# Shoalhaven City Council C/- Set Consulting Pty Ltd

Stage 1 and 2 Contamination Assessment: Lot 1/DP1021332 and Lot 458/DP1063107 George Evans Rd, Mundamia, NSW martens consulting engineers

P1202863JR01V01 October 2012



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All enquiries regarding this project are to be directed to the Project Manager.



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## 1 Overview

#### 1.1 Introduction

Martens & Associates Pty Ltd (MA) have been commissioned to carry out a Stage 1 and 2 contamination assessment to support the subdivision of Lot 1, DP1021332 and Lot 458, DP1063107 (the 'site').

# 1.2 Project Scope

The purpose of this assessment is to identify any past or present potentially contaminating activities and to provide a preliminary assessment of site contamination through intrusive soil sampling and laboratory analysis. This assessment is based on the following:

- Walkover inspection of the site to identify any areas of potential contamination.
- o Review of available Shoalhaven City Council site development consents (i.e. DA and BA consents).
- o Review site title history.
- Review of historical land title searches.
- o Review of five historic aerial photographs to assess past site and surrounding land use patterns.
- o Review of NSW OEH (formerly NSW EPA) notices under the Contaminated Land Management Act (1997).
- o Preliminary soil sampling with laboratory analysis.



# 2 Site Description

# 2.1 Location and Setting

Site information is summarised in Table 1.

Table 1: Site background information

Site address	George Evans Rd, Mundamia, NSW
Lot and DP (Title Information)	Lot 1, DP1021332 and Lot 458, DP1063107
Local Government Area (LGA)	Shoalhaven City Council
Zoning	Current zoning: 1(d) Rural "D" (General Rural)  Draft LEP zoning: R1 (General Residential).
Current land use	Rural / Industrial
Proposed land use	Residential
Surrounding land uses	Predominantly underdeveloped bushland and rural land to the east, the University of Wollongong's Shoalhaven campus is located to the sites southwest.
Geology and soil landscapes	Nowra Sandstone, a subgroup of the Megalong Conglomerate Group geology.
	Nowra Landscape consisting of moderately deep (50 – 100cm) brown podzolic soils on crests/upper slopes, with yellow earths or yellow podzolic soils on mid slopes, lower slopes and drainage depressions.
Topography and Drainage	Previous site use as a quarry / gravel pit has reshaped the natural site surface. The site falls to its centre which consists of a flat (slopes <5%) exposed sandstone surface as a result of previous quarrying. Drainage is facilitated by a manmade channel that runs north and exits the site beneath Jonsson Rd.
Sensitive receptors	Shoalhaven River located approximately 400m to the north

Site location is shown in Figure 1 and site features relevant to the investigation are shown Attachment A.





Figure 1: Site location



# 3 Site History Review (Stage 1 Investigation)

# 3.1 Historical Site Records Review

Information derived from review of historical site records is presented in Table 2.

Table 2: Site history information

Information Source	Available Information	
NSW WorkCover Dangerous Goods Register Database	No record of historical or current dangerous goods was identified on the record for the site	
NSW OEH Records	No notices for the site or areas surrounding the site under the Contaminated Land Management Act (1997) or the Environmentally Hazardous Chemicals Act (1985).	
	Subdivision of Lot 458/DP1063107 (2002)	
Shoalhaven City Council DA/BA/CC Records	Subdivision of Lot 1/DP1021332 (2009)	

# 3.2 Historical Aerial Photographs

Review of selected recent and historical aerial photographs of the site was conducted, with the observations of the assessment summarised in Table 3. All aerial photographs are available for review in Attachment B.

Table 3: Observations from historic aerial photographs

Year	Site	Surrounding Land
1961	No dwellings can be seen in this aerial. Likely quarry operations seen dominating the southern area of site (white) otherwise bushland surrounds site.	Bushland dominates landscape.
1970	No change to 1961.	Site adjacent to the east has been cleared. No dwellings.



Year	Site	Surrounding Land
1984	Quarry had been expanded across southern portion of the site. A trail leads from Jonsson Rd to the south along the site. Jonsson Road has become more apparent (no longer bush track).	More land has been cleared to the east and north east. Dwellings are visible.
1994	Quarry appears to have stopped with revegetation of portions of the site (possible filling).	Rural development on adjacent land continues to expand to the east. Cleared paddocks, increase in dwellings and a dam has been formed in the south eastern portion of the adjacent site.
2008	Revegetation continues across quarry area.	Vegetation increasing along the boundaries of adjacent land. Dam has increased in size in the southern portion of adjacent land.
2012	Increase in vegetation across quarry area.	Dam has dried up. Otherwise, limited change from 2008.



3.3 Summary of Site History

A summary of the site history is as follows:

- o Site's primary use has been as a quarry / gravel pit which included the use of associated machinery (mobile processing plant, excavators *etc*).
- Aerial photography indicated that the quarry was established by 1961 and extents have generally remained unchanged.
- Shoalhaven City Council records show that subdivision of Lot 458, DP1063107 (2002) and subdivision of Lot 1, DP1021332 (2009) occurred.
- o Register of notices issued under the Contaminated Land Management Act (1997) or the Environmentally Hazardous Chemicals Act (1985) confirmed the site was not subject to an investigation or remediation order.

#### 3.4 Site Walkover

A site inspection was conducted on 19 - 20 September, 2012 and results are summarised in Table 4.



Table 4: Site walkover inspection summary

	Uneven ground (mounds and embankments), indicates the possible importation of fill, predominantly in the site's south.
	Suspected areas of filling (noted above) covered in weeds and kikuyu.
Site Observations	Soil stockpiles located in the site's south and northwest, visual observation indicated fill of unknown origin (confirmed during sub surface investigations).
	Minor refuse across the site including building material, glass and plastics.
	Manmade drainage channel excavated to rock originating in the footprint of the former quarry and extending north, spoil from drainage pit/ channel is stockpiled along the eastern side of the channel in Lot 458, DP1063107.
	Several access tracks / unpaved roads created across the site.
	Northern areas of the site (centre of Lot 458, DP1063107) are heavily vegetated with remnant native vegetation.
	Cleared grass area, adjacent to residential homes in the sites north east was observed.

Based on these findings, areas of environmental concern (AEC) and associated chemicals of concern (COC) have been identified (Table 5).



# 3.5 Areas of Environmental Concern/Chemicals of Concern

Our assessment of site AECs and COCs (Table 5) is made on the basis of available site history (anecdotal and DA records), aerial photograph interpretation and site walkover.

Table 5: Areas of Environmental Concern and Chemicals of Concern

AEC	Primary Use	Potential for contamination	COC	Contamination Likihood
(A) Footprint of former quarry/ gravel pit	Quarry / gravel pit	Use as a quarry including the use of heavy machinery during quarry operation	Heavy metals, TRH, BTEX, PAH	Low
(B) Fill (entire site)	Fill used across the site, predominantly to the south	Fill of unknown origin and quality potentially contaminated.	Heavy metals, TRH, BTEX, PAH,PCH, OC/OP pesticides, phenols, asbestos	Medium - High
(C) Constructed drainage channel	Manmade drainage channel to facilitate site drainage	No details regarding construction and or machinery used to construct	Heavy metals, TRH, BTEX, PAH	Low



# 4 Preliminary Soil Sampling (Stage 2 Investigation)

## 4.1 Field Investigation

# 4.1.1 Intrusive Investigation and Soil Sampling

Soils were sampled concurrent with geotechnical investigation on 19 - 20 September, 2012. Soil sampling was completed by a MA environmental engineer in accordance with MA standard operating procedures (Table 6) with testing plan in Attachment A.

Table 6: Soil sampling methods

Туре	Number of Locations	Equipment	Description
Borehole	8	Solid flight hydraulic auger / Hand auger	Soils were collected at a range of depths, generally 0.2, 0.5, 0.75 and then at 0.5m intervals (as required to characterise contamination).
Test pit	13	Backhoe	Soil samples collected directly from the centre of the backhoe bucket or from sides of open test pit. Sampled generally at 0.2, 0.5, 0.75 and then at 0.5m intervals (as required to characterise contamination).
Borehole / test pit	13	Hand auger / spade	Soil samples collected from the end of the auger or sides of open pit.
Surface	3	Spade	Soil samples collected from 0.0 - 0.05m.



# 4.1.2 Sampling Methodology

Soil sampling methodology, completed to meet data quality objectives, is outlined in Table 7.

Table 7: Soil sampling methodology.

Activity	Detail / Comments
Soil logging	Logging of boreholes/test pits was completed by an experienced environmental engineer in accord with MA Standard Operating Procedures (SOP) at all locations.
Soil sampling	Each sample was placed into a laboratory-supplied, acid-rinsed 250mL glass jar with Teflon lined seals and no headspace to limit volatile loss. Each jar was labelled with a unique identification number and placed in an ice-chilled cooler box. A clean pair of disposable gloves was used when handling each sample.
QA / QC sampling	Duplicate samples were collected at a rate of approximately 1 in 10 samples for intra-laboratory analysis.  Two trip blanks (TB) and two trip spikes (TS) sample was placed with soil samples in cooler boxes during storage and transportation and tested by the analytical laboratory to assess potential cross contamination between samples.
Sample handling and transportation	Sample collection, storage and transport were conducted according to MA SOP.  Samples were dispatched to NATA-accredited laboratories (Envirolab as the primary laboratory) under chain of custody documentation, and within holding times.
Decontamination of sampling equipment	Equipment was decontaminated between sampling locations by pressurised water spray with a solution of Decon-90™, a phosphate-free detergent, followed by rinsing with potable water.  Samples collected from test pitting involving the back hoe were sampled directly from the centre of the backhoe bucket or from the walls of the test pit eliminating the need for decontamination between samples.

# 4.2 Laboratory Analytical Suite

Laboratory analysis was carried out by Envirolab Pty Ltd, a National Association of Testing Authorities (NATA) accredited laboratory. The laboratory analytical documentation is presented in Attachment E.

33 primary soil samples were selected for a suite of laboratory analysis (summarised in Table 8) based on COC identified (Table 5).

Three fibrous material samples, two trip blanks and two trip spikes were also analysed.



Table 8: Summary of primary soil laboratory analyses.

COC	Number of Samples Analysed
BTEX	33
TRH	33
РАН	33
Heavy metals <sup>1</sup>	33
OCP/OPP	17
PCB	17
Phenols	17
Asbestos	23

#### Notes

#### 4.3 Soil Assessment Criteria

Chemical analyses of soil samples are compared to investigation levels for residential land use based on proposed site rezoning.

Investigation levels for soil are established based on the following references:

- NEPC (1999) National Environmental Protection (Assessment of Site Contamination) Measure (NEPM);
- NSW DEC (2006) Guidelines for the NSW Auditor Scheme (Second Edition); and
- o NSW EPA (1994) Guidelines for Assessing Service Station Sites.

Human health based soil investigation levels (HIL) for residential land use, provided in Column A of Table 11-A in the NEPC (1999) *Guidelines on Health-Based Investigation Levels* (and reproduced in NSW DEC, 2006) have been adopted as the soil investigation levels. Adopted HIL for BTEX and TRH is derived from NSW EPA (1994). Adopted criteria are outlined in Table.

NEPC (1999) do not provide threshold levels for volatile petroleum hydrocarbon compounds. NSW EPA (1994) provide an indication of acceptable cleanup levels for petroleum hydrocarbons compounds at service station sites to be reused for sensitive land-uses. For semi-volatile petroleum hydrocarbons (TPH  $C_{16}$  –  $C_{35}$  and  $>C_{35}$ ) investigation levels are provided in the NEPC (1999) guidelines, which require the laboratory differentiate between aromatic and aliphatic compounds.



<sup>&</sup>lt;sup>1</sup> Heavy metals – As, Cd, Cr, Cu, Pb, Hg, Ni, Zn

If this is not done, the TPH  $C_{10}$  -  $C_{40}$  criteria in the service station guidelines are applied.

Table 9: Adopted soil health investigation levels (HIL)

Contaminant of Concern	Soil Criteria (mg/kg)
TRH (C <sub>6</sub> -C <sub>9</sub> )	65
TRH (C <sub>10</sub> -C <sub>36</sub> )	1,000
Benzene	1
Toluene	1.4
Ethyl benzene	3.1
Xylene (total)	14
Total PAH	20
Benzo(a)pyrene	1
Total Phenols	8,500
Aldrin + Dieldrin	10
Chlordane	50
DDT + DDD + DDE	200
Heptachlor	10
PCB (total)	10
Arsenic (total)	100
Cadmium	20
Chromium (III)	120,000
Chromium (IV)	100
Copper	1,000
Lead	300
Mercury	15
Nickel	600
Zinc	7000

# 4.4 Quality Assurance and Quality Control Assessment

A review of QA/QC procedure has been completed and is present in the data validation report (Attachment F). The report concludes that data is suitable for the purposes of the assessment.



# 5 Results

## 5.1 Subsurface Investigation

Subsurface conditions have been divided into separate geotechnical land units (Table 10). Due to the size of the site and limited investigation, division into geotechnical units is broad and variability may exist within each unit.

Table 10: Geotechnical land units

Unit	Relevant BH/TP/SS	Description
1	BH101, BH106	Stiff natural clay - dark brown / red overlaying weathered sandstone.
2	BH107, BH109, BH110	Gravely sandy topsoil overlaying shallow weathered sandstone. Grading to medium strong sand stone with depth.
3	BH115, BH123, SS114, SS119, SS122	Predominantly exposed sandstone from previous quarrying. Minimal (<20% of the area) silty sand topsoil.
4	TP117, TP118, TP124, TP125, TP126 – TP128, BH129, BH130, TP131, BH132, BH133, TP134, TP136	Clayey sand overlaying sandy clays. Grades to weathered sandstone with depth.
5	BH116, BH120, BH138, TP102 - TP105, TP108, TP111, TP112, TP113	Fill - clay, silty and sandy clay with various inclusion (Section 5.2).

# 5.2 Fill

Subsurface investigations confirmed the presents of fill on site to a depth of 2.3 mbgl (TP108). Attachment A provides an approximate outline of areas designated as fill. Identified inclusions in fill include:

- o Sandstone cobble and boulders.
- o Bricks.
- Concrete slabs.
- o Steel bars and reinforcement.
- o Treated pine.
- o Plastics.



#### o Glass.

Additionally, three pieces of fibrous sheeting were found at various investigation points with in the fill areas at a depth range of 0.1-1.1 mbgl. These were sent to the laboratory to test for the presence of asbestos.

## 5.3 Laboratory Analytical Results

#### 5.3.1 Soil

Soil analytical laboratory results from the investigations were compared against adopted soil investigation levels and are summarised below:

- All analyses for BTEX compounds were below LOR.
- o All analyses for TRH (C  $_{10}$ -C- $_{36}$ ) were below LOR or below adopted HIL.
- o Benzo(a)pyrene concentrations exceeding adopted HIL criteria at 2863/103/1.2 (4.7 mg/kg) and 2863/138/0.5 (2.0 mg/kg).
- o Total PAH exceded adoptied HIL in 2863/103/1.2 (53.7 mg/kg) and 2863/138/0.5 (25.2 mg/kg). PAH concentrations from remaining samples were below adopted HIL.
- o Lead concentrations exceeded adopted HIL criteria at 2863/105/0.2 (310 mg/kg). Remaining sample heavy metal concentrations were below adopted HIL.
- o Samples analysed for OCP/OPP, PCB, total phenols and asbestos in soil were at concentration below LOR and HIL.

## 5.3.2 Material

Three fibrous material samples analysed all returned positive for asbestos. Samples were collected from TP103 and TP104



#### 5.4 Discussion

Contamination was identified at the following testing locations:

- o PAH levels exceeding adopted HIL at TP103 and BH138.
- Lead exceeding adopted HIL at TP105.
- o Asbestos containing material (fibre sheeting) found in TP103 and TP104.

Site testing to date indicates that site contamination is confined to areas identified as fill. Samples with contamination levels above HIL were taken from a depth range of 0.2 - 2.2 mbgl and fibre sheeting was sampled from a depth range of 0.1 - 1.2 indicating that potential contamination exists throughout the entire fill profile. Attachment A provides a preliminary outline of areas defined as fill.



### 6 Conclusions and Recommendations

#### 6.1 Conclusions

Site history has indicated past use as a quarry and importation of fill from unknown sources. Site filling was later confirmed during subsurface investigations. A search of the NSW Office of Environment and Heritage and Workcover databases revealed no land contamination notices issued. A review of historic aerial photographs revealed no formal site use other than as a quarry to present day.

Laboratory analysis of soil samples reveal PAH contamination at TP103 and BH138 and minor lead contamination at BH105. Material samples collected from TP103 and TP104 contained asbestos.

