the second of the second o
			8		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	23 mg - 12 mg
SV6 LVI	0.1		0	40.10.10	and the state of t	2 Story and the story of the st
LV2	0.1	4	0	133,400		the state of the s
	- المساعدات الم			The highest agreement that I will be the agreement		Market and the second s
<del>Committee of the Commi</del>			- Harden average of the control of t		·	The state of the s
				1		The state of the s

(1) Sample number for laboratory analysis (from COC)

# DETAILED SKETCH OF EXCAVATION:



Complete scale and north orientation. If a number of sub-areas exist attach scale, sketches, details and refer to site plan

SCALE:

Atma Environmental

Table 1. Analytical Summary - Softs PROJECT: Clayton West UST (# 541)
Laboratory Report No; 227492
Page 1 of (

semi-Yol CHCs (sum) 8 2 g 2 V V GN GN Ž. 'n Ę £ Ñ S EZ GZ Ę (வஈ) உ\_\_\_\_ Z 2 2 Ę ç Š CN CN QN 001> 8 8 8 8 8 2 2 B 9 9 ş - TG0 Long Cure | Cases | The Muldown .<1GD <50 < 100 < 100 8 001 00) ¥ €100 띪 100 <100 001> 001× 8 <50 <100 A100 밁 . | 031 × 0012 ν 100 001> 901× CS0 <160 > 100 , SS <100 001× (822-512) 1232 80 8 ₽ E V 8 \$ 5 ₹30 (FIR (CINCIN) 8 Ŷ ₹ 8 ₹ ę 8 8 8 ₽ 25 ğ 87 ð ₽ Ş 8 8 8 8 (4%) onf. ι. ... 2 (AZ) n?] 2 <u>و</u> v ٧ ٧ Å 다 ₽ Construction of the Constr ξ .a. 0.1 (FJE) Amaray 7 (44) bro. ٧ \* 100 Ÿ ⊽' v ٧ 2.6 90.5 50.5 (ഉട്ട) യന്യയുടു ٧ Ą mgt 26-May-08 Fig e e mgr 26-May-08 Fig. FI FIR Z6-May-08 Pig æ сиус 26-Мау-08 Кק тус 26-Мау-08 Fill ngt 26-May-08 Ph 쀮 mgt 26-May-08 трт 26-Мау-08 трт 26-Мау-08 год: 26-Мау-08 26-M2y-08 26-May-08 Z6-Map-03 те 26-Миу-03 26-May-08 26-May-08 th G H WE SYE TVS 7V9 7V10 5V2 5V2 5V3 E 77. 똢 TV5 575

2000N

لناية

A - Pren NSW 2014 1994 "Calakdison fin Assaching Service Solices Silves".

P - From Dates 1915 Geleva for Joseph Service Solices Silves".

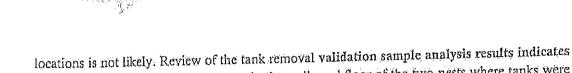
An anceste Not Available to Note Applicable;

ECL menin Enterwise Level for Solices Understrated for Dates Nilles - where no Prenormien E-L' grea.

Bolded arrule nazzed ericens. All tothe are in mg/kgundest orknesjne stotak

.: 1007

29 May 2008



that no soil contamination is present in the walls and floor of the two nests where tanks were removed. The analytical results are summarised on the attached Table 1.

Kind regards, ATMA ENVIRONMENTAL PTY LTD

Flynn Clarke

Atma Enviroginjental

Environmental Consultant

# Attachments

- Table 1 Soil Analytical Summary
- Validation Log Sheet
- COC & mgt Environmental P/L Report #219631

### Distribution

South Improvement Alliance (1 pdf copy) Atma Environmental file (1 pdf copy)



1

29<sup>th</sup> May 2008 Our Reference: Job 541 Clayton West

Mr. David Kiernan Shanley Management Services

Sent Via Email: dkiernan@smspl.net.au

Dear Mr Kiernan;

# Re.: Tank Removal Validation Letter: Clayton West Primary School, Alvina St, Oakleigh South, Victoria.

On 26<sup>th</sup> May 2008 Atma Environmental collected six soil samples from two soil stockpiles (approximately 12 m³ & 9 m³) located at the above site. SV1 – SV3 were collected from Stockpile A (approximately 12 m³) while SV4 – SV6 were collected from Stockpile B (approximately 9 m³). Sample locations are shown on the attached validation log sheet. The sampled material consisted of tank nest sand and was free of demolition debris and putrescible matter.

The aim of the sampling work was to ascertain the contamination status of this material prior to off site disposal and advice on its potential for re-use on-site.

The sample analysis performed conforms to disposal chemical parameters given by EPA Victoria Information Bulletin 448.3 Classification of Wastes, with one sample from each stockpile analysed for the full suite in above guideline and the other four samples analysed for contaminants of concern (TRH/BTEX). The full report by NATA accredited laboratory mgt Environmental Consulting Pty Ltd (#227492) is attached.

Review of the results indicates this stockpiled material is uncontaminated and is classifiable as Clean Fill (i.e. soil meets Maximum Allowable Levels for Fill), and can be transported off site with no licence requirements. Alternatively the material may be reused on-site. OVA results indicate no volatile organic vapours from the soil samples. The analytical results are summarised on the attached Table 1.

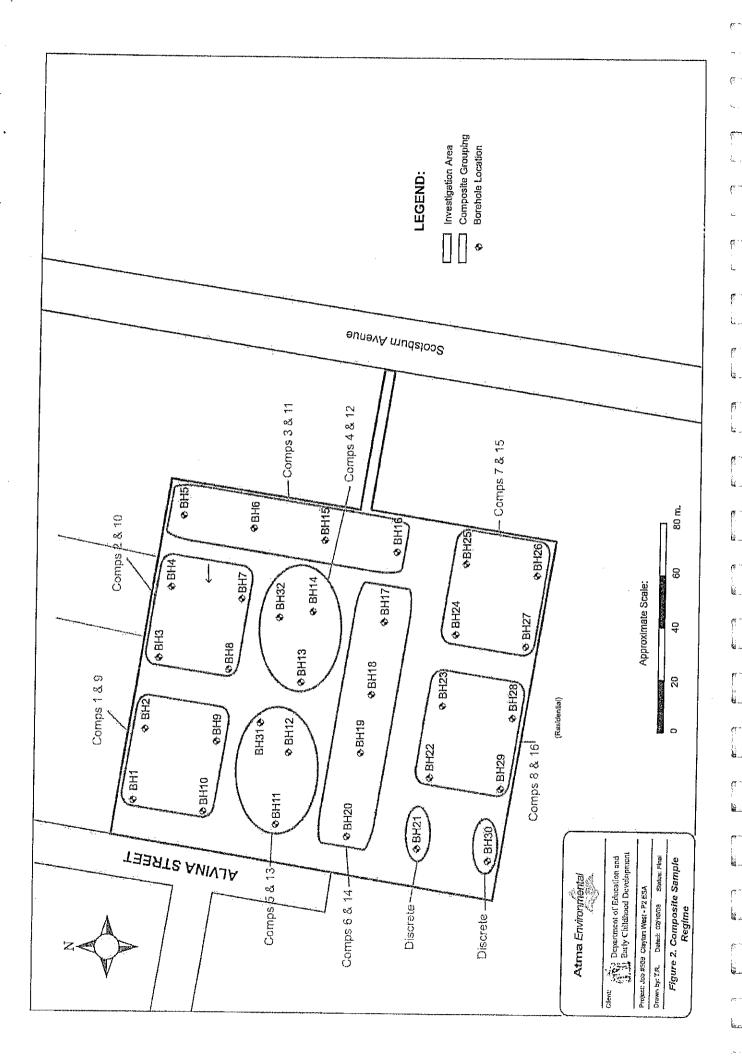
In addition to obtaining soil samples to ascertain the disposal classification of the excavated material, Atma Environmental obtained and tested numerous validation samples from walls and floors of the two tank excavations. The locations of the said samples are indicated on the attached Validation Log Sheet. The tank nest wall validation samples were analysed for TRHs and BTEX, while samples collected from the nest floor were also analysed for PAHs and phenols. Samples were also collected from around the former tank lines at each location; these samples were held at the lab for analysis if required at a later date.