All identified contamination has association with fill material. Preliminary distribution of this material is outlined in Attachment A. Completed testing indicates that the site is unfit for the intended residential use without remediation. Importantly, remediation required is limited to the remediation of identified contaminated fill.

#### 6.2 Recommendations

A remediation action plan (RAP) is to be prepared for the site to assess options and make recommendations for the site's remediation. Further testing may be required to fully delineate the extent of site filling and to assess the possibility of contamination of observed groundwater. Issues of fill extend and groundwater issues may be dealt with by the RAP. Waste classification of any material to be removed from site would be required.



## 7 Limitation Statement

This Stage 1 and 2 contamination assessment was undertaken in accordance with current industry standards.

It is important to note that no land contamination study can be considered to be a complete and exhaustive characterisation of a site nor can it be guaranteed that any assessment shall identify and characterise all areas of potential contamination or all past potentially contaminating land-uses. Therefore, this report should not be read as a guarantee that only contamination identified shall be found on the site. Should material be exposed in future which appears to be contaminated, additional testing may be required to determine the implications for the site.

Martens & Associates Pty Ltd has undertaken this assessment for the purposes of assessing potential site contamination. No reliance on this report should be made for any other investigation or proposal. Martens & Associates accepts no responsibility, and provides no guarantee regarding the characteristics of areas of the site not specifically studied in this investigation.



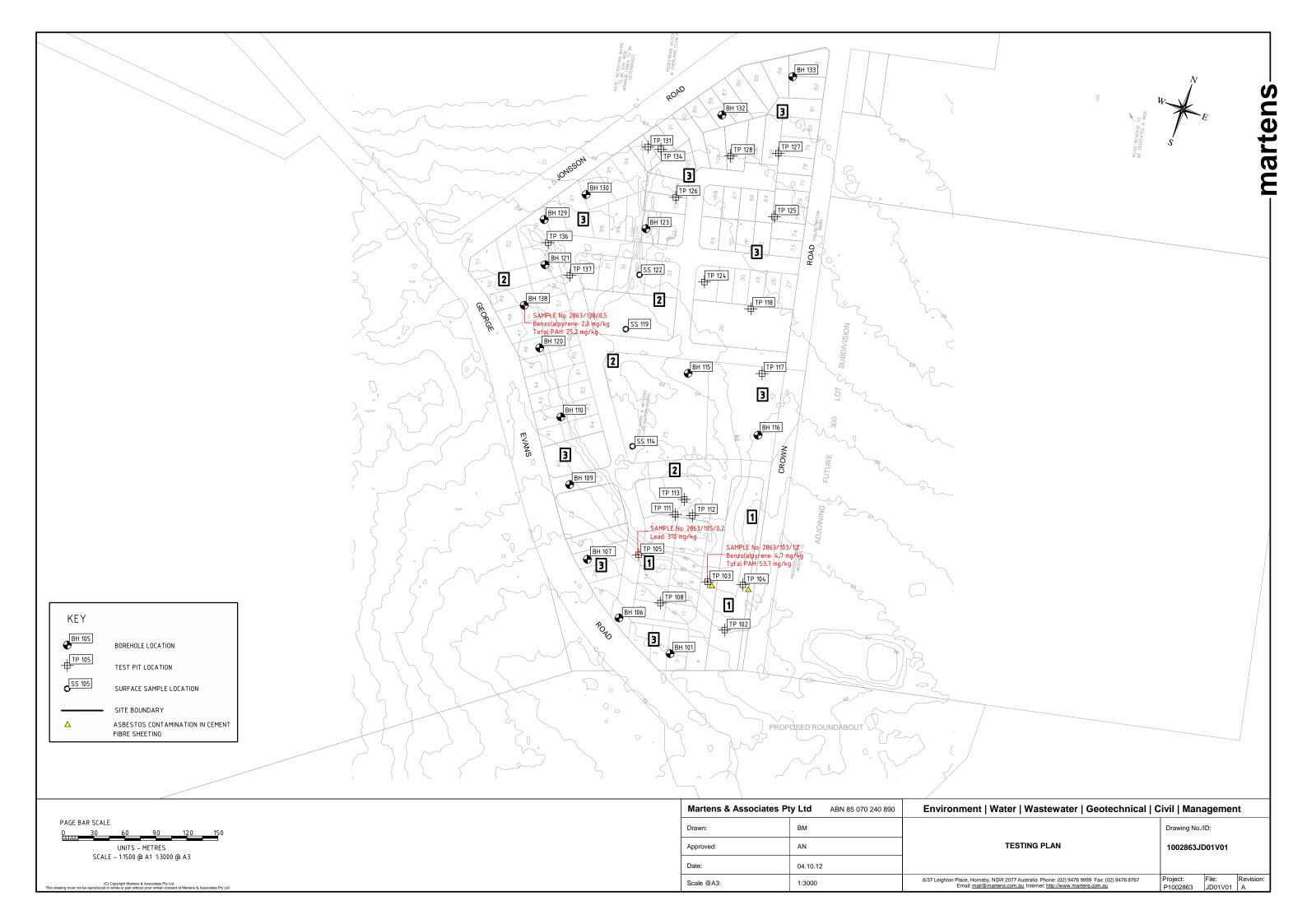
# 8 References

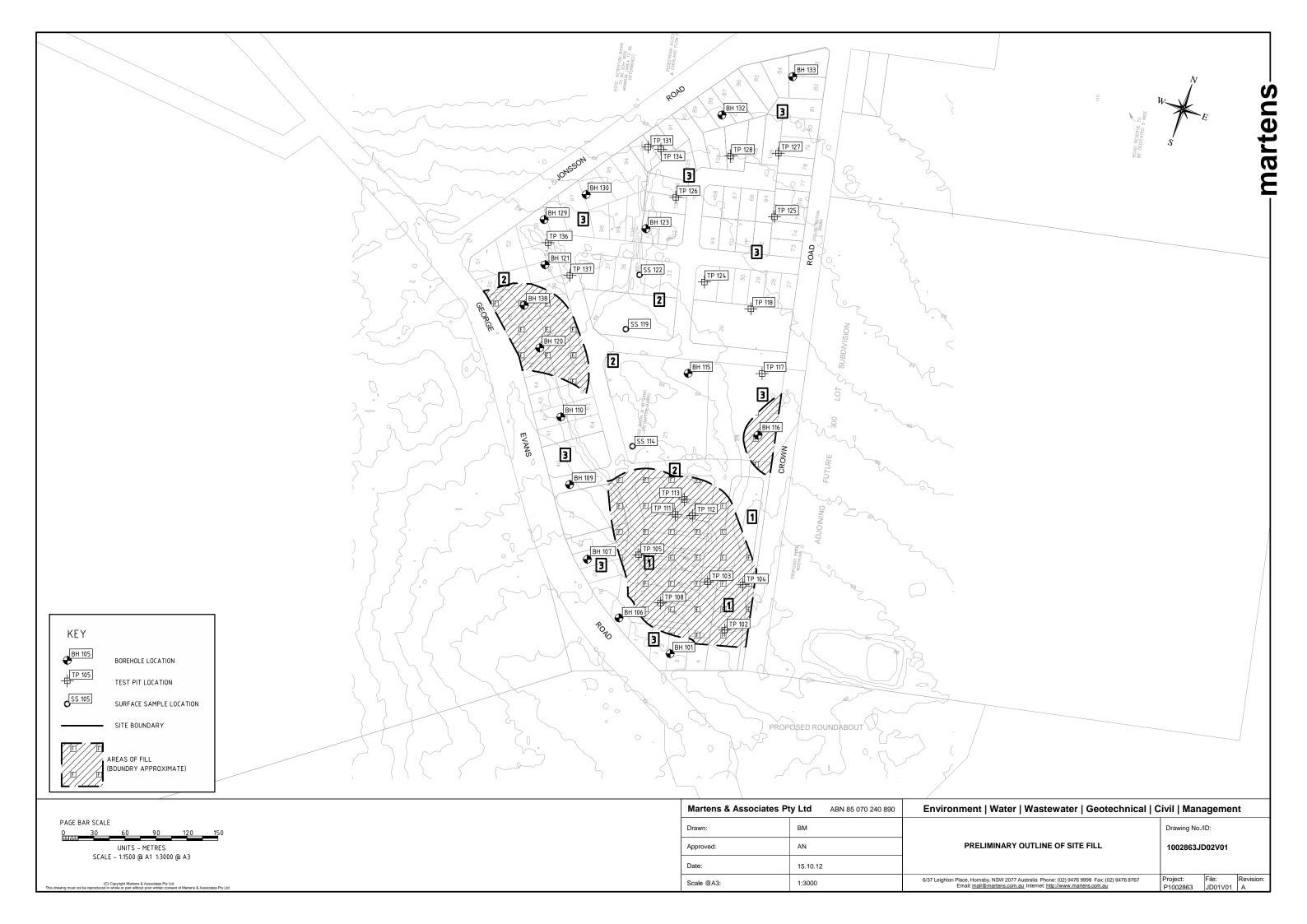
- Chapman and Murphy (1983) Wollongong 1:100 000 Soil Landscapes Sheet 9130.
- Department of Mineral Resources (1983) Wollongong 1:100,000 Geological Sheet 9130.
- NEPC (1999) National Environmental Protection Measure, 1999 (site contamination measure).
- NSW DEC (2006) 2<sup>nd</sup> Ed. Contaminated Sites: Guidelines for the NSW Site Auditor Scheme.
- NSW DUAP/EPA (1998), "SEPP 55 Managing Land Contamination, Planning Guidelines, Remediation of Land";
- NSW EPA (1994) Contaminated Sites: Guidelines for Assessing Service Station Sites.
- NSW OEH (2011) Sampling Design Guidelines.
- NSW OEH (2011) Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites.



9 Attachment A – Site Plan







Attachment B - Historical Aerials (1961, 1970, 1984, 1994, 2008)

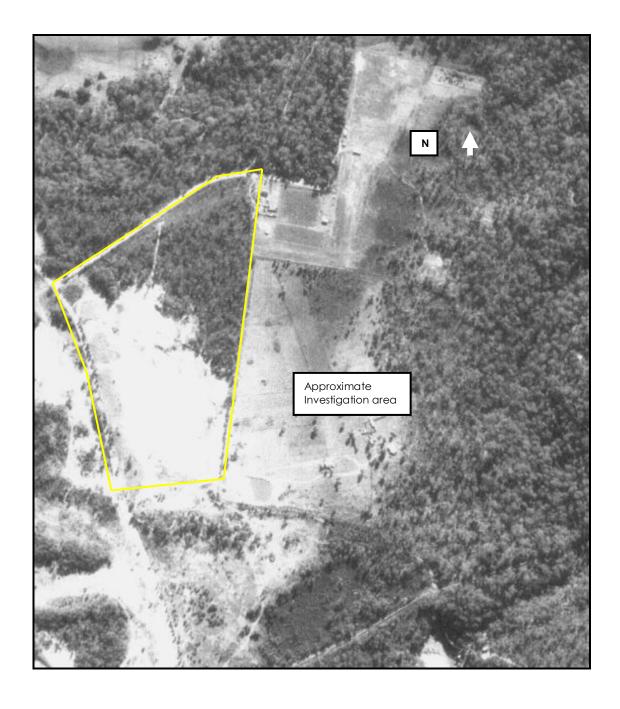




Martens & Associates Pty Ltd ABN 85 070 240 890		Environment   Water   Wastewater   Geotechnical   Civil   Management		
Drawn:	ВМ		Drawing No:	
Approved:	AN	1961 Aerial Photo	FIGURE 1	
Date:	27.09.2012			
Scale:	NA		Job No: P0102863	



Martens & Associates Pty Ltd ABN 85 070 240 890		Environment   Water   Wastewater   Geotechnical   Civil   Management	
Drawn:	ВМ	1970 Aerial Photo	Drawing No:
Approved:	AN		FIGURE 1
Date:	27.09.2012		
Scale:	NA		Job No: P0102863



Martens & Associates Pty Ltd ABN 85 070 240 890		Environment   Water   Wastewater   Geotechnical   Civil   Management	
Drawn:	ВМ	1982 Aerial Photo	Drawing No:
Approved:	AN		FIGURE 1
Date:	27.09.2012		
Scale:	NA		Job No: P0102863



Martens & Associates Pty Ltd ABN 85 070 240 890		Environment   Water   Wastewater   Geotechnical   Civil   Management	
Drawn:	ВМ		Drawing No:
Approved:	AN	1993 Aerial Photo	FIGURE 1
Date:	27.09.2012		
Scale:	NA		Job No: P0102863



Martens & Associates Pty Ltd ABN 85 070 240 890		Environment   Water   Wastewater   Geotechnical   Civil   Management	
Drawn:	ВМ		Drawing No:
Approved:	AN	2008 Aerial Photo	FIGURE 1
Date:	27.09.2012		
Scale:	NA		Job No: P0102863



Martens & Associates Pty Ltd ABN 85 070 240 890		Environment   Water   Wastewater   Geotechnical   Civil   Management	
Drawn:	ВМ		Drawing No:
Approved:	AN	2012 Aerial Photo	FIGURE 1
Date:	27.09.2012		
Scale:	NA		Job No: P0102863

10 Attachment C - Workcover license to keep goods on site results







Our Ref: D12/140754 Your Ref: Gregory Lyell 92-100 Donnison Street, Gosford, NSW 2250 Locked Bag 2906, Lisarow, NSW 2252 T 02 4321 5000 F 02 4325 4145 WorkCover Assistance Service 13 10 50 DX 731 Sydney workcover.nsw.gov.au

21 September 2012

Attention: Gregory Lyell Martens and Associates 6/37 Leighton Place Hornsby NSW 2077

Dear Mr Lyell,

# RE SITE: Lot 1 DP 1021332 George Evans Rd Mundamia NSW

I refer to your site search request received by WorkCover NSW on 11 September 2012 requesting information on licences to keep dangerous goods for the above site.

A search of the Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover NSW has not located any records pertaining to the above mentioned premises.

If you have any further queries please contact the Dangerous Goods Licensing Team on (02) 4321 5500.

Yours Sincerely

Brent Jones Senior Licensing Officer Dangerous Goods Team



11 Attachment D – Test pit/Borehole Logs



CLI	EN	Γ	SI	hoalhav	ven C	ity	Council	l		COMMENCED	19.09.12	COMPLETED	19.0	9.12			REF	BH101	
PRO	ΟJΕ	СТ	G	eotech	nical	and	l Contar	mina	tion Assessment	LOGGED	BM/JF	CHECKED	JF				Sheet 1	_	
SIT	E		Lo	t 1/DP1	0213	32 a	and Lot		DP1063107 George	GEOLOGY	Sandstone	VEGETATION	<b>I</b> Gra	ss			PROJECT N	<b>D.</b> P1002863	
EQUI	PMEI	NT			Truck	moun	nted rig	/E	rans Rd, Mundamia	EASTING	NA	RL SURFACE	NA.						
				SIONS		ım X 5	5.5m depth			NORTHING	NA	ASPECT	Nor	th			SLOPE	<5%	_
	EX	CAV	AT	ON DA	_				M.A	TERIAL DA	TA				SA	MPLIN	G & TEST	ING	_
МЕТНОБ	SUPPORT	WATER	MOISTURE	DEPTH (M)	L M PENETRATION	H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil type, texture, structure, n particle characteristics, orga	PTION OF STR. nottling, colour, pla anics, secondary a ontamination, odou	sticity, rocks, oxidation, nd minor components,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)				
٧	Nil	N	D	0.1			× × ×	SM	TOP SOIL - SILTY	SAND - Brow	n, with organics.		L	А	0.05	2863/101	/0.05		
٧	Nil	N	D	- - - - - 0.7				CL	CLAY - Red, with	grey mottles	low plasticity.	St		A B	0.5	2863/101 2863/101 2863/101	/0.25		
٧	Nil	N	D	- 1.0 - - -				EW	EXTREMELY WEAK Clay like propertie					В		2863/101 2863/101			1.0
v	Nil	N	D	2.0				w	WEAK SANDSTONE -	Brown/red, c	ourse grained sand.			В	1.5	2863/101	/1.5		2.0
v	Nil	N	D	- - - 3.0				EW	EXTREMELY WEAK Light gre	WEATHERE y, very easy d							. — — -		3.0
V	Nil	N	D	_ _ _ _ _ 3.8			P	S	STRONG SA	NDSTONE -	Brown/red.								
				- 4.0 - - - - - 4.5					Borehole termina										4.0
N S BH A C V TC	Na Sp I Ba I Ha Au Cor V-E Tun	tural e ade ckhoe nd au ger ncrete sit	bucke ger Core	ure S S et R N	UPPOR H Shoi C Shoi B Roc il No s	oring otcrete ok Bolts suppor	s <u>▼</u> Wate rt <del></del> ≪ Wate	e obse measu er leve er outf er inflo	rved D Dry L Lo red M Moist M M I W Wet H Hig Wp Plastic limit R Re low WI Liquid limit	w VS oderate S gh F ifusal St : VSt H   F I	DENSITY	se A Aug B Bulk Dense U Und D Dist se M Moi Ux Tub E Envi	er sample s sample listurbed turbed s sture co e samp ronmen	e d sample sample ontent le (x mm) tal sample	pp S VS DC FD	Standard Vane she P Dynam penetro Field der S Water sa	nic cone ometer nsity	CLASSIFICATION SYMBOLS AND SOIL DESCRIPTION Y USCS N Agricultural	N
			_							MADTENIS &	ASSOCIATES PTY LTD		1						