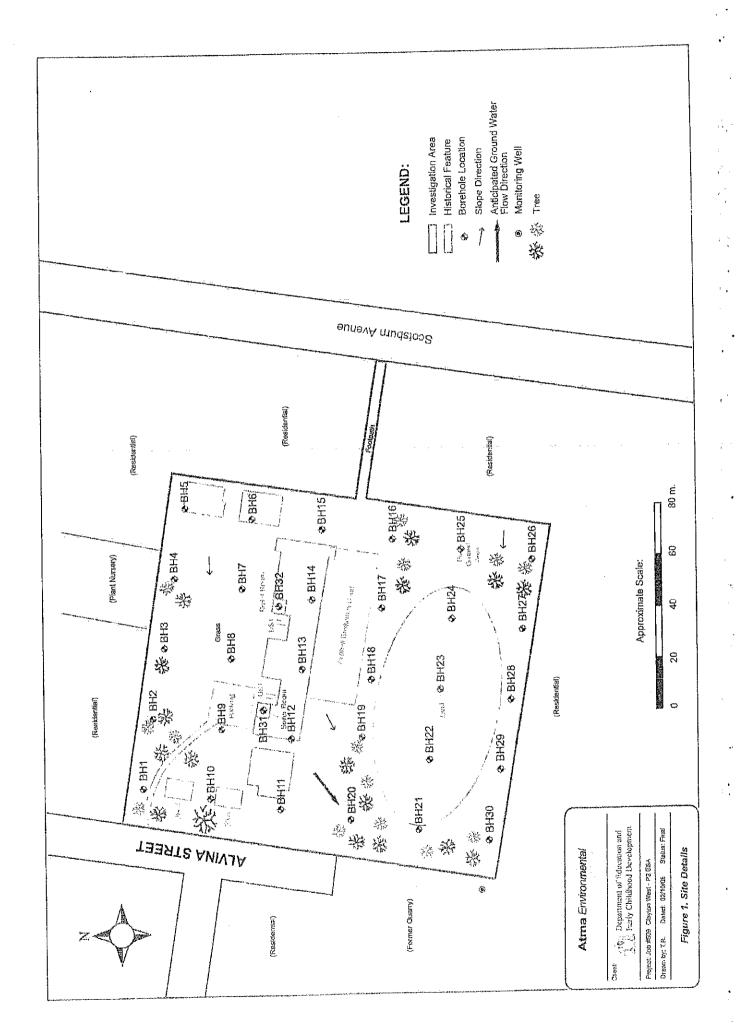
Headspace testing of the soil samples indicated mainly non-detectable results, however, samples TV8 and TV9 returned very low results, indicating the presence of organic vapour at these

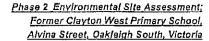


# AUJINUX

<u>Tank Removal Validation Letter</u> (29<sup>th</sup> May 2008)









15th October 2008

errors or omissions in that data, or from factors or data which were not made available to Atma Environmental Pty Ltd or which Atma Environmental Pty Ltd could not ascertain by reasonable inquiry in the ordinary course of its investigation.

Environmental site assessments document property conditions at the time they are conducted. These conditions may change over time. The site assessment has not specifically considered above ground issues such as lead-based paint and asbestos containing building products.

# 8 REFERENCES

Atma Environmental Pty Ltd, "Phase 1 Environmental Site Assessment: Former Clayton West P.S., Alvina Street, Oakleigh South, Victoria", 12th February 2008 [Ref #509].

Atma Environmental Pty Ltd, "Correspondence Re.: Tank Removal Validation Letter: Clayton West Primary School, Alvina St, Oakleigh South, Victoria", 29 May 2008 [Ref #541].

Australian Standard AS 4482.1 - 2005, "Guide to the sampling and investigation of potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds", 2005.

National Environment Protection Council (NEPC), "National Environment Protection (Assessment of Site Contamination) Measure", 1999 [ISBN 0-642-32312-7].

Netherlands Ministry of Housing, Spatial Planning & Environment. "Circular on Target Values & Intervention Values for Soil Remediation", Netherlands, 2000.

New South Wales Environmental Protection Authority, "Guidelines for Assessing Service Station Sites", 1994.

Victoria Government Gazette, "State Environmental Protection Policy (Prevention & Management of Contamination of Land)", No. S 95, June 2002.

Victorian Environmental Protection Authority, "Information Bulletin - Classification of Wastes", EPA Victoria Publication 448.3, May 2007.



15th October 2008

# 6 CONCLUSION & RECOMMENDATIONS

A Phase 2 Environmental Site Assessment (ESA) has been completed at the site located at the former Clayton West Primary School, Victoria for the purpose of determining if contamination above relevant health-based levels for sensitive uses exist at the site on behalf of the Department of Education who is seeking to divest the subject site and rezone the land to 'Residential'.

The Phase 2 site investigation consisted of sampling 30 grid-based and two additional targeted soil sampling locations.

Based on the findings of the soil investigation undertaken at the site, it is concluded that:

- No contaminant concentrations exceeding NEPM 'A' setting HILs for residential use were found on the site;
- No contaminant concentrations exceeding NEPM EILs were found at the site;
- Acidic soil conditions on some areas may affect the growth of some plant types and further geotechnical assessment may be desirable.

On the basis of the analytical work carried out, the site does not (within the specified degree of certainty) contain contaminant levels potentially harmful to human health.

A groundwater investigation is considered not warranted at this point in time as results indicate low to non-detectable levels of contaminants of concern and there were no point sources of contamination identified onsite, with former UST being removed and validated.

# 7 LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

The report consists of the scope of work outlined previously and does not define the extent of any contamination potentially exceeding ecological levels. This report describes the work undertaken and has been compiled for the use of the Department of Education only. Its conclusions are only valid for the purpose for which it was requested.

It is valid only when it is in original form, and any person or company other than the Department of Education who rely on the report without specific reference to and permission from Atma Environmental Pty Ltd does so at their own risk.

While every care has been taken in the compilation of this report, to the extent that its conclusions are based on the analysis of the data made available by your organisation or by a third party, no responsibility or liability is accepted for consequences arising from either

Table 3.1 QA/QC - Equipment Decontamination, Field & Trip Samples (mg/L)

(nZ) oni	< 0.001	< 0.001	< 0.001
(ig) inj	< 0.005	< 0.005	< 0.005
(es) umicaja	< 0.001	< 0.001	< 0.001
Vickel (VI)	< 0.00	< 0.001	< 0.001
Violybdenum (Mo)	< 0.005	< 0.005	
Mercury (Hg)	< 0.0001	< 0.0001	< 0.0001
Lead (Pb)	< 0.001	< 0.001	< 0.001
רַסּאַנּנּ (כַּה)	< 0.001	< 0.001	< 0.001
Cobalt (Co)	< 0.001	< 0.001	< 0.001
Chromium (Cr)	< 0.001	< 0.001	< 0.001
Cadmum (Cd)	< 0.0002	< 0,0002	< 0.0002
Betyllium (Be)	< 0.001	< 0.001	< 0.001
Arsenic (As)	< 0.001	< 0.001	< 0.001
(GS) ynomrin A	< 0.005	< 0.005	< 0.005
Sample Mames'	DECON-300908	FTELD-300908	TRIP-300908
YioisiodeJ	mgt	mgt	mgt
baidme@areO	30-Sep-08	30-Sep-08	30-Sep-08

All results in mg/L, NOTES:

Table 3.2. Soil Sample Relative Percentage Differences (RPDs)

177				*****	L-12-1-1-12-1		
	/ '9€O:6ZD H'\Y.	001 v	> 100	8	> 100	230	128.6
	KH CI2 CS8	v 100	< 100	å	< 100	230	128.6
	1 FH GI0-GIV	× 50	< 50	8	< 50	<50	*0
	60-90 H W J	< 20	< 20	*	< 20.	<10	*
	(uZ) 2π2	15	12	22.2	15	17	12.5
	(из) ид	01 ∨	× 10	*	01 >		
	(ag) winuaja	<2	<2	*0	< 2		
	Vickel ( <u>Vi</u> )	< 5	۸5	*	< 5	4	*0
	Volybdenum (Mo)	er >	< 10	5	× 10		
	Mercury (Hg)	< 0.1	< 0.1	*0	< 0,1	<0.1	ŧ.
	(da) pesy	5.7	< 5	78.0	5.7	\\$	78.0
and the second	Copper (Cu)	8.9	7.4	-18.4	8.9	8	10.7
11 17 11 11	Cobali (Co)	< 5	< 5	*0	<.5		;
Specification of the second	Chromium (Cr)	, S	<.5	*0	< 5	Ø	*0
and the party of the	Cadminm (Cd)	< 0.5	< 0.5	*0	< 0.5		*0
Annual Section 20	Berlinm (Be)	< Z >	< 2	*5	< 2		-:
Sherit chart in	Arseme (As)	< 2	< 2	*0	<2	. <5	*0
San Charles and Charles	(d2) ynominA	< 10	< 10	*0	< 10		
· · · · · · · · · · · · · · · · · · ·	Sample Manuel	BH30/0.1	DUPE-390908		BH30/0.1	SPLITE-300908	
Carried Sections	Laboratory	ngu	mgt		mgt	ALS	
湯 通子の一次	Dalgaras Joseph		30-Sep-08		•	30-Sep-08	

NOTES:

All results in mg/kg.
Where one sample is non-derectable and its paired result is positive, one half the detection limit is used to calculate the RPD.
\* = offectively zero

6



15th October 2008

# 5 QUALITY ASSURANCE

Field replicates including five duplicate (DUPA-301008 - DUPE-301008) and five split samples (SPLITA-301008 - SPLITE-301008) were collected during the soil investigation.

One duplicate sample (DUPE-301008) was submitted to the primary laboratory and one split sample (SPLITE-301008) was submitted to the secondary laboratory for analysis as the required frequency for the number of samples tested. One equipment decontamination rinsate sample (DECON-301008), one field blank sample (FIELD-301008) and one trip blank (TRIP-301008) were also submitted to the primary laboratory and analysed for a heavy metals screen (see Table 3.1 and 3.2 for details).

mgt Environmental Consulting Pty Ltd, a NATA certified laboratory, was the primary laboratory used for the soil sample analysis work. ALS, also NATA certified, was used as the secondary check laboratory.

Results of the primary and duplicate samples are compared against their relative percent differences, or RPDs (the difference in results divided by the mean of the two results x 100). 36 RPD pairs were calculated.

89% of the RPDs between the primary sample and duplicate sample and primary sample and the split sample are in good agreement (i.e. RPDs <50% for inorganics and <70% for organics). Two RPDs for lead were above 50% and two RPD pairs for TRHs were above 70%. These differences are not necessarily indicative of a laboratory error as the results are close to the laboratory detection limits and this exaggerates the difference. The RPDs are shown in Table 3.2.

The DECON, FIELD and TRIP samples returned acceptable (non-detectable) results.

The primary and secondary laboratory's internal QA duplicates had acceptable RPD and spike recovery results. The laboratories also performed "method blanks" on clean matrices and no detectable results were found.

Atma Environmental logged all samples on a Sample Master List as they were collected. In this fashion, any suspected incidence of cross contamination could be tracked down by looking at the order in which samples had been collected.

Table 2. Analytical Summary - Solls
PROPERIORS Wer (#59)
Lebestery Reper New New 215-04, 2015 12
Page 1 of 1