			+-			Council			COMPLETED	19.09.1				REF	BH10	6			
PRO		CT	+					ation Assessment	LOGGED	BM/JF		CHECKED	JF				Sheet 1 o		
SIT			Lo	t 1/DP1				'DP1063107 George ∕ans Rd, Mundamia ∕	GEOLOGY	Sandstone		VEGETATION	4				PROJECT NO	P1002863	
EQUI				SIONS	Truck mou		<u></u>	ans itu, wunuanna /	EASTING NORTHING	NA		RL SURFACE ASPECT	_			6	LOPE	-50/	
				ON DA		4.0m depth	—	M	TERIAL DA	NA TA	1.	ASPECT	North		SV		& TEST	<5%	
МЕТНОБ	SUPPORT	WATER	MOISTURE	DEPTH(M)	PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	DESCRII Soil type, texture, structure, reparticle characteristics, orga	PTION OF STR	ATA asticity, rocks, c	oxidation, ponents,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)	WIT LINE	<u> </u>	iii G	
٧	Nil	N	D	0.1		× × ×	SM	TOP SOIL - SILTY	anics.			Α	0.05	2863/106/0	).05				
v	Nil	N	D	- - - -			CL	CLAY - Dark brown, w CLAY - Red/br	rith minor grav	vels (5mm,	5-10%).			В	0.4- 0.5	2863/106/0 CBR @ 0.3 2863/106/0 2863/106/0	m 0.4-0.5		-
v	Nil	N	D	0.85			. EW	EXTREMELY	<u> </u>	DSTONE -				В	1.2	2863/106/1	.2		- 1.0 2.0
v	Nil	ν	D				w	WEAK SANDS sand	STONE - Red dstone gravel		h			В	3.0	2863/106/3	.0		- - 3.0 - - - - - - - - - - - - - - - - - - -
				_ _ _ _ <u>4</u> .5				Borehole terminated											- - - 4.5
N S BH A C V TC	Na Sp H Bad A Had Au C Cor V-B C Tun	atural e pade ckhoe and aug iger ncrete Bit	Corer	ire SH SC et RE Nil	JPPORT Shoring Shotcret Rock Bo No supp	te X Not in the last of the la	e obse measur ter lever ter outfl	rved D Dry L Lo red M Moist M M I W Wet H Hig Wp Plastic limit R Re low WI Liquid limit	w VS oderate S gh F ffusal St VSt H F	Very Soft N Soft L Firm S Stiff I Very Stiff N Hard Friable		A Auge B Bulk Inse U Undi D Distu M Mois Ux Tube E Envin	NG & TES er sample sample sturbed sam ture conte sample (sonmental s	ample ple ent x mm) sample	S VS DC FD WS	Vane shea CP Dynamic penetrom Field densi S Water sam	enetration test r cone leter ty	CLASSIFICA SYMBOLS A SOIL DESCF Y USCS N Agricul	AND RIPTION

V Ni N D		EIN					/ Counci			COMMENCED	19.09.12		OMPLETED	19.09.1			–- Rt	EF	BH1	)7
Second   S			СТ	_										_						
Method   Mark	_			Lo	t 1/DP10												PRO	JECT NO.	P1002863	
No.								<u></u>	rans Ku, wunuanna								01.00	-	F0/	
Description of Part   Description   Descri							Z.om depth					AS	SPECI	North		SAME				
Second Control of Co						PENETRATION RESISTANCE	GRAPHIC LOG	CLASSIFICATION	DESCRI Soil type, texture, structure, r particle characteristics, org	PTION OF STR mottling, colour, pla janics, secondary a	ATA asticity, rocks, oxidar	tion, its,	CONSISTENCY	DENSITY INDEX			<u>Liivo u</u>	TEOTII.	10	
V No R N D   2.5   MEDIUM STRONG SANDSTONE - Reditions.   B   1.5   2800/1071.0   1.					- - -		××		sandstone g CLAYEY SAND - Ora	gravels (5-30m ange/yellow, n	nm, 10%) noist, fine grair	med,								
W Nile N D D 2	V	Nil	Ν	D			9 6	MS			DSTONE -									- - 1 <u>.0</u> - - - - - 2 <u>.0</u>
EQUIPMENT IMETHOD  ALO  ALO  ALO  ALO  ALO  ALO  ALO  A	v	Nil	N	D D			P 19	MS					_ + -		В	2.5 286	:3/107/ 2.5			 - - -
N Natural exposure S Spade S Spade S Spade S Spade S Spade S Shoring S Spade S					3.0				V-Bit refusal at 2.8m	n in medium s	trong sandstor	ne.								- 3.0 - - - - - 4.0 - - - - - - - - - - - - - - - - - - -
	N S BH A CO V TO	Na Sp H Ba A Ha Au C Cor V-E C Tun	itural of ade ckhoe nd au ger ncrete Bit gsten	exposi e bucke iger e Corer i Carbie	THOD SU JIPE SH SC SC SC NII	H Shoring C Shotcrete Rock Bol No suppo	N Non te X Not olts	ne obse measu ter leve ter outf ter inflo	arved D Dry L Lo ured M Moist M M bl Wet H Hi wp Plastic limit R Re flow WI Liquid limit	ow VS loderate S ligh F lefusal St VSt H F	Very Soft VL Soft L Firm MD Stiff D Very Stiff VD Hard Friable	Very Loose Loose Medium Densi Dense Very Dense	A Auge B Bulk s e U Undis D Distu M Moist Ux Tube E Enviro	r sample sample sturbed sa rbed sam sure conte sample ( onmental	ample nple ent (x mm) sample	S Sta VS Va DCP D po FD Fie WS Wa	andard penetr une shear Dynamic cone enetrometer eld density ater sample	ration test e	SYMBOLS SOIL DESC	ATION AND RIPTION

CLIEN					y Counci		tion Accesses	LOGGED	19.09.12		CHECKED		J. 1Z		REF	BH109
PROJE SITE	:CT	_					DP1063107 George	GEOLOGY	BM/JF Sandstone		VEGETATIO	JF N Gras	ee .		Sheet 1	of <b>1</b> NO. P1002863
EQUIPMEN	NT	LU	. I/DF I	Truck mo			ans Rd, Mundamia	EASTING	NA		RL SURFAC	_	,s		PROJECT	P1002863
EXCAVAT		DIMEN	SIONS	_	K 0.9m depth			NORTHING	NA NA		ASPECT	Norti	h		SLOPE	<5%
EX	CAV	/AT	ION DA	TA			MA	ATERIAL D	ATA					SA	MPLING & TES	TING
METHOD	WATER	MOISTURE	DEPTH (M)	L PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil type, texture, structure, r particle characteristics, org	PTION OF STR mottling, colour, pl ganics, secondary a ontamination, odo	asticity, rocks, c	oxidation, onents,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)		
V Nil	N	D	0.1		* * *	SM	TOP SOIL - SILTY S	AND - Grave	ls (5-50mm	, 10%).			А	0.05	2863/109/0.05	
V Nil	N	D	_ _ 			SP	GRAVELL\ gravels	Y SAND - Lig (5-50mm, 10-	ht brown, 20%). — — —				A	0.2	2863/109/0.2	— — — — — -
V Nil	N	D	_ _ _ _ _ 0.9		P 81	- MS	MEDIUM STRONG grading to d	G SANDSTO dark brown w		orown			В	0.6	2863/109/0.6	
V-Bit refusal at 0.9m on sandstone.														1.0 		
			4.0													4 <u>.</u>
S Sp BH Ba HA Ha	atural o ade ockhoe and au iger ncrete Bit ngsten	exposi e bucke ger Corei Carbi	ure Si Si et R Ni	UPPORT H Shoring C Shotcre B Rock Bi I No supp	te X Not olts <u>Ψ</u> Wa oort <u>-</u> Wa	ne observ measure ter level ter outflo	ved D Dry L Lo ed M Moist M M W Wet H Hi Wp Plastic limit R Re ow WI Liquid limit	ow VS loderate S igh F efusal St VSt H F	Very Soft Soft Firm Stiff Very Stiff Hard Friable	DENSITY VL Very Loose L Loose MD Medium D D Dense VD Very Dens	se A Au B Bu Dense U Ur D Dis Se M Mc Ux Tu E Env	LING & T ger sample k sample disturbed sturbed sa isture co be sample vironment	ole d sample ample ntent le (x mm) tal sampl	PI S V: D FI e W	p Pocket penetrometer Standard penetration to S Vane shear CP Dynamic cone penetrometer D Field density S Water sample	CLASSIFICATION SYMBOLS AND est SOIL DESCRIPTION  Y USCS N Agricultural

						y Counc			COMMENCED	19.09.12		WPLETED	19.09.12			RE	: <b>-</b>	<b>BH11</b>	U
PR		СТ	+					tion Assessment	LOGGED	BM/JF		ECKED	JF			Sheet	<b>1</b> of	1	
SIT			Lo	: 1/DP1	_			DP1063107 George	GEOLOGY	Sandstone		SETATION	-			PROJE	ECT NO.	P1002863	
EQU						ounted rig	<u>\</u>	rans Rd, Mundamia	EASTING	NA		SURFACE	NA						
				SIONS	_	X 2.6m depth			NORTHING	NA TA	ASP	PECT	North		CAR	SLOPE		<5%	
	EX	CAV	AII	ON DA			z	IVIA	ATERIAL DA	AIA					SAIV	IPLING & 1	I E S I II	NG	
МЕТНОБ	SUPPORT	WATER	MOISTURE	DEPTH(M)	L PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil type, texture, structure, r particle characteristics, org	PTION OF STR mottling, colour, pla anics, secondary a ontamination, odou	asticity, rocks, oxida and minor componer	tion,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)				
٧	Nil	N	D	0.1		* * *	× SM	TOP SOIL - SILTY S	AND - Gravel	s (5-50mm, 10	)%).			Α (	0.05 2	863/110/0.05			
V	Nil	N	D	- - - - - - 11.0				GRAVELLY gravels (	/ SAND - Ligl 5-50mm, 10-	nt brown, 20%).						2863/110/ 0.2 CBR10 @ 0.2-0.4	im		- - - - 1.0
v	Nil	N .	D	1.6			MS	MEDIUM STRONG S	SANDSTONE inclusio		own,	_		В	1.8 2				2.0
٧	Nil	Ν	D	_ _ _ _ 2.6			MS	MEDIUM S	TRONG SAN	DSTONE				В	2.4 2	863/110/2.4			- -
				-				V-Bit refusal a	t 2.6m on me sandstone.	dium strong									-
	ייטוו וכ	MEN!*		3.0 - - - - - - - - - - - - - - - - - - -	SUPPORT	MATERIAL		MOISTURE PENE	TRATION CON	SISTENCY DENS	PITY	CAMOUN		TING				OI ADDITION	3.0 - - - - - - - - - - - - - - - - - - -
N S BH A C V	Na Sp H Ba A Ha Au C Cor V-B	itural e ade ckhoe nd au ger ncrete Bit	exposu bucke	re S S t R N	SUPPORT SH Shoring SC Shotcre RB Rock B No sup	ete X No olts \( \psi \) Wa	ne obse measu iter leve	rved D Dry L Lored M Moist M M. I W Wet H Hip Wp Plastic limit R Reform	ow VS oderate S gh F efusal St VSt H	Very Soft         VL           Soft         L           Firm         MD           Stiff         D	Very Loose Loose Medium Dense Dense Very Dense	U Undis	r sample sample sturbed sa rbed samp ture conter sample (x	mple ole nt : mm)	S S VS DCP	Pocket penetrome Standard penetral Vane shear Dynamic cone penetrometer Field density Water sample	eter tion test	CLASSIFICA SYMBOLS A SOIL DESCF Y USCS N Agricul	ND RIPTION
Pī	Pus	sh tub	e	··															
						EXCAVAT	ION L	OG TO BE READ IN CONJU		A SSOCIATES D		NOTES A	and abe	BREVI	ATION	IS			

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SIT			Lot		_		and Lot				eorge ≀damia ∕	GEOLOG		Sandstone	1	-	VEGETAT		rass			PROJECT I	NO.	P1002863	
EQUI			IMENIC	SIONS		d Auger			ans ix	u, wun	iuaiiiia /	EASTING NORTHI		NA NA			RL SURFA	_				SLOPE	<5	0/	
				ON DA	_	nm X U	0.3m depth				N/ /	TERIA		NA TA			ASPECT	N	orth		MDI IN	IG & TES	_		
МЕТНОБ	SUPPORT	WATER	MOISTURE	DEPTH (M)	PENETRATION	H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil t part	ype, texture	DESCRII e, structure, r teristics, org	PTION OF	STR. our, pla	ATA isticity, rock	s, oxidation	n,	CONSISTENCY	DENSITY INDEX	TYPE	S		<u>G tt 1L3</u>	TIN	,	
НА	Nil	N	м					CL			SANDY (	CLAY - L	ight b	orown.					А	0.05	2863/115	/0.05			
-	Nil	 N	м	0.15 - 0.3			P' / 4	w	WE		REMELY		 HERE	 ED SAND	OSTONE	E-			$+$ $\overline{A}$	0.2	2863/115	/0.2			- — -
										le termina														1.0   1	
EC N			/ MET		JPPOF Sho		WATER N None			DISTURE Dry	PENE L Lo	TRATION	VS	SISTENCY Very Soft		Y ery Loose		PLING Auger sa	& TESTIN	IG n	p Pocket n	enetrometer		CLASSIFICA SYMBOLS AI	TION
S	Sp	ade	bucke	SC	Sho	otcrete ck Bolts	X Not i			Moist		oderate	S	Soft Firm	L Lo	ose edium De	ВЕ	Bulk sam		S	Standard S Vane sh	I penetration to		SOIL DESCR	
	. Ha	nd aug				suppor	rt <del>*</del>		W	Plastic li	mit R Re		St S	Stiff	D De	ense	D [	Disturbe	d sample		CP Dynam	nic cone	[	Y USCS	
CC		ncrete	Corer				→ Wat			Liquid lin	IIIT		H I	Very Stiff Hard	VD Vei	ry Dense	Ux 1	ube sar	content nple (x mr		penetro D Field der	nsity	İ	N Agricult	ural
TC	V-B Tun	gsten	Carbid	le Bit			→ Wat	er inflov	v				F F	riable			E E	nvironm	ental sam	pie V	VS Water sa	ітріе			
Pī	Pus	sh tube	е		—		VOA) (* T	ON 1 5	O TO 5	)	INI COST "	INICTION	\A/1 <del>7</del> 1	1 40001	DANINATA	, DE50	DT NOT	-0 411		F\ // 4 F	IONIC				
			_		—	E	ACAVATI(	JN LC	G 10 B	SE READ	IN CONJU			ACCOM			KI NOTE	S ANI	ABBR	⊏VIAT	UNS				