Н	n/a				- N			8,8		-	, i t			i	1	ì		1	T	T				Ī		Ī		T	Ī		Γ	
niphate	2,000		١,					묽	:	1	2 2	7		1	1	<del>-[</del>	-	i		1		-		T	7	T	T	†	7		İ	
(tern) abide(	3	3	1 3	1	3			ĺ	Ī		!	Ī	1	1	1	ì	Ì	Ī	Ī	-	T			T	_		-		1		T	
(Intot) alozat	3	\$	2.53		\$			T	<del></del> -		1	1		Ī	<del></del> -	Ī		-		-		T		T	T		1	T	T	<b>†</b>	T	
benois (non- alogenaied)	al l	<u> </u>				1	Ť			1	į	-	÷	-	-	<del></del>	1	1 5	Ę.	T	<u> </u>	T	-	1	T	<u> </u>	1	-	$\dagger$	$\vdash$	┢	
វិសិចិរារៀន គែរិស្រាម្ពីមួយ ( )		1,4	20.03	005 8				T	1		i	Ť	- <u>-</u>	-	····	-	- <del>}-</del> -	Ş	Q	1		T	T	T	1	<u> </u>	1	T	T	╁	T	
(aunt) 12) (C	7	ž	15.02		77				+	1	. ]	1	- <del></del>	-	<del></del>	Ī	-	S	9		ľ	1	-	T		-	┪	-	1		<del> </del>	
CBs (total)	3	-	,		2			ĺ	!	Ī	i	1	·	- <del>}-</del>	7	-	Ī	Ę	2	T	T		ļ	<u> </u>	T			T			l	
-leptachlor	ä	2	n	2.6	G.	T			1	Ī	j	1	į		1 50		×4.65	A 0.05	40.05	< 0.05	,,,,,,	< 0.05						Ť	T	<u> </u>		
sasbrold.		\$	74	5	7		1		<del></del> -	T	-		!		Ž	Ì	200	Į,		4		40.1	Ī	T							İ	
ODJ.+DDE+DDO	2	\$	21	76	al.				- Indept - Indep -	ĺ	Ī	Ī	-		0.15	İ	İg	18	Q	άŽ		N O	İ		1				1	ľ		
ariblaiC + arrbiA				1 to		1			1	-	į	ĺ	1	-	Q	ĺ	g	S	QN	Z,	1	ě	···	-	Ī	Γ	1			1	-	
(mus) x-ZDO	\$	\$		K		Ī		Ì	- dimension of	-	Life manage of the	Ī	Mr. designation		0.65	/	Į.	6.79	2	g		GN.										
Benza (a) Pyrene	4	-	/4		Maria Caracteristics	1			alkipina.		-	-	-	4	<0.1	i e	13	192	190	ij	4 0.1	< 0.1				<u> </u>	, a.	Γ	13			
(lazoT) zHAY	g/3		•	-8			T	i.	Ī	1		Tan Haran		-	7	10	V 0.1	×0.1	× 0,1	8	< 0.1	4 a i				<u> </u>	7 G.1		F	l		
(mus) vHAM	1/2	-	1	->	7.0		-	Ī		Ī	1	1	2	5			-			-			_		Γ			Ì				
(612-612) T.R.H (C29-C16)	S		•		100	1		Ī		- E	8	903 v	201 v	8	1	-	1									Ī						ی ا
T.R.H (C15-C28)	, d		1	18	- E	2		Ī	-	80 4	8	8 v	B) v	251 v			inter-myst submedie	- Table allows									İ					CHYST TIANS
LEH (CID-CIE)	E/B			5	9	5	3		1	8	9	× 58	125 ×	E v		1	-	÷.	ļ —			-	> section:							150,700		entars eday
T.R.H (C6.C9)	171		·	7,9	g g	5				26 ×	22 4	22.4	22 ~	8	1		-	dissipate			-		-				_					All units ate to my figh enters attendence Trans
(uZ) nmZ	201	•		7,000			Γ	2	32	1	Ī	2			R	R	16	132	46	83	2	4	÷.5	5	8,6	-	2	20	2.5	د5		ale sample are
(ug) v <u>r</u> _	Š	85		3		T	1	9 2	. 2	-	<del></del>	N P	Ī		22	25	2	217	9 V	6.70	2.	ot >	01 >	2	0. ×	2 10	0 4	.e. ∠	2.	- 1fl		•
(a5) amias(s\$	770	Ş	50.35	3				ç	۲ <sub>2</sub>		ļ	42	-	Salles Jennes	<2	×2	22	× 2	V	ç	75	-2	42	<b>c</b> 2	ç	52	<b>42</b>	<2	×2	2.5		
(પ્રાં)	<b>B</b>	•		8				2	Ϋ́			δ.		-		<. 5.	N N	2 2	\$	Ş	4.5	Ý	¥.	S.	ir; V	. v §	7	Ş	, v	ý.		
(ald) munshdylald	7/4	172	101.5	10/8		Ī		≘ v	13,		Ī	2 2			2	2	P	- III	2	N 7	e 10	01 >	2	91 ×	E v	3	01 v	≘ V	01.>	01 ×		ŧ
Mercury (Hg)	-			15				1.8	40.1		eller roogen	×0.1	her in this	-	1 0 v	1°0 ×	7 V	4 0.1	\$ 0°.	₹0°1	< 0.1	< 0.1	¥ 0.3	< 0.1	< 0.1	<0.3	υ 2	-0 F	<0.1	< 0.1°		Net Demo
Мавуалеж (Афт)	200	•	1,	1,500				. Charles	Ī Ā	And the second second	ik.		and and and and		-			12	8													NB organa Not Demoted;
(44) bss.1	609	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		200	1			\$2	=		i	5.7	1		6.3	7.8	6.5	2,2	8.6	14	9.1	٧2	₹2	₽, ¥	57	4.5	2.5	<5>	. 5 >	S. A.		
(იე) ააგგაე	168	* ; • • • •	1.	1,000				3	29			8.5			8.5	=	77	2.5	£	1	7.9	7.8	<b>c</b> 5	. 5.2	r,	< 5	us Y	ξη .Υ	5 -	\$ v		
(oD) (leda)		<b>1/1</b>	124.5	8				4.5	£ 5			5.2	t		2.5	< 5	S.Y	<5	<5	<5	4.5	<.5	¥ 28	<.5	5.2	*	٧.	<.5	<5	V .		
7.0621 Chromium (Cr)		•		12%				< 5	€.		Í	<.5			5.3	<5	6.4	Ş	<b>د</b> ۶	53	ic V	ć,	< 5	<.5	5 ×	¥.	٧,	¢ 5	S.	Ϋ́		
(62 <b>)</b> mutanis2)	M	-	•	2				c 8.5	< 0.5			50 >	The Control of the Co		40.5	< 0.5	< 0.5	× 0.5	< 0.5	<0.5	< 0.5	× 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
(स) एक्क्स	7,2	•	١.	3,000														G v	01 ×													X.
(թե) լոսվուր <sub>ծ</sub> ը	n/a	7,1	15.55	20.3				7	77			<b>4</b> 2			<2×	23	Z >	۲5	2 2	22	Ç	42	۲2	ŷ	2>	<2	ç	٧2	77	Ç.		te Shekar b
(ŁA) zinserĄ	R	ā	,	100				42.	<b>4</b> 2			7			۲5	× 5	<2	<b>42</b>	۲ <u>۲</u>	×2.	7	v	7	۷2	< 2	٧	, Z.	. Z >.	۷5	ķ		Ning Servi
Andranay (Sb)	n/a	R	4					S 20	21 V			2			01 9	9 V	Σ.	۸ 5	S. A.	9	9	0 V	0 10	망	01 v	¢ to	< 10	ΩV	۸ ئۇ	2		II Sec fast
roldme2-dv210.pK	tion	1	_		_	L	L	<u> </u>							+	4	77	~	<u></u>	7	4	4	4	4	*		1	4	Ą	**		1. Couleir
bafqma2 sisQ	I Investiga	riconnent if:	Interventa L:	Line and	30-Sep-08	30-g22-08	30-Sep-08	3U-Sep-08	30-S=p-08	30-Sep-08	30-Sep-08	30-Ser-08	30-Sep-08	30-Sep-08	30-Sep-08	30-Sep-08	30-Sep-08	30-Sep-08	30-Sep-08	30-Sep-08	30-Sep-08	30-Sep-08	30-Sep-08	30-Sep-08	30-Sep-08	30-Sep-08	30-Sep-08	30-Sep-08	3D-S=p-08	3U-Sep-08		* Prom NSW ETA 1994 'Coulding for Assenting Service Station Block,
Caboratory	ologícai	'B' Eav	arget + note Eff	Serring Tel (H	iği.	Trage 3	mg 3	T.	19	III II	my 3	17gtz 3	3	Age .	1185	E I	191	100	E S	E IS	r E	mgt 3	E E	E E	Tight.		E SILE	E THE	E 1984	mgt 3	-	Fram N
Sample Tokingerion	NEPA 1999 Ecological Investigation Level (ETL):	ANTECC 1992 'B' Environmental Investigation Guideline:	Dutch 2000 [(Target + Interventa- SCL)/2] - Alternate ETL:	NEPN 1999'A' Serring Health Investigation Lovel (RIII.):	BHE6/0.1	BH9/0,1	3H13/0.1	SH21/0.1	BH21/0,5	BH22.70,1	3H25/0,1	3H39/B,1		DYECHEL	7	7	77	COMPA	7	-	7	7	_			Ţ	7	-		COMP16		NUTES

\*\* a Fran Kirly IIIA, 1994 'Goldellen Sir Asarting Stender Staden Sites, SC team Tridiment, end in Stenda Orennasian'i per Draft Note 1 state and secretaria LA, seen, 24 metro Not Ameliko es Not Applicatio.



15th October 2008

# 4.5.1 Inorganics

Of the two discrete and the 16 composite samples analysed for heavy metals, no results exceeded the NEPM 'A' Setting Health Investigation Levels (HILs) or modified HIL 'A' levels for residential use.

## 4.5.2 Organics

All samples tested for MAHs, OCPs, PAHs, TRHs, PCBs, Phenols and CHCs returned detectable or non-detectable results below all adopted criteria. Importantly, testing for organic contaminants associated with the former boiler rooms at target locations (BH31 and BH32) did not return detectable results.

### 4.5.3 Other

The pH levels at two locations, BH13 and BH25, had acidic soil conditions with values of 4.8 and 4.9 respectively.

COMP4 had OCP results below HIL criteria but above the laboratory detection limits and this occurrence was probably associated with activities such as pest control around the buildings which were there. A Further Sample Analysis Request (FSAR) was submitted on the 10<sup>th</sup> of October 2008 to ensure that any areas that formerly had buildings did not have OCPs above HIL criteria. The further results for COMP1, COMP3, and COMP6 were below HIL criteria (as modified for the number of sub-samples).

# 4.6 Soil Sample Analysis Discussion

There were no exceedances of the Health Investigation Levels adopted for the proposed residential use of the site (NEPM 'A' Setting) for any contaminant across the site, including previously identified areas of potential environmental concern, being the location of former boiler rooms.

Further assessment was carried out so as to confirm that trace levels of pesticides in an initial sample were not a contaminant of concern across other areas of the site. Concentrations are shown to meet residential levels.

The soil sulphate concentrations are not indicative of conditions detrimental to buildings and structures. However, the slightly acidic soil conditions in some areas may affect the growth of some plant types and may warrant further geotechnical investigation.



15th October 2008

The primary laboratory used was mgt environmental Pty Ltd and ALS Laboratory was used for split (QA/QC) samples. 15 samples were tested for heavy metals (HMs), 8 for polynuclear aromatic hydrocarbons (PAHs), four for total recoverable hydrocarbons (TRHs), three for pH/sulphate and two for EPA screens. See Table 2 Soil Laboratory Summary for details.

The 'EPA Screen' consists of testing for the following organic contaminants:

- mono-cyclic aromatic hydrocarbon (MAHs)
- organochlorine pesticides (OCPs)
- total recoverable hydrocarbons (TRHs)
- chlorinated hydrocarbons (CHCs)
- polychlorinated biphenyls (PCBs)
- phenolic compounds
- polynuclear aromatic hydrocarbons (PAHs)

and the following inorganics:

- antimony	- arsenic	- boron	- beryllium	- cadmium	
- chromium	- cobalt	- copper	- lead	- manganese	
- nickel	- mercury	- molybdenum	- selenium	- tin	
- zinc	- cyanide				

Samples tested only for a 'heavy metals suite' quantified the above parameters less: boron, manganese and cyanide.

# 4.4 Soil Investigation Results

Small amounts of imported fill material, gravel and tan bark, were found at the site. The soil profile predominately consisted of a dark brown silty sand which had evidence of disturbance in most areas above a natural grey fine grained sand. See Appendix C for the soil borehole logs. No odorous, stained or otherwise obviously impaired soils were encountered during the site investigation.

Some work at the site to remove remnant rubble, concrete and glass fragments may be considered desirable to fully meet aesthetic requirements for residential use.

# 4.5 Soil Sample Analysis Results

Appendix D includes the Chain of Custody documentation used for delivery of the samples to the lab and the full NATA certified laboratory reports. Table 2 provides a summary of laboratory soil results.

43

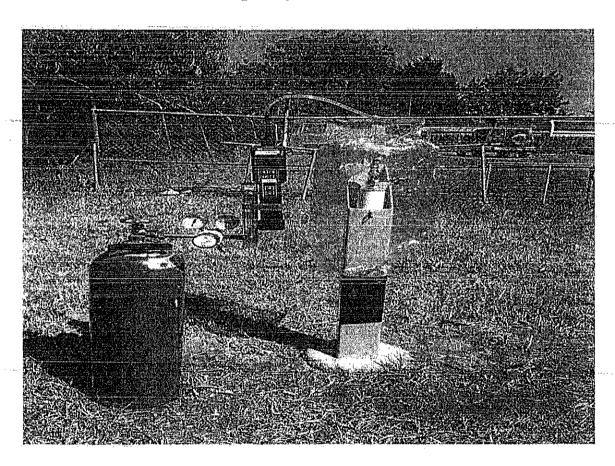


Landfill Gas Report - February 2014

**Client: PRENSA** 

Site: Oakleigh South

Eurofins mgt Report No: 410381



Prepared for; PRENSA 261-271 Wattletree Rd Malvern, VIC 3144 Prepared by; Eurofins | mgt 2-5 Kingston Town Close Oakleigh, VIC 3166



# **Table of Contents**

<ul><li>1.1 DISTRIBUTION OF REPORT:</li><li>1.2 AUTHORISING SIGNATURES:</li></ul>	
1.2 AUTHORISING SIGNATURES:	
	_
2 SCOPE OF WORKS	
3 TEST METHODS	
3.1 Subsurface Gas Monitoring	
3.2 LEAK TESTING OF GAS BORES	
3.3 METHANE LABORATORY CONFIRMATION GAS BAG	
4 INSTRUMENTATION	***************************************
4.1 EXTRACTIVE LANDFILL GAS ANALYSER	
4.2 EXTRACTIVE HELIUM ANALYSER	
5 BORE CONSTRUCTION 6 GROUND CONDITIONS	
7 WEATHER CONDITIONS	
8 SOIL GAS RESULTS SUMMARY	*************************
8.1 Subsurface Gas Monitoring	্ত্ৰ ভাৰত কৰা মুখ্য হ'ব কমাৰীয় বাজ বাৰ বাজী ল'ব লগত ল
8.2 METHANE LABORATORY CONFIRMATION RESULTS	.,,.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
8.3 GAS BORE LEAK TEST RESULTS	
9 APPENDICES	
APPENDIX 1 – Subsurface Monitoring Field Sheets  APPENDIX 2 – Leak Testing Field Sheets  APPENDIX 3 – Eurofins mgt Laboratory Confirmation Methane Re  APPENDIX 4 – Site Map & Gas Bore Logs  APPENDIX 5 – Photos of Sample Setup	

APPENDIX 6 - Instrumentation Calibration Data



# Quality Control

# 1.1 Distribution of Report:

Date Issued:

3rd March 2014

Delivery method:

email

Coples	Recipient	Copies	Distributer
1	Sarah Fitzpatrick	1	Stephen Curwood
	PRENSA		Eurofins   mgt
	261-271 Wattletree Rd,		2-5 Kingston Town Close
-	Malvern, VIC 3144		Oakleigh, VIC 3166
	sarah.fitzpatrick@prensa.com.au		StephenCurwood@eurofins.com.au

# 1.2 Authorising Signatures:

Report Prepared by:

Stephen Curwood

Field Services Section Head - AIR

Report Authorised by:

Peter Richardson

Field Services Manager.

**NATA Signatory** 

# 2 Scope of Works

Eurofins mgt were engaged by PRENSA to conduct gas monitoring on a landfill site located at the Clayton West Landfill. As requested by PRENSA monitoring was conducted on the three gas bores on site. Monitoring was conducted in accordance with VIC EPA Draft Publication 1416 September 2011 - DRAFT LANDFILL GAS FUGITIVE EMISSIONS. The three bores were also leak tested on the day of sampling.



# 3 Test Methods

### 3.1 Subsurface Gas Monitoring

All soil gas Bores were sampled on the 28<sup>th</sup> February 2014 in accordance with VIC EPA Draft Publication 1416 September 2011 - DRAFT LANDFILL GAS FUGITIVE EMISSIONS, Section 7 SUBSURFACE GEOLOGY. The extractive landfill gas analyser that was used was the GA2000 – Refer Appendix 1: Buildings, Service Pits & Subsurface Monitoring Field Sheets.

# 3.2 Leak Testing of Gas Bores

All soil gas Bores were leak tested utilising Helium as a tracer in accordance with Eurofins mgt's In-House Method AlSOP002.

# 3.3 Methane Laboratory Confirmation Gas Bag

Sampling as per Eurofins mgt Air Method AO4 – Tedlar bag collection. Analysis as per Eurofins mgt Method AO6 (Gas Bag - FID).

# 4 Instrumentation

# 4.1 Extractive landfill gas analyser

The extractive landfill gas analyser that was used to monitor the soil gas bores on site was the GA2000 Landfill Gas Analyser. It should be noted that the landfill gas analyser that was used does meet the performance specifications stated in Table 4.1 of the VIC EPA Draft Publication 1416 September 2011 - DRAFT LANDFILL GAS FUGITIVE EMISSIONS. Refer Appendix 6: Instrumentation Calibration Data.

# 4.2 Extractive Helium analyser

The Extractive Helium Analyser that we used for leak testing of the bores was the GasCheck 5000is. This unit was calibrated with certified calibration gas. Refer Appendix 6: Instrumentation Calibration Data.

# 5 Bore Construction

Each gas bore was constructed with 50mm diameter PVC casing and slotted PVC screen. The bores were covered by dedicated bore covers that were locked. Each probe had its own dedicated end cap that was installed by Eurofins mgt 24 hours prior to sampling. Sampling was conducted using a quick connect fitting. No deficiencies of the bores were noticed that may have prevented a representative sample being taken.



# ngt

# 6 Ground Conditions

The ground conditions encountered at the site on the day of sampling were quite dry. The grass coverage was mostly short to ankle high. No dead vegetation was observed around the gas bore locations on the day of sampling.

# 7 Weather Conditions

Reference to daily weather observations from the BOM website for the closest weather station to the Oakleigh South site (Moorabbin – see link below) show temperatures on the day of sampling ranging from 10°C (min) to 24°C (max) and barometric pressures of 1024hPa (9am) and 1021hPa (3pm). This decrease in pressure throughout the day can aid the upward flow of soil gas due to the pressure gradlent between the vadose zone and the atmosphere. Winds speeds of 15 km/h & 22 km/h were recorded at 9am & 3pm respectively. No rain events were recorded in the three days prior to the sampling event.

			9am	Ole National Processing States	3pm
Date	Rain	Temperature	Barometric Press	Temperature	Barometric Press
The second section of the section of the second section of the section of the second section of the secti	(mm)	(°C)	(hPa)	(°C)	;(hPa)
28 <sup>th</sup> February 2014	<1	15	1024	22	1021

Reference Link - http://www.bom.gov.au/climate/dwo/201402/html/IDCIDW3052.201402.shtml

# 8 Soil Gas Results Summary

# 8.1 Subsurface Gas Monitoring

Refer Appendix 1: Subsurface Monitoring Field Sheets for details.