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	OJE	СТ	+				d Contar						LOGGE	D ———	BM/JF			CHECK	ED	JF				Sheet 1	of	1	
SIT	Έ		Lot	: 1/DP1			and Lot						GEOLO		Sandstone	9		VEGET	ATION	Grass				PROJECT	NO.	P1002863	
	IPMEN					d Auge		\EV	ans R	d, Mu	naam	ııa/	EASTIN		NA			RL SUR		NA							
EXC			IMENS			mm X	0.5m depth						NORTH		NA			ASPECT	ſ	North				SLOPE	_	5%	
	EX	CAV	/ATI	ON DA								MA	TERIA	L D/	ATA		-					SA	MPLIN	G & TES	STIN	G	
METHOD	SUPPORT	WATER	MOISTURE	DEPTH(M)	" PENETRATION	H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil t part	ype, textu ticle chara	ire, struc acteristic	ture, m s, orga	PTION O nottling, co nics, seco ntaminatio	olour, pla ondary a	asticity, rock and minor co	s, oxidat omponen	tion, nts,	CONSISTENCY		DENSITY INDEX	TYPE	DEPTH (M)					
НА	Nil	N	D	- 0.2				xx	FIL	L - Gra	velly o	claye vels i	y sand, nclusio	, brow on (5-	n, with b 10%).	lue me	etal					0.05 0.15 0.2	2863/115/ 2863/115/ 2863/115/	0.15			=
НА	Nil	N	М	- - 0.5			P'	EW		EX			WEAK		DSTONI ottles.	E -											-
														- 1.0 - 1.0 													
				- 4 5	Ш																						4.5
E	QUIPN	ЛЕNТ	/ MET		JPPO		WATER	ш	М	DISTURE	F	PENET	RATION	CON	SISTENCY	DENS	SITY	SA	AMPLIN	IG & TE	STING					CLASSIFIC	4. <u>5</u> ATION
N S	Na		exposu	re SH	l Sho		N None	e obser	ved D	Dry Moist	L	Lov		VS	Very Soft Soft	VL	Very Loos Loose		Auge	r sample sample		pp	Pocket pe	netrometer penetration t	test	SYMBOLS SOIL DESC	AND
BI	H Ba	ckhoe	bucke	t RE	Ro	ck Bol	lts ل Wate	er level	W	Wet	H	Hig	h	F	Firm	MD I	Medium D	ense U	Undis	turbed s		VS	S Vane she	ar	wol		
Α	Au			Nil	No	suppo	ort <del>-</del> → Wate	er outfle		Plastic Liquid		k Ref	usal	VSt	Stiff Very Stiff		Dense Very Dens		Moist	rbed san ure conte	ent		CP Dynami penetro	meter		Y USC	
	C Cor V-B		Corer				→ Wate								Hard Friable			Ux		sample (			Field dens S Water sa			N Agric	ultural
T	C Tun		Carbio	le Bit			,a											-									
Ľ	. rut	on tub			_		EXCAVATION		G TO P	BE RFAI	) IN CC	III.NC	NCTION	WIT!	H ACCOM	PANYIN	NG RFP0	ORT NO	TES 4	ND AP	BRF\	/ΙΑΤΙ	ONS				
$\vdash$		_	_		_			211 20	J 10 E	_ /\_/\		J. 10 U			A S S O C IA			OIN NO	0 /		\L\	W 3 f 10					

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	OJE	СТ	+					tion Assessment	LOGGED	BM/JF		CHECKED	JF			Sheet 1 o	f 1	
SIT	E		Lot	: 1/DP1				DP1063107 George	GEOLOGY	Sandstone		VEGETATIO	N Grass			PROJECT NO	- P1002863	
	PMEN				Hand Aug		/ EV	ans Rd, Mundamia	EASTING	NA		RL SURFACI						
				SIONS		1.6m depth		*	NORTHING	NA		ASPECT	North		04	SLOPE	<5%	
	EX	CAV	ATI	ON DA		-		M.A	TERIAL D	ATA					SAMPLI	NG & TESTI	NG	
МЕТНОD	SUPPORT	WATER	MOISTURE	DEPTH (M)	L PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil type, texture, structure, n particle characteristics, orga	PTION OF STF nottling, colour, pl anics, secondary entamination, odo	asticity, rocks and minor cor	oxidation, nponents,	CONSISTENCY	DENSITY INDEX	TYPE	<b>DEPTH (M)</b>			
НА	Nil	N	D	- - - - - - 1.0			XX SM	FILL - SILTY SAN sandstone gravels ( (brick, stee	ID - Light bro (5-10mm, 5% el), glass and	6), building	ninor g waste			A	0.05 2863/12 0.2 2863/12			- - - - 1.0
				- 2.0 				Borehole terminat	ed at U.3m C	n siity san	d till.							- 2.0 
N S H A C V T	Na Sp H Ba A Ha Au C Cor V-B C Tun	tural e ade okhoe nd aug ger ncrete it gsten	/ MET exposul bucker ger Corer	re SI SC t RE Ni	JPPORT H Shoring C Shotcrete B Rock Bo I No supper	lts ل Wat	e obser measur er level er outfl	ved D Dry L Lo ed M Moist M M W Wet H Hig Wp Plastic limit R Re ow WI Liquid limit	w VS oderate S gh F fusal St VSt H	SISTENCY Very Soft Soft Firm Stiff Very Stiff Hard Friable	DENSITY VL Very Loose L Loose MD Medium De D Dense VD Very Dense	e A Auç B Bul ense U Uno D Dis M Mo Ux Tub	ING & TE ger sample k sample disturbed s turbed sar isture cont be sample ironmenta	sample mple ent (x mm)	S Standa VS Vane s DCP Dyna penet FD Field d	mic cone rometer ensity	CLASSIFICAT SYMBOLS AN SOIL DESCRI Y USCS N Agricultu	ID PTION
	Pus							O TO DE 2512	NOT/ON	1.4005::	A N () () () () () () () () () () () () ()	DT 110== 1	A 5 / 5	DD =:	IATIC::-			
						EXCAVATIO	JN LC	OG TO BE READ IN CONJU	MARTENS &			INOTES	AND A	RKEV	IATIONS			

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PRO		CT	_							Assessm		LOGGED		BM/JF			CHECKE		JF				Sheet 1		1		
SIT			Lo	i 1/DP1	_					)63107 Ge Rd, Mund		GEOLOG		Sandstone	1		VEGETA		Grass				PROJECT	NO.	P100286	3	
EQUI				SIONS	+	land Aug			/alis r	tu, munu	iaiiia /	EASTING NORTHIN		NA NA			RL SURF	ACE	NA		—		SLOPE		5%		
				ON DA			0.7m depth				MΔ	TERIA					ASPECT		North		SAI		G & TES				_
МЕТНОБ	SUPPORT	WATER	MOISTURE	DEPTH (M)		M PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil pa	I Il type, texture, : article charactei	DESCRII structure, n	PTION OF	STR.	ATA sticity, rock	s, oxidatic mponents	on,	CONSISTENCY	VIGNI	DENSITY INDEX		DEPTH (M)	VII LIIN	3 4 120	<u> </u>	<u> </u>		
НА	Nil	N	D	0.1	T		A 155	SP	SANI	D - Light b	rown, sa	andstone	grav	els (5-50	)mm, 1	0%).				Α (	0.05	2863/121/	0.05				
НА	Nil	N	D	- - 0.4			P	w		WEAR		HERED brown, g			E -					A	0.2	2863/121/	0.2				
HA	Nil	N	D	·  -				MS	M	IEDIUM ST		— — · WEATHI ht brown/			STONE	-				A B	0.5	2863/121/ 2863/121/	0.5 0.5				
— HA	 Nil	 N	 D	0.6	Н	-	+-	+ - - s	<del> </del>	—		NDSTON			 wn.	-+		+ -	-+	· —	$- \cdot$			_			
										Refusal	artzite gra at 0.7m sandston	on st														1.0	
			/MET	THOD SU								TRATION		SISTENCY	DENSI				IG & TES							FICATION	4. <u>5</u>
N S BH A C C V TC	Na Sp H Ba Ha Au Cor V-B Tun	atural e bade ickhoe ind aug iger ncrete Bit	bucke ger Corer	ure SH SC et RE Ni	H S C S B F	Shoring Shotcrete Rock Bo No suppo	te X No olts \( \frac{\text{V}}{\text{V}} \) Wi  \( \frac{\text{W}}{\text{V}} \) Wi	ne obset t measu ater leve ater out ater infle	erved Dured Mel W	D Dry	L Lo M Mo H Hiç it R Re	w oderate gh ifusal	VS S F St VSt H I F F	Very Soft Soft Firm Stiff Very Stiff Hard Friable	VL V L L MD M D D VD V	Very Loose oose ledium De ense ery Dense	e A B ense U D M Ux E	Auger Bulk sa Undist Disturk Moistu Tube s Enviror	sample ample turbed sa bed sam ure conte sample (x nmental s	ample nple ent (x mm) sample	S VS DC FD WS	Standard Vane sheach Dynamic penetror Field dens Water sar	c cone meter sity	test	SYMBOI SOIL DE		
			_									MADTEN	10.0	veeUCIV.	TEC DT	/ LTD		Т									

_	EIN I		+				Counci		4			COMME		19.09.12			COMPLE		19.09.	12			REF		BH1	23
PR		СТ	+				Conta					LOGGE		BM/JF			CHECKE		JF				Sheet 1		1	
SIT			Lot				nd Lot				∋eorge ndamia ,	GEOLOG		Sandstone	!		VEGETA		Grass				PROJECT	NO.	P1002863	
EQUI						Auger		_	ans N	u, wu	iuaiiiia	EASTING		NA			RL SURF	ACE	NA				OL ODE		=0/	
			IMENS			nm X 0	.45m depth					NORTHI		NA TA			ASPECT		North		<u> </u>		SLOPE		5%	
	EX	CAV	AII	ON DAT				ΙZΤ			IVI	ATERIA	L DA	AIA		ı		Τ.			SA	WPLIN	G & TES	) I IN	G	
МЕТНОD	SUPPORT	WATER	MOISTURE	DEPTH (M)	L M PENETRATION	H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil ty partio	rpe, texture cle charac	e, structure, teristics, org	PTION OI mottling, col ganics, seco ontamination	lour, pla ndary a	asticity, rock and minor co	s, oxidati mponent	on, s,	CONSISTENCY	N. C.	DENSILY INDEX	TYPE	DEPTH(M)					
НА	Nil	N	D					SP			SAND - L	ight brov	vn/gr	ey, wet.							0.05	2863/123/				
НА	Nil	N	D -	-			P	EW			LY WEA									Α		2863/123/				-
				0.45			P	$\vdash$			e termina									A	0.4	2863/123/	0.4			-
	1.0 																									- - 1 <u>.0</u> - -
			-	- - - - - 2.0 - - -																						- - - 2.0 - -
				- - - - - - - -																						- - 3 <u>.0</u> - - -
	Ol IIIC's	4ENIT		- - - 4.0 - - - - - -	BBOT	DT.	WATER		MO.	ngți inc	DFAIF	TDATION	CON	SISTEMOV	DENIG	ITV		ADI III		OTINIO OTINIO					OLACOIET	4.0 4.0 - - - 4.5
N S BH A C V T	Na Sp H Ba A Ha Au C Cor V-B C Tun	itural e ade ckhoe nd aug ger ncrete Bit	Corer	re SH SC t RB Nil	Roc		₩ Wat	e obser measure er level er outflo	ved D ed M W Wp ow WI	DISTURE Dry Moist Wet Plastic li	L Lo M M H Hi imit R Ro	oderate gh	VS S F St VSt H	SISTENCY Very Soft Soft Firm Stiff Very Stiff Hard Friable	VL \ L L MD N D D	ITY /ery Loos .oose /ledium De Jense ery Dense	e A B ense U D e M Ux	Auger Bulk sa Undist Disturl Moistu Tube s	G & TE: sample ample turbed si bed sam ire conte sample ( nmental	ample nple ent (x mm)	S VS DC	Pocket pe Standard S Vane she CP Dynami penetroi D Field dens S Water sai	penetration t ar c cone meter sity	test	CLASSIFIC SYMBOLS SOIL DESC Y USC N Agric	AND CRIPTION
						E.	XCAVATION	ON LC	G TO BI	E READ	IN CONJU	JNCTION	WITH	ACCOM	PANYIN	G REPO	ORT NOT	ES A	ND AB	BREV	/IATIC	ONS				
			_								-			V66UCIV.				$\neg$								

_	EN I		_				Council		41 1	•	4	-	OCCED		19.09.12			CUECK						REF		BH1	29	
PR		СТ	+				I Contar					-	.OGGED		BM/JF			CHECK		JF				Sheet 1		1		
SIT			Lot				and Lot				George Indamia		EOLOG		Sandstone	9		VEGET						PROJECT I	NO.	P1002863	1	_
EQUI					Hand A			<u></u>	alls iv	tu, iviu	iiuaiiii	=+-	ASTING		NA			RL SUR		_				SLOPE		=0/		_
				ON DAT		.m X U	).7m depth	—					ERIA		NA TA			ASPEC	1	North		64		G & TES	_	5%		$\dashv$
МЕТНОБ	SUPPORT	WATER	MOISTURE	DEPTH (M)	PENETRATION	RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil pai	type, texti	DESC ure, structur	RIPTI re, mott organic	ION OF	STR. our, pla	ATA asticity, rock	ks, oxida omponer	tion, nts,	CONSISTENCY		DENSITY INDEX	TYPE	DEPTH(M)	WIF LIN	<u> </u>		<u> </u>		
НА	Nil	N	D	0.1			× × × ×	SM	TOP	SOIL -	SILTYS	SAND	- Ligh	ht bro	wn, min	or orga	anics.				Α	0.05	2863/129/	0.05				
НА	Nil	N	D	- - 0.4			* * * * * * * * * * * * * * * * * * *	1 I	 	SILTY	/ SAND	- Bro	wn, w	ith m	inor orga	anics.			Ţ		A	0.25	2863/129	0.25				
0.7												ight b	rown,	mois ed at (			))-											1.0
N S BH HA	Na Sp H Ba A Ha Au	itural e ade ckhoe nd aug ger	/ MET exposu bucke	THOD SU re SH SC t RB Nil	PPOR Short Shote Rock No si	ring tcrete k Bolts	S	e obser measur er level	rved D red M I W W	Moist Wet	L M H climit R	NETRA Low Mode High Refus	erate	VS S F St VSt	SISTENCY Very Soft Soft Firm Stiff Very Stiff Hard	VL L MD D	SITY Very Loos Loose Medium D Dense Very Dens	se A B lense U D e M	Auge Bulk Undi Disti Mois	ING & TE er sample sample isturbed san sture contr	sample mple tent	pp S VS DC	Standard Vane she P Dynam penetro	ic cone meter	est	CLASSIFI SYMBOLS SOIL DES	S AND SCRIPTIC	
V	V-B	Bit					→ Wate	er inflo	w						riable					e sample ronmental			) Field den S Water sa			Agr	rouitui di	
PI	Pus	gsten sh tube	Carbic e	UIL DIL																								_
						E	XCAVATIO	ON LC	)G TO F	BE REA	D IN CON							ORT NO	TES.	and ae	3BRE\	/IATIC	ONS					${ m \bot}$
ı			~									B 4	IADTE.	100	1000011	TEC D	TVITD			1								

CLI			+			Counci			COMMENCED	19.09.12		OMPLETED	19.09.12			REF	BH130	)
PR	DJE	СТ	+					ation Assessment	LOGGED	BM/JF	С	HECKED	JF			Sheet 1 of	: 1	
SIT	E		Lot	1/DP1	021332	and Lot		DP1063107 George	GEOLOGY	Sandstone	V	EGETATION	Grass			PROJECT NO.	P1002863	
EQUI	PMEN	NT			Hand Aug	er	\ <u>Ev</u>	ans Rd, Mundamia	EASTING	NA	R	L SURFACE	NA					
EXC	VAT	ION D	IMENS	IONS	Ø70mm X	0.6m depth			NORTHING	NA	A	SPECT	North			SLOPE	<5%	
	EX	CAV	/ATI	ON DA				M	ATERIAL DA	ATA				SA	MPLIN	G & TESTI	NG	
METHOD	SUPPORT	WATER	MOISTURE	DEPTH (M)	L PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil type, texture, structure, particle characteristics, or	IPTION OF STR mottling, colour, pl ganics, secondary a ontamination, odor	asticity, rocks, oxidatio and minor components	n, ,	CONSISTENCY	DENSITY INDEX	DEPTH (M)				
HA	Nil .	N	D	0.05		- X - X - S	SM	ORGANIC SILTY	SAND - Brow	n, dry, rootlets.	,			0.05	2863/130	/0.05		
НА	Nil	Ν	D	- - - - 0.5			sc	CLAYEY SAND - Or minor gr	ange/yellow, r avels (5-10mr	moist, fine graine	ed,		E	0.25	2863/130/	/ 0.25		-
НА	Nil	N		0.6			SP	GRAVELLY SAND	- Gravels (5- ht brown, moi					-				
			-					Borehole termi	inated at 0.6m gravely sand.	ı (refusal) on								- - 1.0 - - - - - 2.0
N	Na	itural e		e SF	JPPORT 1 Shoring	WATER N Non	e obse	rved D Dry L L	ow VS		ery Loose	A Auger	IG & TESTII	p	p Pocket pe	enetrometer	CLASSIFICATI SYMBOLS AND	)
S BH A C V T C	Sp Ha Ha Au Cor V-B Tun	ade ckhoe nd aug ger ncrete Bit	bucket ger Corer Carbid	SC RE Nil	Shotcret Rock Bo No supp	e X Not lits	measur er leve er outfl er inflo	red M Móist M M I W Wet H H Wp Plastic limit R R Iow WI Liquid limit	loderate S igh F efusal St VSt H F	Soft L Lo Firm MD Mi Stiff D De Very Stiff VD Ve Hard Friable	oose edium Dens ense ery Dense	B Bulk s se U Undis D Distur M Moistr Ux Tube E Enviro	ample sturbed sample bed sample ure content sample (x mi nmental sam	le V D n) Fi ple W	Standard S Vane she CP Dynam penetro D Field den /S Water sa	penetration test ear ic cone meter sity	SYMBOLS AND SOIL DESCRIP  Y USCS  N Agricultur	TION
						LACAVATI	JIN L(	OG TO BE READ IN CONJ	UNCTION WITE	I ACCOIVIPANTING	> KEPUR	CI NOTES A	IIND ABBK	∟viA i l	ONO			