### 8.2 Methane Laboratory Confirmation Results

Refer Appendix 3: Eurofins mgt Laboratory Confirmation Methane Results

### 8.3 Gas Bore Leak Test Results

Refer Appendix 2: Leak Testing Field Sheets

APPENDICES

APPENDIX 1 -

**Subsurface Monitoring Field Sheets** 



**5**0

Eurofins mgt IN-SITU ANALYSER - Field Data Sheet

Client: Prensa

Site: 10 Alvina Street, Oakleigh South

Sample Date: 28.2.14

In-Situ Gas Analysers: GA2000

Barometric Pressure: 1024 (9am) & 1021 (3pm)

Weather Conditions: Sunny, Light Winds

Ground Conditions: Dry Grass Coverage

Probe Description: 50mm PVC with QC fitting

							in-Si	In-Situ Readings via Portable Analyser	ıs via Port	ible Analy	ser				
Soil Gas Probe	Sample	Relative	Flow	Ave.	Peak	Peak	Peak	Min.			Stabilised Readings	Readings			Comments
	Time	Pressure	Reading	VOC's	VOC's	₹	<del>2</del> 02	6	CH4	C02	05	Balance	8	HZS	(incl. Stabilisation Time)
	(Hours)	(mbar)	(1/hr)	(mdd)	(mdd)	۸/۸%	۸/۸%	^/^%	√n/w	7/v%	√/v%	\/\/%	mdd	mdd	
GB1	1100	+0.01	0.1	.,1	j	0.1	1,8	19.3	<0.1	1.8	19.3	78.9	₽	∇	Stable at 60 secs
GB1	1118		1	ŧ.,	e e e e e e e e e e e e e e e e e e e	0.1	1.8	19.3	<0.1	1.8	19.3	78.9	⊽	⊽	Stable at 45 secs
	- v											.,,.,,,,,		-	
GB2	1144	+0.05	0.0	·.	*	0.1	1.5	19.6	<0.1	1.5	19.6	78.9	₽	₽	Stable at 75 secs
GB2	1201	1	•	4	t.	<0.1	1.5	19.4	<0.1	1.5	19.4	79.1	₽	∀	Stable at 30 secs
											······	****		Lugung	
GB3	1127	+0.00	0.3	†		<0.1	0.8	20.1	<0.1	0.8	20.1	79.1	⊽	₽	Stable at 80 secs
GB3	1139	r	,		í	40.1	0.8	20.1	<0.1	0.8	20.1	79.1	<1	₽	Stable at 30 secs
orradi:										-				*****	
Fleld/Trip Blank	1057			4	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	>95	<0.1	<0.1	
<i>\$</i>															

Notes: Field/Trip Blank undertaken on tedlar bag containing instrument grade Nitrogen.

A CONTRACTOR OF THE PARTY OF TH

A Company of the Comp

Maria Indiana

Professional Co.

CONTRACTOR OF THE STATE OF THE

A STATE OF THE STA

Water State of the

September 1998

APPENDIX 2 =

Leak Testing Field Sheets

# 

ර් ද

Eurofins mgt GAS PROBE MONITORING - Helium Leak Test Field Data Sheet.

Client: Prensa

Sita: 10 Alvina Street, Oakleigh South

Sample Date: 28.2.14

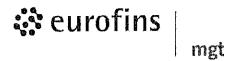
Barometric Pressure: 1024 (9am) & 1021 (3pm)

//////////////////////////////////////						~ 1	
Comments							
Helium Leak Check (Pass / Fail)	Pass	Pass	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Pass			
Post Purge Helium Reading (% vol)	₽	4		<1	diam'r.		
Purge Time (min)	6	6		6			
Holding Volumes Removed	>3	٤٤		>3			
Helium Shroud Conc. (% vol)	>95	>95		>95			Notes:
Pre Purge He Probe Reading (% vol)	<1	<1		₹7			
Initial Pre-Purge Check (Pass / Fail)	Pass	Pass		Pass			
Internal Diameter (mm)	50	50		50			SKC PUMP
Sample Depth (m)	1.8	 2.0		1.9		-	Purge Analyser: SKC PUMP
Sample Time (Hours)	1108	. 1150	44404	1130		- 1,1110	ď
Soil Gas Probe	GB1	GBZ		GBE			

Helium Analyser: GAS CHECK G3



**Eurofins mgt Laboratory Confirmation Methane Results** 



Certificate of Analysis

Eurofins | mgt 2-5 Kingston Town Close Oakleigh VIC 3168

Attention:

Stephen Curwood

Report

410306-A

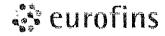
Client Reference

PRENSA

Received Date

Feb 28, 2014

Client Sample ID	1		GB (1)	GB (2)	GB (3)	GB BLANK
Sample Matrix			Air	Alr	Air	Air
Eurofins   mgt Sample No.		-	M14-Fe23460	M14-Fe23461	M14-Fe23462	M14-Fe23463
Date Sampled	C-come o	de la constanta de la constant	Feb 28, 2014	Feb 28, 2014	Feb 28, 2014	Feb 28, 2014
Test/Reference	LOR	Unit	<u> </u>	<u> </u>		<u> </u>
Dissolved Gases			W/A POLICE			
Methane*	20	ppm .	< 20	< 20	< 20	< 20



### met

### Eurofins | mgt Internal Quality Control Review and Glossary

### General

- 1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
- 2. All soll results are reported on a dry basis, unless otherwise stated.
- 3. Actual POLs are matrix dependant. Quoted PQLs may be reised where sample extracts are diluted due to interferences.
- 4. Results are uncorrected for matrix spikes or surrogate recoveries.
- 5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- 6. Samples were analysed on an 'as received' basis, 7. This report replaces any interim results previously issued.

### **Holding Times**

Please refer to 'Sample Preservation and Container Golde' for holding times (OS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgment.

If the Laboratory did not receive the information in the required timetrame, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

"NOTE: pH duplicates are reported as a range NOT as APO

### UNITS

mg/kg: milligrams per Kilogram ug/l: micrograms per litre ppb: Parls per billion

org/100ml: Organisms per 100 millitres

MPN/100mL: Most Probable Number of organisms per 100 millillires

mg/l: milligrams per litre ppm: Parts per million %: Percentage NTU: Units

### **TERMS**

LOR Lim

SPIKE Addition of the analyte to the eample and reported as percentage recovery,
RPD Relative Percent Difference between two Duplicate places of analysis.

LGS Laboratory Control Sample - reported as percent recovery
CRM Certified Reference Material - reported as percent recovery

Method Blank In the case of solid samples these are performed on laboratory certified clean sands.

In the case of water samples these are performed on de-fonised water.

Surr - Surrogate The addition of a like compound to the analyte target and reported as percentage recovery.

Dupilcate A second piece of analysis from the same sample and reported in the same units as the result to show comparison.

Batch-Dupilcate A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.

Batch SPIKE Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.

USEPA United States Environmental Protection Agency

APHA American Public Health Accordation

ASLP Australian Stendard Leaching Procedure (AS4439.3)
TGLP Toxicity Characteristic Leaching Procedure

COC Chain of Custody

SRA Sample Receipt Advice

CP Client Perent - QC was performed on samples pertaining to this report

NCP Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

TEQ Toxic Equivalency Quotient

### QC - ACCEPTANCE CRITERIA

APD Duplicates: Global APD Duplicates Acceptance Criteria is 30% nowever the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

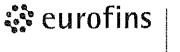
Results between 10-20 times the LOR: RPD must ile between 0-50%

Results >20 times the LOR: RPD must lie between 0-30%

Surrogate Recoverles : Recoveries must lie between 50-150% - Phenois 20-130%.

### **QC DATA GENERAL COMMENTS**

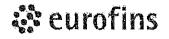
- 1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the earnple, high moieture content or insufficient sample provided.
- 2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
- 3. Organochlorine Pesticide analysis where reporting LCS data, Toxophene & Chlordene are not added to the LCS
- 4. Organochlorine Pesticide analysis where reporting Spike data, Toxophene is not added to the Spike.
- 5. Total Recoverable Hydrocarbon where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
- 6. pH and Free Chlorine analysed in the laboratory Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
- 7. Recovery Data (Spikes & Surrogates) where disconatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- 8. Polychlorinated Biphenyla are spiked only using Arochfor 1268 in Matrix Spikes and LCS's.
- 9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
- 10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.



## mgt

### **Quality Control Results**

medical (1984 a. 1983 bases) of the file 3648 and 38 hadrosthated that crede the grove annex. I and recorder over	Test		Units	Result 1		1999-40000000000000000000000000000000000	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank	Alterbasis in the Anglesia	alia Berkala Ap	2100 To 1	The second		All a services			
Dissolved Gases									<del></del>
Methane*			ppm	< 20			20	Pass	
LCS - % Recovery						CVGF SIMI		1.17	
Dissolved Gases			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
Methane*			. %	101			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery	Carries of Carrier Bressian	yltally dis	- Maria (Cas)	MANAGES ST	(Ash: (\$1)%)	ing ken		etaldess.	
Dissolved Gases				Result 1		**************************************			.,,,,,
Methane*	M14-Fe23461	CP	%	80			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1	red have been dear the same		Acceptance Limits	Pass Limits	QualifyIng Code
Duplicate	STORY A CARSON	N. W. Jing	eleliyer?	Carl All	Strike B. A.	n depend	Si Sense L. E		·
Dissolved Gases				Result 1	Result 2	RPD			
Methane*	M14-Fe23461	CP	maa	< 20	< 20	<1	30%	Pasș	



### mgt

### Comments

Sampling has been performed by Eurofins | mgt personnel - Eurofins | mgt is NATA accredited for the collection of water samples in accordance with AS 5667, Victorian EPA Publication 441 & Melbourne Water Publication - Sampling & analysis of Trade Wastes.

Sample Integrity	
Costody Soats Intact (if cood)	.b/A
Altempt to Othil was rectoral	You
Sample correctly preserved	.Yes
Organic samples had Tallon liners	You
Sample containers for validite analysis received with minimal headspace	Yes
Samples received within Helding Time	Yes
Soma samples have been subcontracted	No

### **Authorised By**

Peter Flichardson

Offent Services

Catroll Lee

Senior Analyst-Valatila (VIO)

### Glenn Jackson Laboratory Manager

- Indicates Not Requested
- \* Indicates NATA accreditation does not cover the performance of this service

Uncertainty date is available on request

Euclis | jone dick not be live from any disposed of species of spe

APPENDIX 4 –
Site Map & Gas Bore Logs



261-277 Wattletrae Ro Malvern VIC 3144 PO Eox 2203 Wattletree Rd LP10 Malvern E351 VIC 3145

P. (03) 9509 0100 F. (03) 9509 6125 Warkunkingsucomaku admin@prensa.com.av

Department of Treasury and Finance

Client:

tandfill Gas Assessment Project:

10 Alvina Street, Daldeigh South Address:

Clayton West Landfill Gas Bore Locations Drawing Title:

Clent No.: 00003 Job No.: 13991

3

Landill Gas Both

Legens

A. 18

Sitz Boundary

Image Source: Google Earth Pro Viewed: 17 Pals 2013 Chacked by: Note: All locations are approximate Drawn bys

17/02/14 gain aumbber HAB Cate: 17/02/14: 13991 Life Bore Location File carte: Spin

	Attraction of company of the company	
GB1		SB3

### Borehole Log - GB1

Client: Department of Treasury and Finance

Job Type: Landfill Gas Investigation Date: 14/02/2014

Site Location: 10 Alvina Street, Oakleigh South



Job Number: 13991

Driller: Star Drilling

Rig: Drill Rig

Depth of Hole: 1.8 m Screened Depth: 1.0 - 1.8 m Casing/Screen Diameter: 50 mm Top of Casing (m AHD):

Standing Water Level:

prensa

Easting:

Northing: Coord. Sys.: Drawn By: SPF Approved By: SSB

Comment: Landfili gas bore

License Number:

		i				
Depth (m)	Well Construction		Graphic Log	Baipeuriteca Fro <sup>4</sup> 40	Sample	PID
-	Grout (0,0 - 0,4 m)	Method		FILL: SAND (0 - 0.3 m) Brown, loose, dry, zero plasticity, coarse grained sand, organic matter, dark grey silty clay pockets, angular bluestone gravel fragments.		
-				FILL: SAND (0.3 - 0.5 m) Light grey, loose, dry, zero plasticity, brown clay pockets.		
- 0.5	Bentonile (0.4 - 0.7 m)	Hand auger		NATURAL: SAND (0.5 - 0.6 m) Dark grey to black, loose, dry, zero plasticity, coarse grained, minor quartz fragments.  NATURAL: SAND (0.6 - 1.3 m) Light grey, loose, dry, zero plasticity, homogeneous.		
- 1.a	Manageria					
- 1.0	Sand (0,7 - 1,8 m)			NATURAL: SAND (1.3 - 1.7 m) Light brown, loose, dry, zero plasticity.		
1,5	Screen (1.0 - 1,8 m)	Solid auger				
- 2.0	Figure 1			NATURAL: SAND (1.7 - 1.8 m) Yellow, dense, slightly moist, zero plasticity, coarse grained. End of borehole at 1.8 m		
- 2,0		:		at target depth in natural.	- Avva	
-12						

### Borehole Log - GB2

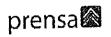
Sheet: 1 of 1

PRENSALIS LOCATES LON



Standing Water Level: Client: Department of Treasury and Finance Driller: Star Drilling Job Number: 13991 Rig: Drill Rig Easting: Site Location: 10 Alvina Street, Oakleigh South Depth of Hole: 2.0 m Northing: Job Type: Landfill Gas Investigation Screened Depth: 1.0 - 2.0 m Coord. Sys.: Drawn By: SPF Approved By: SSB Date: 14/02/2014 Casing/Screen Diameter: 50 mm License Number: Top of Casing (m AHD): Comment; Lendfill gas bore  $\widehat{\mathbb{B}}$ Well Construction PID Sample Depth ( FILL: SAND (0 - 0.3 m)
Brown, loose, dry, zero plasticity, coarse grained, dark grey silty clay pockets. Grout (0,0 - 0.4 m) FILL: SAND (0,3 - 0,5 m) Light grey, loose, dry, zero plasticity, brown clay pockets, minor concrete fragments. Hand auger - 0,5 NATURAL: SAND (0.5 - 0.6 m) ⇔ Bentonite (0,4 - 0,7 m) Black, dark grey, loose, dry, zero plasticity, coarse grained sand. NATURAL: SAND (0.6 -1.3 m) Light grey, loose, dry, zero plasticity. 1.0 NATURAL: SAND (1:3 - 1.6 m) -- --- Sand (0.7 - 2 0 m) Light brown, loose, dry, zero plasticity. Solld auger 1,5 Screen (1.0 - 2,0 m) NATURAL: SAND (1.6 - 2.0 m) Yellow, dense, slightly moist, zero plasticity, coarse grained. End of borehole at 2.0 m at target depth in natural.