	EN						y Counci				COMMENCED	19.09.12		OMPLETED	19.09.			REF	BH132
PR		СТ	+-							Assessment	LOGGED	BM/JF	c	HECKED	JF			Sheet 1 of	
SIT	Ε		Lo	t 1/DP1	_					63107 George	GEOLOGY	Sandstone	V	EGETATION	Grass			PROJECT NO.	P1002863
	IPME				_	and Aug		<u>/ Ev</u>	ans F	Rd, Mundamia	EASTING	NA		L SURFACE	+				
				SIONS			X 0.5m depth				NORTHING	NA	А	SPECT	North			SLOPE	<5%
	EX	CAV	/ATI	ON DA			+			M A	ATERIAL DA	ATA					SAN	IPLING & TESTI	NG
МЕТНОБ	SUPPORT	WATER	MOISTURE	DEPTH(M)	1	M PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil pai	type, texture, structure, r rticle characteristics, org	PTION OF STR mottling, colour, pl anics, secondary a ontamination, odo	asticity, rocks, oxidation and minor components,	ı,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH(M)		
НА	Nil	N	D	0.1	T			×xx		FILL - Sand, with	gravels (5-50	0mm, 30-40%),				Α	0.05 2	2863/132/0.05	
HA	Nil	N	_ ·	0.1	$\dagger$	.		sc			rown/orange.		- 才			1	- +		
-	_	_		0.2	$\dagger$	.		+ +	CL	AYEY SAND - Ora minor ara	ange/yellow, r avels (5-10mr	noist, fine grained n. 5%).	ı, /	+	-+	- A	0.2	2863/132/ 0.2	
НА	Nil	N	D	- - 0.5				SP	SAN	ND, WITH GRAVE			n.						- -
					Ħ	$\Box$				Borehole termi		(refusal) on							-
				_						Sa	andy gravels.								=
				_															=
				-															-
				-															_
				1.0															1.0
				_															=
				_															-
				_															-
				_															-
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				_															
				2.0															2.0
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				3.0															3.0
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				4.0															4.0
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				_															
				_															
L							L	_								_			- 4. <u>5</u>
E(			/ MET			PORT	WATER N Nor					SISTENCY DENSITY Very Soft VL Ver	Y ry Loose	SAMPLII A Auge			nn E	Pocket penetrometer	CLASSIFICATION SYMBOLS AND
S	Sp	ade	bucke	S	C S	Shotcre Rock Bo	te X Not		red M	Moist M M	oderate S	Soft L Loc		B Bulk	sample sample sturbed s		S	Standard penetration test Vane shear	SOIL DESCRIPTION
	A Ha	nd aug				No supp			W	/p Plastic limit R Re /I Liquid limit	fusal St	Stiff D Der Very Stiff VD Very	nse		irbed sam	ıple		Dynamic cone penetrometer	Y USCS
C		ncrete	Corer				→ Wa				Н	Hard Friable	, 20100	Ux Tube	sample (	x mm)		Field density Water sample	N Agricultural
TO	C Tun		Carbio e	de Bit			V ₩a				•				·····o··itul	pic			
					_		EXCAVAT	ION LO	OG TO I	BE READ IN CONJU	JNCTION WITH	ACCOMPANYING	REPOR	RT NOTES	AND AB	BREV	/IATION	NS	
			_								MADTENCO	A SSOCIATES DTV	LTD						

CLI							Counci					COMMEN		19.09.12		_	WPLETED	19.09.	12			REF	BH1	33
PR		СТ	+				d Contai					LOGGED		BM/JF		CHE	ECKED	JF				Sheet 1	of 1	
SIT			Lo	t 1/DP1			and Lot					GEOLOG		Sandstone		VEG	SETATION	Grass				PROJECT NO	). P1002863	
EQU					_		nted rig		ans R	d, Muno	damia /	EASTING		NA		_	SURFACE	_						
				SIONS		mm X (	0.85m depth					NORTHIN		NA		ASP	PECT	North				SLOPE	<5%	
	EX	CAV	/ATI	ON DA							MA	TERIAL	_ DA	TA						SA	MPLIN	G & TEST	ING	
METHOD	SUPPORT	WATER	MOISTURE	DEPTH(M)	PENETRATION	H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil ty parti	ype, texture, icle characte	, structure, n eristics, orga	PTION OF nottling, colo anics, secon intamination,	our, plas ndary ar	sticity, rock nd minor co	s, oxidation, mponents,		CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)				
V	Nil	N .	D.	0.05	+	<del>-</del>   -	.× × ×	SM	、 TC	P SOIL -	- SILTY	SAND - D	Dark h	orown, o	rganics.	7 –	-   -		_A _	0.05_	2863/133/	0.05		
v	Nil	N	D	- - - 0.4				SP		 GF	RAVELY	SAND -	Dark	brown.					Α	0.3	2863/133/	0.3		- - 
٧	Nil	N	D	0.6				SP	GRA	VELY Sagradi	AND - Li	ght browi	n, wit	h quartz ered roc	ite gravel,				В	0.5	2863/133/	0.5		
v	Nil	N	D					w		WEA	K WEAT	HERED	SAN	DSTON	≣.									-
				- 1.0								al at 0.85r strong s												1.0
N	Na	itural e	/ MET	re SH	JPPOI Sho	oring	WATER N None	e obsei	ved D	DISTURE Dry	L Lo	w	VS V	ISTENCY /ery Soft	DENSITY VL Very I	Loose		NG & TE er sample		pp	Pocket pe	netrometer	CLASSIFIC SYMBOLS	AND
S	Sp	ade	bucke	SC	Sho	otcrete ck Bolt	X Not		ed M	Moist		oderate	S S	Soft Firm	L Loose	•	B Bulk	sample isturbed s		S	Standard S Vane she	penetration test		
	A Ha	nd aug ger				suppo	rt <del></del>		Wp	Plastic lin	nit R Re	fusal	St S	tiff /ery Stiff	D Dense	:	D Dist	urbed sar	nple		CP Dynami	c cone	Y USC	s
C( V T(	C Coi V-E C Tun	ncrete Bit	Corer Carbio e				→ Wat	ter inflo	w				H F	lard riable	VD Very D		Ux Tube E Envir	ture cont e sample onmental	(x mm) sample	e W	penetroi Field dens S Water sai	sity	N Agric	ultural
		_	_		_		XCAVATIO	ON LC	G TO B	E READ I	N CONJU				ANYING R		NOTES	and ae	BRE	/IATIC	ONS			

CLI	EN	Γ	SI	noalhav	ven C	ity (	Council			COMMENCED	19.09.12	C	OMPLETED	19.09.12	2		_ REF	BH13	8
PR	OJE	СТ	G	eotechi	nical	and	Contar	nina	tion Assessment	LOGGED	BM/JF	CI	HECKED	JF			Sheet 1		
SIT	E		Lo	t 1/DP1	0213	32 a	nd Lot	458/	DP1063107 George	GEOLOGY	Sandstone	VI	EGETATION	Grass			PROJECT NO	P1002863	
EQU		NT			Truck r	mounte	ed rig	<u>Ev</u>	ans Rd, Mundamia	EASTING	NA	RI	L SURFACE	NA			•		
EXC	VAT	ION D	IMEN	SIONS	Ø95mr	m X 1.	6m depth			NORTHING	NA	AS	SPECT	North			SLOPE	<5%	
	EX	CAV	/ATI	ON DA	TA		-		M.A	TERIAL DA	TA					SAMPLI	NG & TEST	ING	
МЕТНОВ	SUPPORT	WATER	MOISTURE	DEPTH (M)	ENETRATION	KESIS I ANCE	GRAPHIC LOG	CLASSIFICATION		PTION OF STR	ATA	dation, nents,	CONSISTENCY	DENSITY INDEX		DEPTH (M)			
V	Nil	N	D				$\times\!\!\times\!\!\times\!\!\times$	xx	FILL - Organ	ice eilt with c	ravel dry				E 0	.05 2863/1	38/ 0.05		
				<u>0.1</u>				_^_	FILL - Olgan	ics siit, with ç	raver, dry.	+	_ + -						- - - -
v	Nil	N .	D	_ _ _ _ _ 				xx	FILL - Gravelly/c (5-20mi	layey sand, a m, 10-20%), ı	ngular grave noist.	ls			E (	2863/1 	38/ 0.5		-
				<u>1.0</u> - -		1		<b>.</b>	EXTREMELY WEA	< SANDSTO	NE - Gravelv	sand			E	.0 2863/1	38/ 1.0		1 <u>.0</u> -
V	Nil	N	D	- - 16		>		EW	properties, coarse gra						В	2863/1	38/ 1.4		- -
																			- 2.00 - - - - - 3.00 - - - - - - - - - - - - - - - - - - -
N S Bł	Na Sp H Ba	itural e ade	/ MET	- - - - - - - - - - - - - - - Si - Si re Si si si si si si si si si si si si si si	UPPORTH Short C Shoto B Rock il No si	ing crete Bolts		e obser	ved D Dry L Lo	w VS oderate S gh F	Very Soft VL Soft L	Medium Dens		r sample sample	mple	pp Pocket S Standa VS Vane: DCP Dyna		CLASSIFICAT SYMBOLS AN SOIL DESCR	۱D
A CC V TC	Au C Coi V-E Tun	ger ncrete Bit	Core				→ Wate	er inflov	ow Wİ Liquid limit	VSt H F	Very Stiff VE Hard Friable	Very Dense	M Moisti Ux Tube E Enviro	ure conter sample (x onmental s	nt mm) ample	pene FD Field o WS Water	trometer lensity	N Agriculti	ural
<del></del>						^	.J. WATE	-14 EU	C . C DE NEAD IN CONSC			NEFOR	1101L0 P	ם אין עיי	- I \ L V I/	.,,,,,,,,			

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PR		СТ	+					ation Assessment	LOGGED	BM/JF	CHE	ECKED	JF			Shee	et <b>1</b> of	1	
SIT			Lo	t 1/DP1	,	and Lot		DP1063107 George	GEOLOGY	Sandstone		GETATION				PRO	JECT NO.	P1002863	
_	PMEN				Backhoe		<u>/=</u>	rans Rd, Mundamia	EASTING	NA		SURFACE	_						
				SIONS		0m X 1.9m			NORTHING	NA	ASF	PECT	North			SLOF		5%	
	EX	CAV	/ATI	ON DA			1	M.A	TERIAL DA	ATA					SAM	PLING &	TESTIN	IG	
МЕТНОВ	SUPPORT	WATER	MOISTURE	DEPTH(M)	L PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil type, texture, structure, r particle characteristics, orga	PTION OF STR nottling, colour, pla anics, secondary a ontamination, odou	asticity, rocks, oxid and minor compor	dation, ents,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)				
вн	Nil	Z	D	- - - - - - - 0.9			xx	FILL - Organic clay cobbles and concrete		ne asphalt,	one					:863/102/ 0.3 :863/102/ 0.5			- - - - -
вн	Nil	Z	D	1.0 - - - - - - - - 1.9			xx	FILL - Mix of claye building and demol PE pipe, bricks, co timber and other fibre o	ishing waste oncrete), sand	(steel, PVC p Istone boulde , plastic bags	ipe, ers,			E	1.5 2	863/102/ 1.5	+ DUP2		1.0
		AENT		2.0 3.0	READT	WATER AND A STATE OF THE STATE			sandstone.					TING				QLASSIFICATION OF THE PROPERTY	2.0 - - - 3.0 - - - 4.0 - - - - - - - - - - - - - - - - - - -
N S Bi H A C V T	Na Sp H Ba A Ha Au C Cor V-B C Tun	itural e ade ckhoe nd aug ger ncrete Bit	Corer	re Si Si t R N	JPPORT H Shoring C Shotcret B Rock Bo I No supp	lts V Wat	e obse measu er leve	rved D Dry L Lo red M Moist M Mi W Wet H Hig Wp Plastic limit R Re low WI Liquid limit	w VS oderate S gh F ifusal St VSt H	Very Soft         VL           Soft         L           Firm         MD           Stiff         D	NSITY Very Loose Loose Medium Dense Dense Very Dense	A Auge B Bulks U Undis D Distu M Moist Ux Tube	NG & TES r sample sample sturbed sa rbed sample ture conter sample (x onmental s	mple ole nt : mm)	S SI VS V DCP	ocket penetroi tandard penet 'ane shear Dynamic con penetrometer ield density Vater sample	ration test e	CLASSIFICA SYMBOLS A SOIL DESCI Y USCS N Agricu	IND RIPTION
						EXCAVATI	ON LO	OG TO BE READ IN CONJU	INCTION WITH	I ACCOMPAN	ING REPORT	NOTES A	AND ABE	BREVI	ATION	s			
			_					2 2.100	MADTENC				г						

CL	CLIENT Shoalhaven City Council PROJECT Geotechnical and Contamination Assessr								COMMENCED	19.09.12	COMPL	ETED	19.09	.12			REF	•	TP10	3
PR	OJE	СТ	G	eotech	nical an	d Conta	mina	ation Assessment	LOGGED	BM/JF	CHECK	ŒD	JF				Sheet			
SIT	Έ		Lo	t 1/DP1	021332	and Lot		/DP1063107 George	GEOLOGY	Sandstone	VEGET	ATION	Grass	3			PROJEC	T NO.	P1002863	
EQU	IPME	NT			Backhoe		/E	/ans Rd, Mundamia	EASTING	NA	RL SUF	RFACE	NA							
EXC				SIONS	3.0m X 1.0	0m X 2.2m			NORTHING	NA	ASPEC	Т	North				SLOPE		5-10%	
_	EX	CA	/AT	ION DA				M.A	TERIAL DA	ATA					SA	MPLIN	IG & TE	STIN	<u>IG</u>	
METHOD	SUPPORT	WATER	MOISTURE	DEPTH (M)	L PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil type, texture, structure, r particle characteristics, orga	PTION OF STR nottling, colour, pl anics, secondary a ontamination, odou	asticity, rocks, oxidation, and minor components,	CONSISTENCY		DENSITY INDEX	TYPE	DEPTH(M)					
вн	Nil	N	D	- - - -			xx	FILL - CLAY/SILTY C moist, soft to inclu		and cobble				Е	0.25	2863/10	3/ 0.25			
ВН	Nil	N	D	1.0			xx	FILL - Mix of claye building and demol PE pipe, bricks, co timber and other fibre c	ishing waste oncrete), sand	(steel, PVC pipe, dstone boulders, , plastic bags,		-		M E	1.1	2863/10	3/ ASB1 (fit		ent sheeting)	1.0
				2.2				Test pit terminate												
					UPPORT H Shotion	WATER		MOISTURE PENE		SISTENCY DENSITY		AMPLII				Packet n	onatromate		CLASSIFIC.	
N S B H A C V	Na Sp H Ba A Ha Au C Co V-f	atural bade ickhoe ind au iger ncrete Bit igster	exposi e bucki iger e Core i Carbi	ure S S et R N	H Shoring C Shotcret B Rock Bo il No supp	lts $\nabla$ Wat	measu er leve er outf	rred M Moist M Molel W Wet H Hig Wp Plastic limit R Reflow WI Liquid limit	oderate S gh F fusal St VSt H	Soft L Loos	v Loose Ase Bium Dense Use Dense M	Auge Bulk s Undis Distu	r sample sample sturbed rbed sa ture con sample	e sample mple itent (x mm)	pr S V: D:	D Pocket p Standard S Vane sh CP Dynan penetro D Field der S Water si	nic cone ometer nsity	r n test	SYMBOLS A SOIL DESC Y USCS N Agricu	RIPTION
						EXCAVATI	ON LO	OG TO BE READ IN CONJU	INCTION WITH	ACCOMPANYING F	REPORT NO	OTES A	AND A	BBRE	VIATIO	ONS				
			_						MARTENS &	ASSOCIATES PTY I	TD					_	_			

$\vdash$	O IE					d Canta		tion Accessor	LOGGED	19.09.12		CHECKED	_				REF	TP10	4
-	OJE	:CT	+-					tion Assessment DP1063107 George	GEOLOGY	BM/JF Sandstone				rass			Sheet 1 of PROJECT NO.		
SIT	IPME	NT	LO	ראטוו	Backhoe	and LUI		ans Rd, Mundamia	EASTING	NA		VEGETATI RL SURFA					FRUJEUI NO.	P1002863	
			DIMEN	SIONS	3.0m X 1.0	)m X 1.0m			NORTHING	NA		ASPECT	_	orth			SLOPE	5-10%	
	EX	CA	/AT	ON DA				M.A	TERIAL DA	TA					SA	MPLIN	G & TESTI	NG	
METHOD	SUPPORT	WATER	MOISTURE	DEPTH (M)	L PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil type, texture, structure, r particle characteristics, orga	PTION OF STR nottling, colour, pla anics, secondary a ontamination, odou	asticity, rocks and minor co	s, oxidation, mponents,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)				
				=										M M	0.1 0.2	2863/103 2863/103			-
вн	Nil	N	D	- - -			xx			ers, orga eel and				E	0.3	2863/103 2863/103			- - -
ВН	Nil	N	D	0.7			SP	SAND - Brown gravels	grading orang (5-20mm, 20	— — – e, moist, 0%).	 with			E B	0.8 0.8	2863/103 2863/103	/ 0.8 / 0.8		
ВН	Nil	N	<u> </u>	0.95 1.0		494	Ew						- —	+-	-				<sub>1.0</sub>
BH	Nil	N		0.95			EW	Test pit terminated	ayey sand te	xture. cket refus									- 1.0
				_ _ 															4 <u>.0</u>
				- - -															-
EQUIPMENT / METHOD SUPPORT Note as the first of the first													penetration test ar c cone meter sity	CLASSIFICA SYMBOLS A SOIL DESCI Y USCS N Agricu	AND RIPTION				
A									MARTENS & A	ASSOCIAT	ES PTY LTD		- 1	_					

						Counci			COMMENCED	19.09.12		WPLETED	19.09.1	12		REF	TP105
PR		СТ	+					ation Assessment	LOGGED	BM/JF		ECKED	JF			Sheet 1 o	f 1
SIT			Lot	: 1/DP1		and Lot		DP1063107 George	GEOLOGY	Sandstone	VEG	SETATION	Grass			PROJECT NO.	P1002863
	PMEN				Backhoe		\ <u></u>	rans Rd, Mundamia	EASTING	NA		SURFACE	+				
			IMENS		3.0m X 1.0	)m X 1.6m			NORTHING	NA .	ASP	PECT	North			SLOPE	5%
	EX	CAV	/ATI	ON DA				MA	ATERIAL DA	TA					SAI	MPLING & TESTI	NG
METHOD	SUPPORT	WATER	MOISTURE	DEPTH(M)	L PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil type, texture, structure, particle characteristics, org	PTION OF STR mottling, colour, pla anics, secondary a ontamination, odou	sticity, rocks, oxid and minor compone	lation, ents,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)		
ВН	Nil	N	М	- - - - 0.5			xx	FILL - Organic cla s	yey silt, grave ome plastic.	els, cobbles ar	nd			E	0.2	2863/105/ 0.2	- - - -
вн	Nil	N		- - - - - 1.0			sc	CLAYEY SAND some sandsto	l - Grey/red m one gravels an	ottles, moist, nd cobbles.				E	0.6	2863/105/ 0.6 2863/105/ 1.2	- - - - 1 <u>.0</u> - -
Grades to extremely weak sandstone.  Test pit terminated at 1.6m (bucket refusal) on medium strong sandstone.															_		
	1.6 Test pit terminated at 1.6m (bucket refusal) on																
	Test pit terminated at 1.6m (bucket refusal) on medium strong sandstone.																
				-													- - -
				-													- - -
				- <u>3.0</u> -													3 <u>.0</u> 
				- - -													- - -
				-													- - -
				- - 4.0 -													4.0
				-													-
				4.5													4. <u>5</u>
N S BH A C	Na Sp H Ba Ha A Ha Au C Cor	itural e ade ckhoe nd aug ger ncrete	/ MET exposu bucke ger Corer	re SH SC t RE	JPPORT I Shoring Shotcrete Rock Bol No suppo	lts <u>▼</u> Wat ort <del></del> Wat	e obse measu ter leve	rved D Dry L Lored M Moist M M  W Wet H Hi  Wp Plastic limit R Reform  low WI Liquid limit	ow VS oderate S gh F efusal St VSt H	Very Soft         VL           Soft         L           Firm         MD           Stiff         D           Very Stiff         VD           Hard         VL	NSITY Very Loose Loose Medium Dense Dense Very Dense	U Undis D Distu M Moist Ux Tube	r sample sample sturbed sam rbed sam ture conte sample (	ample iple ent x mm)	S VS DC FD	Pocket penetrometer Standard penetration test Vane shear P Dynamic cone penetrometer Field density	CLASSIFICATION SYMBOLS AND SOIL DESCRIPTION  Y USCS N Agricultural
TC		gsten	Carbic	le Bit		→ Wat	er inflo	W	F	riable		E Enviro	onmental	sample	. WS	S Water sample	
		sh tub				EVCAL/AT'	0111	OC TO BE DEAD IN CON !!	INICTION VAUT		INC DEPOST	NOTES 1	VNID AD	חטרי י	/IATIC	NIS.	
		_	_			=ACAVATI	JIN L(	OG TO BE READ IN CONJU		ACCOMPANY		NUTES	AND AB	DKEV	IATIO	CVIC	

_			1			Counci			COMMENCED	+		COMPLETEL		12			KEF	IΡ	108
	OJE	СТ	+					tion Assessment	LOGGED	BM/JF		CHECKED	JF					of <b>1</b>	
SIT			Lot	1/DP1	,	and Lot		DP1063107 George ans Rd, Mundamia ∕	GEOLOGY	Sandstone		VEGETATIO					PROJECT NO	<b>O</b> . P10028	863
	PMEN		IMENS	HONE	Backhoe	0 V 0 0	<u> </u>	ans itu, wunuanna /	EASTING NORTHING	NA NA		ASPECT	_				SLOPE	F 400/	
				ON DA		0m X 2.3m		MA	TERIAL D	NA ATA	<u> </u>	ASPECT	North		9.4		3 & TEST	5-10%	
МЕТНОБ	SUPPORT	WATER	MOISTURE	DEPTH(M)	M PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	DESCRII Soil type, texture, structure, n particle characteristics, orga	PTION OF STI	RATA lasticity, rocks and minor con	oxidation, nponents,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH(M)		<u> </u>		
вн	Nil	z z	M	- - - - - - - - - - - - - - - - -			xx	FILL - Organic silty gravels, pieces pla	clay, brown of concrete ( stic and stee	(100-500m	id and m),			E	1.0	2863/108. 2863/108.	71.0		- - - - 1.0 - - - - - - - - - - - - - - - - - - -
				2.3					est pit collap	se.									- - - 3.0 - - - - 4.0
N S BH A C V T C	Na Sp H Bad A Hai Au C Cor V-B	tural e ade ckhoe nd aug ger ncrete it gsten	Corer Carbid	re SI SC RI Ni	JPPORT H Shoring C Shotcret B Rock Bo I No supp	lts <u>▼</u> Wat ort <del></del>	e observences observences observed er level er outflower inflower	ed D Dry L Lo dd M Moist M Mc W Wet H Hig Wp Plastic limit R Re w WI Liquid limit	w VS oderate S gh F fusal St VSt H F	VSISTENCY Very Soft Soft Firm Stiff Very Stiff Hard Friable	DENSITY VL Very Loose L Loose MD Medium De D Dense VD Very Dense	e A Aug B Bull ense U Und D Dis M Moi Ux Tub E Envi	ING & TE er sample s sample listurbed s turbed sature cont e sample ronmenta	sample mple ent (x mm) I sample	pp S VS DC FC W	S Vane she CP Dynami penetror D Field dens S Water sar	penetration tes ar c cone neter sity	SYMBO	IFICATION DLS AND ESCRIPTION JSCS Agricultural
						EXCAVATI	ON LO	G TO BE READ IN CONJU	INCTION WIT	H ACCOMP	ANYING REPO	RT NOTES	AND A	BBRE\	/IATIC	ONS			
			7						MARTENS &	ASSOCIAT	ES PTY LTD			_			-		

CLI	ENT	Γ	Sł	noalhav	/en	City	/ Counci	<u> </u>		COMMENCED	19.09.12	С	OMPLETED	19.09.12	2		REF	=	TP11	1
PRO	ΟJΕ	СТ	G	eotechi	nic	al an	d Conta	min	ation Assessment	LOGGED	BM/JF	С	HECKED	JF			Sheet			•
SIT	E		Lo	t 1/DP1	02 <sup>-</sup>	1332	and Lot		3/DP1063107 George	GEOLOGY	Sandstone	v	EGETATION	Grass			PROJEC	T NO.	P1002863	
EQUI	PMEN	ΝT			Ва	ickhoe		<u>LE</u>	vans Rd, Mundamia	EASTING	NA	R	L SURFACE	NA						
				SIONS			0m X 0.8m			NORTHING	NA	А	SPECT	North			SLOPE		5-10%	
	EX	CAV	'ATI	ON DA					M	ATERIAL DA	ATA					SAMPL	ING & TE	ESTII	NG	
METHOD	SUPPORT	WATER	MOISTURE	DEPTH(M)	ľ	M PENETRATION H RESISTANCE R	GRAPHIC LOG	CLASSIFICATION	Soil type, texture, structure, particle characteristics, org	IPTION OF STR mottling, colour, plaganics, secondary a ontamination, odou	asticity, rocks, oxidation, and minor components,	,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)				
				_													Test pit unde	rtaking	into stockpile.	-
вн	Nil	N	М	- - - -				xx	FILL - Silty sand organics, some san	d, orange brov ndstone cobbl	vn, dry, minor es and boulders.				E	0.25 2863	3/111/ 0.25			-
				0.8				<del> </del>	Test pit terminate	od at 0.8m (hu	cket refusal) on									_
										n strong sands										- 1 <u>.0</u> -
				- -																-
				- - -																-
																				2 <u>.0</u> - -
				- - -																-
				- - -																-
				3.0 - -																3 <u>.0</u> - -
				- - -																-
				- - - 4.0																- - 4 0
				<del></del> - -																-
		MENT				ORT	WATER				SISTENCY DENSITY		SAMPLIN		TING				CLASSIFICAT	
N S BH A C	Na Sp I Ba Ha Au Cor	tural e ade ckhoe nd aug ger ncrete	exposu bucke ger	re SI S0 t RI Ni	H S C S B R	Shoring Shotcrete Rock Bo Io supp	N Non te X Not olts	ne obse measu ter leve	Pry   Pry	ow VS Ioderate S igh F efusal St VSt H	Very Soft         VL         Ver           Soft         L         Loo           Firm         MD         Mec           Stiff         D         Den           Very Stiff         VD         Very           Hard         Very         Very	ry Loose ose dium Den: ose	A Auge B Bulks se U Undis D Distu M Moist Ux Tube	r sample sample sturbed sa rbed samp ure conter sample (x	mple ole nt : mm)	S Stand VS Vand DCP Dy per FD Field	namic cone netrometer density	er in test	SYMBOLS AN SOIL DESCRI Y USCS N Agriculti	ID PTION
V TC	Tun	gsten	Carbio	de Bit			→ Wat	er inflo	low	F	Friable		E Enviro	nmental s	ample	WS Wate	er sample			
PT	Pus	sh tube	=				EXCAVATI	ON I	OG TO BE READ IN CONJ	UNCTION WITH	ACCOMPANYING	REPOR	RT NOTES 4	ND ARE	BREVI	ATIONS				
							_,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	J. 1 L			ASSOCIATES PTY I			, , , , , ,	v I					

_			_				Council					COMMEN		19.09.12		-+	COMPLET		.09.12			KEF		TP11	12
PR		СТ	+				l Contar					LOGGED		BM/JF			CHECKED	) JF				Sheet 1	of	1	
SIT	E		Lot	: 1/DP1	_		and Lot					GEOLOG		Sandstone		\	VEGETAT	ION G	ass			PROJECT I	NO.	P1002863	
EQU					Back			\ <u>F</u> V	ans R	u, Wur	ndamia_	EASTING		NA		_	RL SURFA								
			IMENS		1	X 1.0r	n X 0.8m					NORTHIN		NA		/	ASPECT	N	orth			SLOPE		10%	
	EX	CAV	/ATI	ON DA							M.A	TERIA	L DA	TA						SA	MPLIN	G & TES	TINC	<del>}</del>	
МЕТНОБ	SUPPORT	WATER	MOISTURE	DEPTH (M)	L PENETRATION	H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil t part	ype, textur icle charad	re, structure, r	PTION OF mottling, cold anics, secor ontamination	our, pla ndary a	sticity, rock nd minor co	s, oxidation, mponents,		CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)					
	S Ziii S	N N	M -			H RE	GRA	CLAS		rubble	ilty clay/sa e (bricks F plastic	andy clay VC pipe and glas	y, dry	, minor b crete), so tles.	ome		con	DEN	E	0.5	Z863/112	st pit undertal	king into	stockpile.	1.0 
			-	- 4.0 - - - - 4.5																					4 <u>.0</u> - - - - 4.5
E(			/ MET	HOD SU	JPPOF		WATER N None			DISTURE Dry	PENE L Lo	TRATION		SISTENCY Very Soft	DENSITY VL Ver	y Loose		PLING &	TESTIN	G	n Pocket no	netrometer		CLASSIFIC SYMBOLS	ATION
S	Sp	ade		SC	C Sho	tcrete	X Not r	measur	ed M	Moist	M M	oderate	S	Soft	L Loo	se	ВЕ	Bulk sam	ole	S	Standard	penetration to		SOIL DESC	
HA	A Ha	nd au	bucke ger			ck Bolts suppor	rt <del>*</del>	er level	Wp	Plastic	H Hi limit R Re		St	Firm Stiff	MD Med D Den	se	D [	Disturbed	ed sample		S Vane she CP Dynam	ic cone	[	Y USC	S
A C( V T(	Au C Cor V-B Tun	ger ncrete Bit	Corer				→ Wate		ow Wi	Liquid li			VSt H	Very Stiff Hard Friable	VD Very		M N Ux T	Λoisture Tube san		n) F	penetro D Field den /S Water sa	meter sity		-	ultural
						Е	XCAVATI	ON LC	G TO B	E READ	IN CONJU	JNCTION	WITH	ACCOM	PANYING	REPO	RT NOTE	S AND	ABBRE	VIATI	ONS				
		_	_												EC DTVI			$\neg$							

	EIN		_			ty Counci					COMMEN		19.09.12		_	WPLETED				⊦	KEF	TP1	13
PR		СТ	_			nd Conta					LOGGED	-	BM/JF		-	ECKED	JF				neet 1 o		
SIT			Lot	1/DP1		2 and Lot			3107 Ge d, Mund		GEOLOGY		Sandstone		_	SETATION				PF	ROJECT NO	P100286	3
EQUI			IMENS	HONE	Backhoe		<u> </u>	ans ixu	i, ividila	Janna /	EASTING		NA		_	SURFACE PECT	_			61.4	OPE	F 400/	
				ON DA		1.0m X 0.9m				M	NORTHIN		NA TA		ASP	PECI	North		SVI	MPLING		5-10% NG	
МЕТНОВ	SUPPORT	WATER	MOISTURE	DEPTH (M)	PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil tyr partic	pe, texture, s	DESCRII structure, r	PTION OF nottling, colo anics, second ontamination,	STRA our, plas	TA ticity, rocks	, oxidation, nponents,		CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)	WIT LING	<u>a resti</u>	NO.	
вн	Nil	Z	М	-			xx			rubble (	ayey sano bricks PV ome plas	/C pip						E	0.4	2863/112/ 0.	4		- - - - -
							1	Te			d at 0.9m strong sa			al) on									1.0
			-	- 2.0 																			
				- 3.0 																			- 3.0 
N S BH A C V T	Na Sp H Ba A Ha C Cor V-E C Tun	itural e ade ckhoe nd aug ger ncrete Bit	/ MET exposul bucket ger Corer	HOD SU e SH SC RE	JPPORT H Shoring C Shotore B Rock B No sup	ete X Not Bolts \( \frac{\psi}{\psi} \) Wa oport \( \frac{\psi}{\psi} \) Wa \( \begin{array}{c} \psi \) Wa	ne obser measur ter level ter outfl ter inflor	rved D red M I W Wp low WI	ISTURE Dry Moist Wet Plastic limit Liquid limit	L Lo M Mi H Hiç ait R Re	w oderate gh ifusal	VS V S S F F St S VSt V H H F Fi	STENCY ery Soft oft irm tiff ery Stiff ard iable	DENSITY VL Very I L Loose MD Mediu D Dense VD Very D	e m Dense e ense	A Aug B Bulk U Und D Dist M Mois Ux Tub E Envi	ING & TE er sample s sample listurbed s turbed saturbed sature conf e sample ronmenta	sample mple tent (x mm) Il sample	pp S VS DC FD WS	Pocket penet Standard per Vane shear P Dynamic or penetromet Field density Water sampl	netration test one ter	SYMBOL SOIL DE	ICATION
			_			EXCAVATI	ON LC	JG TO BE	: KEAD IN	N CONJL				ANYING R		NOTES	AND AE	3RKE/	/IATIO	NS .			