### Borehole Log - GB3



Sheet: 1 of 1

Client: Department of Treasury and Finance

Job Number: 13991

Site Location: 10 Alvina Street, Oakleigh South

Job Type: Landfill Gas Investigation Date: 14/02/2014

License Number:

Driller: Star Drilling

Rig: Drilli Rig

Depth of Hole: 1,9 m Screened Depth: 1.0 - 1.9 m Casing/Screen Diameter: 50 mm Top of Casing (m AHD);

Standing Water Level:

Easting:

Northing: Coord. Sys.: Drawn By: SPF Approved By: SSB

Comment: Landfill gas bore

	Landilli	gas bore		1/1/11		_
	Depth (m)	Well Construction	Method	Graphic Log	Butsurfoce Profés Sample PIE	D
		Grout (0.0 - 0.4 m)		The state of the s	NATURAL: SAND (0 - 0.8 m) Dark grey to black, loose, dry, zero plasticity, homogeneous.	
	- 0,5	Bentonite (0.4 - 0.7 m)	Hand euger			
Koral Lab and In Situ Tool	1.0	The formal of the control of the con			NATURAL: SAND (0.8 -1.5 m) Light grey, loose, dry, zero plasticity.	
76>> 21/02/2014 16:25 8:30 002 - Da	· .	Sand (0,7 - 1,9 m)				
prenshibe too ele ior prensa well log 12891 LFG olayton west <i>opy</i> «chaming 78»» 21022014 1625 8.30 002 iongalled and in Sili Tool	· 1.5	Sgreen (1.0 - 1.9 m)	Solid auger		NATURAL: SAND (1.5 - 1.9 m) Yellow, dense, slightly moist, zero plasticity, coarse grained.	
RENSA WELL LOG 13	· · · · · · · · · · · · · · · · · · ·	Target of the second of the se			End of borehole at 1.9 m	
PRENSALUB 1.00.GLB LOS PI	2 <sub>i</sub> 0				at target depth in natural.	

APPENDIX 5 -- Photos of Sample Setup

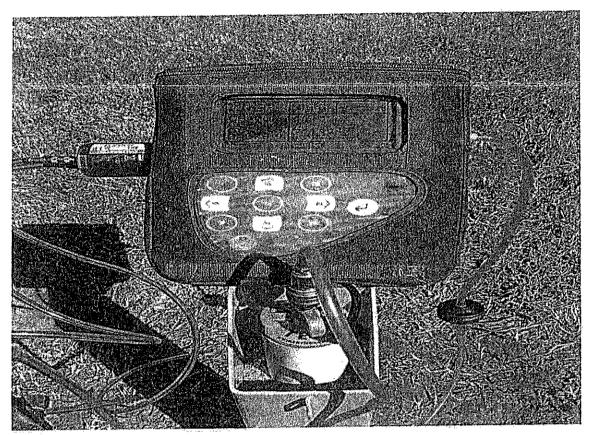


Photo 1: Sampling with Landfill Gas Analyser

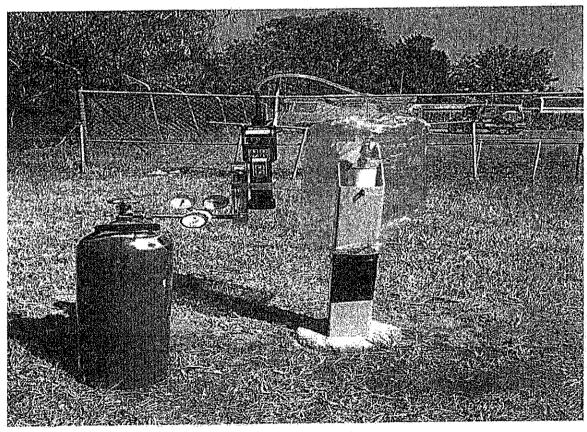


Photo 2: Leak Testing of Gas Bore

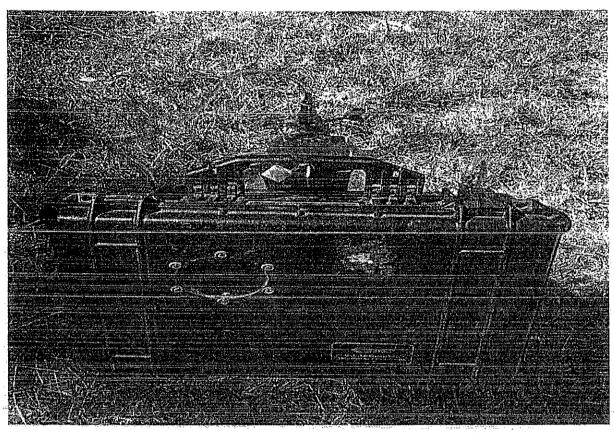


Photo 3: Lab Confirmation Methane Gas Bag Sampling

# APPENDIX 6 – Instrumentation Calibration Data



H28 / CO / CH4 / O2 -

# mgt

GA 2000 Serial Number: GA 11503/09	Calibrated by : 5 C
Calibration Date: 28/2/14	Calibration Time: 1055
Operations Check In Line Filter Check  Cleaned/Checked	Battery Status 170 %
Calibration Gas Used	ets U. d. Abrook - as
N2 - Lot Number: 1274598	Cylinder Number: 24
CO2 / CH4 - Lot Number: 1237007	Cylinder Number: 30

Lot Number: 1278129

Calibrating Gas	Cal Value	Reading	Span Required	Reading	Pass
CH4	60% vol	60.4%	7	60.0%	U
CH4 - check Only	2,5% vol	2.5 %		- %	
H2S	25 ppm	2.6 ppm	. 7	25 ppm	
02	18.0% vol	18.1 %	<b>-</b>	18.0 %	
CO	100 ppm	102 ppm	<u> </u>	(OO ppm	
CO2	40% vol	40.4%	1 4	40.0%	

Cylinder Number: \_\_\_

			T	or even control of the even of source.			**************
Calibrating Gas	Cal Value	Reading		Span Required	Read	ding	Pass
CH4	0.0% vol	00%		М		%	
H2S	0 ppm	O ppm		<i>N</i> .		ppm	
O2	0.0% vol	0.0%		l N	-	%	
CO / CO	0 ppm	) ppm		У		ppm	
CO2	0.0% vol	0.0 %		l N		%	

# **RENTALS**

# EQUIPMENT CERTIFICATION REPORT

GASCHECK 5000IS

This GasCheck 5000is In	nstrument has been j	performance checked a	s follows:							
	Check fully charged Performance check against He									
Date:	26/2/2014									
Checked by:	P.O.	**								
Signature:	P.O.	4								
Please check that the foll A minimum \$30 cleaning Items not returned will	ng / service / repair	charge may be appli	ed to any unclea	ore return. n or damaged items.						
Sent Rec'd Returned	l Description									
		000is Unit with short p		_						
	GasCheck 500	00is Unit Operation che	ck / Battery Volta	ge, (min 5.0V) <u>5.3</u> V						
	Spare battery	holder with Spare Alk	aline batteries, (n	nin 5.0V) <u>6.0.</u> V						
	GasCheckis l	Manual								
	Quick Guide									
	Long Probe									
	Box-Spanner	•								
	Screwdriver	7/								
		Certificate – Due: <u>2/</u>	101/15	•						
и п п	Carry Case									
Processor Signature/Initi	als:	P.D.	- Annual to the							
				-						
Quote Reference	11000526	Condition on return		and the state of t						
Customer Ref	0014658.0	The control of the co	~55@55#################################	managaram prijajang Anggapahanan						
Equipment ID	C STOOMA.		noonseel valengosjak kansa hannoon oor valen hija Saladii i oosiii suurii oo ka	معرات والمسترات والمعارض والم						
Equipment serial no.				AND COLUMN 2010 TO SERVE TO SERVE TO SERVE TO SERVE TO SERVE TO SERVE TO SERVE TO SERVE TO SERVE TO SERVE TO S						
Return Date	1, 1,	Control of the Contro	nantanana majagat manamangatunga 1881 yang dakabanak terdebanak terdebanas							
Return Time	and the state of t		kanimaljungsog sa imosa timin men sensakanter ennoant interte	any an <del>diananananany s</del> e Sectional N						
"We do more than give you great equipment We give you great solutions!"										
Phone: (Free Call) 1300 735	296	Fax: (Free Call) 1800 675 123 .	Email:	moo,reifellomreif@UAsisiner						
Veibourn Branch Syanoy I 5 Gerbbeen Cure Loval I. Scoresby 3176 Horts Ry	ireceh 4 Televore Road, 5=2113	27 Beylish Road, Newwood Godd) Ambring 1997	Bijebase Branck Unit 26 Rose St Hensteed 4006	A21 Gifteen Ave Halson VIA OXO						