			+			Counci			COMMENCED	19.09.12		IMPLETED	19.09.1			REF	TP117
	JE	СТ	+-					ation Assessment	LOGGED	BM/JF		ECKED	JF			Sheet 1 c	
SIT			Lo	t 1/DP1		and Lot		'DP1063107 George ∕ans Rd, Mundamia ∕	GEOLOGY	Sandstone		GETATION	_			PROJECT NO	P1002863
_	PMEN			SIONS	Backhoe		<u> </u>	ans itu, wunuanna	EASTING	NA		SURFACE	NA			SLOPE	5 400/
EXC				ON DA	3.0m X 1.0	Jm X 2.3m		M	NORTHING ATERIAL DA	NA NTA	AS	PECT	North		CAL	MPLING & TEST	5-10%
МЕТНОВ	SUPPORT	WATER	MOISTURE	DEPTH (M)	M PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	DESCRII Soil type, texture, structure, r particle characteristics, org-	PTION OF STR	ATA asticity, rocks, oxion	lation, ents,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)	ITEMO & TEST	
вн	Nil	N	D	0.1		* * * *	SM	ORGANIC SILTY	SAND - Brow	n, dry, rootle	s.			Е	0.05	2863/117/ 0.05	
вн	Nil	Ζ	D				sc	CLAYEY SAND - Ora	ange/yellow, ravels (5-10mr	noist, fine gran, 5%).	ined,				0.5	2863/117/ 0.2-0.5 CBR @ 0.2-0.5m 2863/117/ 0.3	-
ВН	Nil	N	D	- - - 11.0 - - -			CL	SANDY CLAY - Or	ange/grey/red	d mottles, mo	ist.			E	1.0	2863/117/ 0.6 2863/117/ 1.0 2863/117/ 1.0	
BH Nil N D EW EXTREMELY WEAK SANDSTONE - Grey, with ferruginised gravels.																-	
									strong sands	tone.							
N S BI H A C V T	Na Sp H Ba A Ha Au C Cor V-B C Tun	itural e ade ckhoe nd auq ger ncrete Bit	Corer	re SH SC t RE Nil	JPPORT I Shoring Shotcrete Rock Bo No suppo	lts 🕡 Wat	e obse measu er leve er outf	rved D Dry L Lo red M Moist M Mi I W Wet H Hig Wp Plastic limit R Re low WI Liquid limit	ow VS oderate S gh F efusal St VSt H	Very Soft         VL           Soft         L           Firm         MD           Stiff         D	NSITY Very Loose Loose Medium Dense Dense Very Dense	U Undis	r sample sample sturbed sa rbed samp ture conte sample (x	mple ple nt ( mm)	S VS DCF FD	Pocket penetrometer Standard penetration test Vane shear Dynamic cone penetrometer Field density Water sample	CLASSIFICATION SYMBOLS AND SOIL DESCRIPTION  Y USCS N Agricultural
						EXCAVATI	ON LO	OG TO BE READ IN CONJU	JNCTION WITH	ACCOMPAN	'ING REPORT	NOTES A	ND ABI	BREV	IATIOI	NS	
I -		_	_					<del></del>	MADTENIC	4 0000 OLA TEO			ı				

							Contai		tion Associant	LOGGED	19.09.12		CHECKED	JF	1.12			TP118
SIT	OJE E		_						tion Assessment DP1063107 George	GEOLOGY	BM/JF Sandstone		VEGETATIO	_	5		Sheet 1 PROJECT	of <b>1</b> NO. P1002863
-	IPME	NT			Back				ans Rd, Mundamia	EASTING	NA		RL SURFACE	_				
EXC				SIONS		X 1.0r	n X 1.1m			NORTHING	NA		ASPECT	North	1		SLOPE	5-10%
МЕТНОБ	SUPPORT T	WATER	MOISTURE	DEPTH (M)	PENETRATION	H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	DESCRII Soil type, texture, structure, n particle characteristics, orga	PTION OF STR mottling, colour, pla anics, secondary a ontamination, odou	ATA sticity, rocks,	oxidation, ponents,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)	MPLING & TES	IING
ВН	Nil	N	D	0.1			* * * *	SM	ORGANIC SILTY	SAND - Brow	n, dry, roo	tlets.			Е	0.05	2863/118/ 0.05	
ВН	Nil	N	D					sc	CLAYEY SAND - Ora	ange/yellow, navels (5-10mn	noist, fine (	grained,			E B	0.3	2863/118/ 0.3 2863/118/ 0.3	
ВН	Nil	N	D	_				CL	SANDY CLAY - Or	range/grey/red	d mottles, i	moist.						
BH	Nil	N	D .	0.95 1.0			P , 9	EW	EXTREMELY WEA	AK SANDSTO	DNE - Grey	 /, with			E B	1.0 1.0	2863/118/ 1.0 2863/118/ 1.0	
			/ME:		JPPO JPPO JPPO JPPO JPPO JPPO JPPO JPPO		WATER		MOISTURE PENE		SISTENCY	DENSITY		ING & TI			Parket proctangles	2.  CLASSIFICATION SAMPLE SAMON
A C V	Sp H Ba A Ha Au C Cor V-E	ade ckhoe ind au iger ncrete Bit	Core	S( et Ri Ni	B Roo	oring otcrete ok Bolts suppor	S	measur er level er outfl	red M Moist M Mo I W Wet H Hiç Wp Plastic limit R Re ow WI Liquid limit	oderate S gh F efusal St VSt H	Soft Firm Stiff	VL Very Loos L Loose MD Medium D D Dense VD Very Dens	B Bull Dense U Und D Dis se M Moi Ux Tub	er sample sample disturbed turbed sa sture con e sample ronmenta	sample imple itent (x mm)	S V: D:	Pocket penetrometer     Standard penetration to     Vane shear     CP Dynamic cone     penetrometer     Field density     Water sample	SYMBOLS AND SOIL DESCRIPTION  Y USCS  N Agricultural
P.	C Tur	igsten sh tub	Carbi e	ue Bit		E	XCAVATI	ON LC	OG TO BE READ IN CONJU	JNCTION WITH	I ACCOMPA	ANYING REPO	ORT NOTES	AND A	BBRE	VIATIO	ONS	
$\vdash$			_					J. 1 L.		MADTENS 9			110120	1	,\L	1 /		

			+	ioainav								COMMEN		19.09.12			COMPLET		9.09.12			⊣REF	•	TP12	24
PR		СТ	+	otechn								LOGGED	)	BM/JF			CHECKED	<b>)</b> J	F			Sheet '	<b>1</b> of	1	
SIT	E		Lot	1/DP10			nd Lot					GEOLOG		Sandstone			VEGETAT	ION	irass			PROJECT	T NO.	P1002863	
	PMEN				Spade			\EV	ans Rd	, wunc	uamia /	EASTING		NA			RL SURFA		IA			1			
			IMENS			1.0m 2	X 0.8m					NORTHI		NA			ASPECT	Ν	lorth			SLOPE		10%	
	EX	CAV	/ATI	ON DAT		$\rightarrow$					MA	TERIA	L DA	TA						- ;	SAMPLII	NG & TE	STING	3	
МЕТНОБ	SUPPORT	WATER	MOISTURE	DEPTH(M)	L PENETRATION  H PESISTANCE	Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	GRAPHIC LOG	CLASSIFICATION	Soil typ particl	e, texture,	structure, r	PTION OF nottling, cole anics, secon entamination	our, pla ndary a	sticity, rock nd minor co	s, oxidatio mponents	in,	CONSISTENCY	DENSITY INDEX	1	I V PE	DEPIH (M)				
S	Nil	N	D	- 0.25				sc	CLAY	ΈΥ SAN m	ND - Ora ninor gra	ange/yell avels (5-1	ow, n 10mn	noist, fine n, 5%).	e graine	ed,				E 0.		24/ 0.05			-
ø	Nil	N	D	- - - -				EW	Е	EXTREN	MELYW	EATHEF	RED S	SANDST	ONE					E C	2863/1:	24/ 0.3			- - - -
															1.0 										
N S Bł H/ A C	Na Sp H Ba Ha A Ha Au C Cor	itural e ade ckhoe nd aug ger ncrete	/ MET exposu bucke ger	re SH SC t RB	JPPORT I Shorir C Shotc B Rock No su	ng crete Bolts	± Wate	e observ measure er level er outflo	ved D ed M W Wp ww WI	STURE Dry Moist Wet Plastic lim	L Lo M Me H Hig nit R Re	oderate gh	VS S F St VSt H		MD M	TY ery Loose pose edium De ense ery Dense	e A A B I ense U I D I M I Ux	Auger sa Bulk san Undistur Disturbe Moisture Tube sa	nple bed sam d sampl content mple (x r	nple e : mm)	S Standar VS Vane si DCP Dyna penet FD Field de	mic cone rometer ensity		CLASSIFIC SYMBOLS SOIL DESC Y USC	AND CRIPTION
V T(	CC Concrete Corer H Hard Ux Tube sample (x mm) FD Field density N Agricultural V V-Bit E Environmental sample WS Water sample																								
P	V-Bit																								
						EX	CAVATIO	ON LO	G TO BE	READ I	N CONJL						RT NOT	ES AN	D ABB	REVIA	TIONS				
			~									MADTEN	100	SECULIA	TEC DT	/ L TD		- 1							

			+	ioainav								COMMEN		19.09.12			COMPLET		9.09.12			⊣REF	•	TP12	24
PR		СТ	+	otechn								LOGGED	)	BM/JF			CHECKED	<b>)</b> J	F			Sheet '	<b>1</b> of	1	
SIT	E		Lot	1/DP10			nd Lot					GEOLOG		Sandstone			VEGETAT	ION	irass			PROJECT	T NO.	P1002863	
	PMEN				Spade			\EV	ans Rd	, wunc	uamia /	EASTING		NA			RL SURFA		IA			1			
			IMENS			1.0m 2	X 0.8m					NORTHI		NA			ASPECT	Ν	lorth			SLOPE		10%	
	EX	CAV	/ATI	ON DAT		$\rightarrow$					MA	TERIA	L DA	TA						- ;	SAMPLII	NG & TE	STING	3	
МЕТНОБ	SUPPORT	WATER	MOISTURE	DEPTH(M)	L PENETRATION  H PESISTANCE	Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	GRAPHIC LOG	CLASSIFICATION	Soil typ particl	e, texture,	structure, r	PTION OF nottling, cole anics, secon entamination	our, pla ndary a	sticity, rock nd minor co	s, oxidatio mponents	in,	CONSISTENCY	DENSITY INDEX	1	I V PE	DEPIH (M)				
S	Nil	N	D	- 0.25				sc	CLAY	ΈΥ SAN m	ND - Ora ninor gra	ange/yell avels (5-1	ow, n 10mn	noist, fine n, 5%).	e graine	ed,				E 0.		24/ 0.05			-
ø	Nil	N	D	- - - -				EW	Е	EXTREN	MELYW	EATHEF	RED S	SANDST	ONE					E C	2863/1:	24/ 0.3			- - - -
															1.0 										
N S Bł H/ A C	Na Sp H Ba Ha A Ha Au C Cor	itural e ade ckhoe nd aug ger ncrete	/ MET exposu bucke ger	re SH SC t RB	JPPORT I Shorir C Shotc B Rock No su	ng crete Bolts	± Wate	e observ measure er level er outflo	ved D ed M W Wp ww WI	STURE Dry Moist Wet Plastic lim	L Lo M Me H Hig nit R Re	oderate gh	VS S F St VSt H		MD M	TY ery Loose pose edium De ense ery Dense	e A A B I ense U I D I M I Ux	Auger sa Bulk san Undistur Disturbe Moisture Tube sa	nple bed sam d sampl content mple (x r	nple e : mm)	S Standar VS Vane si DCP Dyna penet FD Field de	mic cone rometer ensity		CLASSIFIC SYMBOLS SOIL DESC Y USC	AND CRIPTION
V T(	CC Concrete Corer H Hard Ux Tube sample (x mm) FD Field density N Agricultural V V-Bit E Environmental sample WS Water sample																								
P	V-Bit																								
						EX	CAVATIO	ON LO	G TO BE	READ I	N CONJL						RT NOT	ES AN	D ABB	REVIA	TIONS				
			~									MADTEN	100	SECULIA	TEC DT	/ L TD		- 1							

CLIENT				Council			COMMENCED	19.09.12	COMPLETED	19.09.1	12		REF	TP125	
PROJECT						ion Assessment	LOGGED	BM/JF	CHECKED	JF			Sheet 1 of		
SITE	Lo	: 1/DP1	021332	and Lot		P1063107 George	GEOLOGY	Sandstone	VEGETATION	Grass			PROJECT NO.	P1002863	
EQUIPMENT			Spade	•	<u>Eva</u>	ans Rd, Mundamia	EASTING	NA	RL SURFACE	NA					
EXCAVATION	DIMEN	SIONS	3.0m X 1.0	m X 0.6m			NORTHING	NA	ASPECT	North			SLOPE	5-10%	
EXCA	VATI	ON DA				MA	TERIAL DA	TA				SAMPLIN	IG & TESTIN	NG	
METHOD SUPPORT WATER	MOISTURE	DEPTH (M)	L PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil type, texture, structure, m particle characteristics, organic	PTION OF STR nottling, colour, pla nics, secondary a ntamination, odou	sticity, rocks, oxidation, and minor components,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)			
S Nil N	<u>D</u> .	0.05		.x .x .x	SM	ORGANIC SILTY	SAND - Brow	n, dry, rootlets.	<del> </del>		_A	0.05 2863/12	5/ 0.05		
S Nil N		- - - 0.4			SC	CLAYEY SAND - Ora		noist, fine grained,			A		5/ 0.3 + DUP3 5 0.1-0.4	- - -	
S Nil N	D	0.6			SP	GRAVELLY SAND - Light	t brown, mois	st.							
		- - - - - - - - 4.0													
EQUIPMEN N Natural S Spade BH Backho HA Hand at A Auger CC Concret V V-Bit TC Tungstet PT Push tul	e bucke uger e Corer n Carbid	re SH SC t RE Nil	Rock Bolt No suppo	s <u>▼</u> Wate rt <u></u> Wate ► Wate	e observ measure er level er outflov er inflow	red D Dry L Lov d M Moist M Mc W Wet H Hig Wp Plastic limit R Ref w WI Liquid limit	w VS derate S h F fusal St VSt H F	ACCOMPANYING RE	oose A Aug B Bulk n Dense U Und D Dist ense M Mois Ux Tube E Envii	isturbed sam urbed sam sture conte e sample ( ronmental	ample nple ent (x mm) sample	VS Vane sh DCP Dynam penetro FD Field der WS Water sa	I penetration test ear nic cone ometer nsity	CLASSIFICATION SYMBOLS AND SOIL DESCRIPTION  Y USCS N Agricultural	

CLIENT				Council			COMMENCED	19.09.12	COMPLETED	19.09.1	12		REF	TP125	
PROJECT						ion Assessment	LOGGED	BM/JF	CHECKED	JF			Sheet 1 of		
SITE	Lo	: 1/DP1	021332	and Lot		P1063107 George	GEOLOGY	Sandstone	VEGETATION	Grass			PROJECT NO.	P1002863	
EQUIPMENT			Spade	•	<u>Eva</u>	ans Rd, Mundamia	EASTING	NA	RL SURFACE	NA					
EXCAVATION	DIMEN	SIONS	3.0m X 1.0	m X 0.6m			NORTHING	NA	ASPECT	North			SLOPE	5-10%	
EXCA	VATI	ON DA				MA	TERIAL DA	TA				SAMPLIN	IG & TESTIN	NG	
METHOD SUPPORT WATER	MOISTURE	DEPTH (M)	L PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil type, texture, structure, m particle characteristics, organic	PTION OF STR nottling, colour, pla nics, secondary a ntamination, odou	sticity, rocks, oxidation, and minor components,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)			
S Nil N	<u>D</u> .	0.05		.x .x .x	SM	ORGANIC SILTY	SAND - Brow	n, dry, rootlets.	<del> </del>		_A	0.05 2863/12	5/ 0.05		
S Nil N		- - - 0.4			SC	CLAYEY SAND - Ora		noist, fine grained,			A		5/ 0.3 + DUP3 5 0.1-0.4	- - -	
S Nil N	D	0.6			SP	GRAVELLY SAND - Light	t brown, mois	st.							
		- - - - - - - - 4.0													
EQUIPMEN N Natural S Spade BH Backho HA Hand at A Auger CC Concret V V-Bit TC Tungstet PT Push tul	e bucke uger e Corer n Carbid	re SH SC t RE Nil	Rock Bolt No suppo	s <u>▼</u> Wate rt <u></u> Wate ► Wate	e observ measure er level er outflov er inflow	red D Dry L Lov d M Moist M Mc W Wet H Hig Wp Plastic limit R Ref w WI Liquid limit	w VS derate S h F fusal St VSt H F	ACCOMPANYING RE	oose A Aug B Bulk n Dense U Und D Dist ense M Mois Ux Tube E Envii	isturbed sam urbed sam sture conte e sample ( ronmental	ample nple ent (x mm) sample	VS Vane sh DCP Dynam penetro FD Field der WS Water sa	I penetration test ear nic cone ometer nsity	CLASSIFICATION SYMBOLS AND SOIL DESCRIPTION  Y USCS N Agricultural	

PROJECT   George-Chriscal and Contamination Assessment   Series	CL	IEN <sup>°</sup>	Т	S	hoalha	ven Cit	y Cour	ncil			COMMENCED	19.09.12	COMPLETE	D	19.09.12				REF	TF	P126	
EVALUATION DATA	PR	OJE	СТ	G	eotech	nical a	nd Con	tan	ninat	ion Assessment	LOGGED	BM/JF	CHECKED	,	JF							
December   December	SIT	Έ		Lo	t 1/DP1	02133	2 and L				GEOLOGY	Sandstone	VEGETATIO	ОИ	Grass				PROJECT	NO. P100	2863	
EXCAVATION DATA	EQU	IPME	NT			Backhoe	)	$\overline{}$	Eva	ans Rd, Mundamia	EASTING	NA	RL SURFAC	E I	NΑ							
Dec   10   10   10   10   10   10   10   1	EXC						1.0m X 2.5r	n					ASPECT	1	North							
Section   Control   Cont		EX	CA	/AT	ION DA					MA	TERIAL DA	NTA					SAI	MPLIN	G & TES	TING		
Secondary   Mail No.   D	МЕТНОБ	SUPPORT	WATER	MOISTURE	<b>DEPTH (M)</b>	L PENETRATION H RESISTANCE	ag Aphici		CLASSIFICATION	Soil type, texture, structure, n particle characteristics, orga	nottling, colour, pla anics, secondary a	sticity, rocks, oxidation, and minor components,	CONSISTENCY	DENSITY INDEX		TYPE	<b>DEPTH (M)</b>					
DIT   N	вн	Nil	N	D	-				xx							Е	0.25	2863/126		c laver at 0.8	8m.	-
gravels (5-20mm, 30-40%).  Grades to  EXTREMELY WEAK SANDSTONE - Grey, coarse grained sandstone with conglomerate rounded quartz.  EXTREMELY WEAK SANDSTONE - Grey, coarse grained sandstone with conglomerate rounded quartz.  By 24 2899/29/24  Test pit terminated at 2.5m on extremely weak sandstone.  Test pit terminated at 2.5m on extremely weak sandstone.  Test pit terminated at 2.5m on extremely weak sandstone.  Sandstone.  Sandstone.  SAMPLING & TESTING Processing on Proceedings of the Company o	вн	Nil	N	D	1.0				sc										6/ 0.9			1.0
EXTREMELY WEAK SANDSTONE - Grey, Coarse grained sandstone with conglomerate rounded quartz.  B 2.4 2983/129/2.4  Test pit terminated at 2.5m on extremely weak sandstone.  Test pit terminated at 2.5m on extremely weak sandstone.  Space	ВН	Nil	N	D					sc	gravels (	5-20mm, 30-	nge/brown, moist, 40%).										- - -
EQUIPMENT / METHOD SUPPORT No None observed BH Backdoor becklet BH Backdoor becklet BH Backdoor becklet BH Backdoor becklet BH Backdoor becklet BH Backdoor becklet BH Backdoor becklet BH Backdoor becklet BH Backdoor becklet BH Backdoor becklet BH Backdoor becklet BH Backdoor becklet BH BACKDOOR BH BACKDOO	вн	Nil	N	D			7	7	EW	coarse grained sa	andstone with											
N Natural exposure SH Shoring N None observed D Dry L Low VS Very Soft VL Very Loose A Auger sample pp Pocket penetrometer SYMBOLS AND Soll DESCRIPTION Description of the property of the pro		OLUBA MARIA	AGNIT	- ME	- - - 3.0 - - - - - - - 4.0	TIRROPAT	Ma				sandstone.		SAME									3.00
EXCAVATION LOG TO BE READ IN CONJUNCTION WITH ACCOMPANYING REPORT NOTES AND ABBREVIATIONS	N S B! H. A C V	Na Sp H Ba A Ha C Co V-E C Tur	atural o ade ockhoe and au iger ncrete Bit ngsten	expos buck ger Core	ure S S et R N	SH Shoring SC Shotore RB Rock B	g N ete X Bolts <u>V</u>	None Not m Wate Wate	neasure er level er outflo	ed D Dry L Lo d M Moist M Mc W Wet H Hig Wp Plastic limit R Re w WI Liquid limit	w VS oderate S gh F efusal St VSt H F	Very Soft Soft         VL         Very Loc           Soft         L         Loose           Firm         MD         Medium I           Stiff         D         Dense           Very Stiff         VD         Very Den           Hard         Friable         VD	ose A Au B Bu Dense U Ur D Di se M Mo Ux Tu E En	uger s ulk sar ndistu isturbe oisture ube sa vironr	ample mple rbed sar ped samp e conten imple (x mental sa	nple le t mm) ample	S VS DC FD WS	Standard Vane she P Dynam penetro Field den S Water sa	penetration to ear ic cone meter sity	SYM SOIL Y	BOLS AND DESCRIPT USCS	ΓΙΟΝ

	O IE		_			y Counci		tion Accessors	LOGGED	19.09.12		CHECKED		7.14		REF	TP127
SIT	OJE	.UI	_					tion Assessment DP1063107 George	GEOLOGY	BM/JF Sandstone		VEGETATIO	JF ON Gras	s		Sheet 1 PROJECT N	of 1
-	IPME	NT		/טו	Backhoe			ans Rd, Mundamia		NA		RL SURFAC	_			FROJECT N	O. P1002863
-			DIMEN	SIONS	3.0m X 1	I.0m X 1.4m			NORTHING	NA		ASPECT	Norti	า		SLOPE	5-10%
	EX	CA	/ATI	ON DA				MA	ATERIAL D	ATA					SA	MPLING & TEST	ING
METHOD	SUPPORT	WATER	MOISTURE	<b>DEPTH (M)</b>	PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil type, texture, structure, r particle characteristics, org	PTION OF STF mottling, colour, pl janics, secondary a ontamination, odo	asticity, rocks, oxi	dation, nents,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)		
вн	Nil	N	D	0.1	Щ	× × ×	SM	ORGANIC SILTY	SAND - Brov	vn, dry, rootle	ets.			E	0.05	2863/127/ 0.05	
вн	Nil	N	D	_ _ 			sc	CLAYEY SAND - Ora	ange/yellow, i avels (5-10mr	moist, fine gran, 5%).	ained,			E B	0.3 0.3	2863/127/ 0.3 2863/127/ 0.3	-
вн	Nil	N	D	- - - - - 1.0			SC	GRAVELLY/CLAYE\ gravels (	Y SAND - Ora (5-20mm, 30- Grades to	ange/brown, 1 40%).	moist,						- - - - 1 <u>.</u> C
ВН	Nil	N	D	- - 1.4		P	EW	EXTREMELY W coarse grained sa rou	/EAK SANDS andstone with unded quartz	conglomera	y, te			E B	1.2	2863/127/ 1.2 2863/127/ 1.2	-
E	QUIPI	MENT	/ME		UPPORT	WATER			TRATION CONTRACTOR	SISTENCY DI	on		LING & T				2.(CLASSIFICATION
B H A C	N Natural exposure S H Shoring S Spade S Sohotret V None observed BH Backhoe bucket H Hand auger H Hand auger C C Concrete Corer V V Wet inflow V Wet inflow V Wet inflow V Wet inflow V Wet inflow V Wet inflow V V V V V V V V V V V V V V V V V V V																
	C Tur T Pu			ue Bit		EXCAVATI	ON LC	OG TO BE READ IN CONJU	JNCTION WITH	H ACCOMPAN	YING REPC	ORT NOTES	S AND A	BBRE	VIATIO	ONS	

						ty Coun				COMMENC			COMPLETE		9.12			REF	TF	<b>2128</b>	
PR		СТ	+						Assessment	LOGGED	BM/JF		CHECKED	JF					of <b>1</b>		
SIT	E		Lot	1/DP10					063107 George			ne	VEGETATION	ON Gras	s			PROJECT N	<b>O</b> . P100	2863	
	PMEN				Backho			vans	Rd, Mundamia		NA		RL SURFAC	_							_
			IMENS			1.0m X 1.3m				NORTHING			ASPECT	North	h			LOPE	5-10%		
	EX	CAV	ATI	ON DAT			<del></del>		N	ATERIAL	DATA					SA	MPLING	& TEST	TING		
METHOD	SUPPORT	WATER	MOISTURE	DEPTH(M)	L PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	So p	oil type, texture, structure particle characteristics, o	RIPTION OF S , mottling, colou rganics, seconda contamination, o	ir, plasticity, roo ary and minor o	cks, oxidation, components,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)					
вн	Nil	N	D	0.1	$\Box\Box$	* * *	× SM		ORGANIC SILT	Y SAND - BI	rown, dry,	rootlets.			Е	0.05	2863/128/	0.05			
вн	Nil	N	D -	- - - 0.5			sc	CI	LAYEY SAND - C minor g	range/yellov ravels (5-10	w, moist, fir Imm, 5%).	ne grained,			B E B	0.2- 0.3 0.3 0.2- 0.4	2863/128/ 2863/128/ CBR @ 0. 2863/128/	0.3 2-0.4m			
ВН	Nil	N	D ·	- - - - - 1.0					SANDY CLAY - (	Orange/grey	/red mottle	s, moist.			В	1.0	2863/128/	1.0			- - 1.0
				1.1			_														
ВН	Nil	N	D	 - 1.3		, \ , \ , \ , \ , \ , \ , \ , \ , \ , \	EW														
		MENT							Test pit terminate												
N S Bł H/ A C	Na Sp H Ba A Ha Au	tural e ade ckhoe nd aug ger ncrete	/ MET exposu bucker ger Corer	re SH SC RB	IPPORT I Shorin S Shoter B Rock I No su	ng N N rete X N Bolts ♥ V pport	ER Jone obs Jot meas Vater lev Vater ou	erved ured rel	D Dry L	Low V Moderate S High F Refusal S	Firm St Stiff /St Very Stiff H Hard	VL Very Loo L Loose MD Medium D Dense	ose A A B B Dense U U D D nse M M Ux Tu	PLING & T uger sample ulk sample ndisturbed isturbed sa oisture cou ube sample vironment	elle I sample ample ntent e (x mm)	pp S VS D(	Pocket per Standard p S Vane shea CP Dynamic penetron D Field dens S Water san	penetration tes ar cone neter ity	SYM	SSIFICATION BOLS AND DESCRIPTI USCS Agricultural	
TO	Tun		Carbid	e Bit		<i>→</i> ∨	vater IIII	J WV		-	Hable		C CI	Ormineril	ai sai ii þi	VV	U TTAICI SAII	.pic			
_	Pus	ii tube	5			EXCA\/4	TION I	OG TO	BE READ IN CON	JUNCTION W	/ITH ACCOM	/PANYING REF	PORT NOTE	S AND 4	BBRF	VIATIO	ONS				-
		_	_					3310				ATEC DIVITO	2.11 HOTE	2.407	\L						_

			+			ty Coun				COMMENCED	19.09.12		COMPLETED		12		⊦	KEF	<b>TP13</b>	1
	OJE	СТ	+						n Assessment	LOGGED	BM/JF		CHECKED	JF				neet <b>1</b> of		
SIT	E		Lot	t 1/DP10					1063107 George	GEOLOGY	Sandstone		VEGETATION	Grass			PF	ROJECT NO.	P1002863	
	PMEN				Backhoe			vans	s Rd, Mundamia	EASTING	NA		RL SURFACE							
_			IMENS			1.0m X 1.3m				NORTHING	NA		ASPECT	North				OPE	5-10%	
	EX	CAV	/ATI	ON DAT			<del></del>		MA	TERIAL DA	ATA					SA	MPLING	& TESTI	NG	
METHOD	SUPPORT	WATER	MOISTURE	DEPTH(M)	L PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	S	Soil type, texture, structure, n particle characteristics, orga	PTION OF STR nottling, colour, planics, secondary a ntamination, odou	asticity, rocks, o and minor comp	xidation, onents,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)				
ВН	Nil .	N .	D .	0.05	+	- X X	× SN	丰	ORGANIC SILTY	SAND - Brow	n, dry, rootl	ets.			<u>A</u> .	0.05	2863/131/0.	05 + DUP4		
вн	Nil	Ν	D	- - - <u>0.4</u>			sc	; (	CLAYEY SAND - Ora	nge/yellow, r vels (5-10mr	moist, fine g n, 5%).	rained,			A	0.25	2863/131/ 0.	25		- - 
вн	Nil	N		- - - - 1.0 1.05			SP	,	0	- Gravels (5- t brown, mois Grades to		.0%) -			В	0.5	2863/131/ 0.	5		- - - 1.0
вн	Nil	N	D	- - 1.3		7	EW	v	EXTREMELY Light grey, s		operties,				В	1.2	2863/131/ 1.	2		- — - - -
									Test pit terminated	at 1.3m on v	veak sandsi	one.								
N S Bi H A C V T	Na Sp H Ba A Ha Au C Cor V-B C Tun	itural e ade ckhoe nd aug ger ncrete Bit gsten	/ MET exposu bucke ger Corer	re SH SC t RB Nil	PPORT Shorin Shoter Rock E No sur	rete X N Bolts <u>V</u> V pport <u>-</u> V	ER Jone obs Jot meas Vater lev Vater ou	sured vel utflow		w VS oderate S ph F fusal St VSt H	Very Soft V Soft L Firm M Stiff E	DENSITY //L Very Loose . Loose //D Medium De // Dense //D Very Dense	e A Aug B Bulk ense U Und D Distr M Mois Ux Tube	ING & TE er sample sample listurbed s urbed san sture contr e sample ronmental	ample nple ent (x mm)	pp S VS DC	Pocket penet Standard per Vane shear CP Dynamic of penetromet Field density S Water sample	netration test one ter	CLASSIFICA SYMBOLS A SOIL DESCF Y USCS N Agricul	IND RIPTION
		sh tube				E).(2::	TIO		FO DE DE 15 11 1 2 2 1	NOTION		10/01/0 === :	DT LIGHT	AND:		// A · ·	2010			
			_			EXCAVA	. FION I	LOG T	TO BE READ IN CONJU	NCTION WITH			RT NOTES	and ae	BRE\	/IATIC	JNS			

							Counci					COMME		19.09.12			OMPLETEL		. 12			KEF		TP13	36
PR		СТ	+				d Conta					LOGGED		BM/JF			HECKED	JF				Sheet 1		1	
SIT			Lot	1/DP1	_		and Lot				George ndamia	GEOLOG		Sandstone			EGETATIO					PROJECT	NO.	P1002863	
EQU				210110		khoe		(EV	alis N	u, iviui	Iuaiiiia	EASTING		NA			L SURFACI	_				SLOPE		100/	
				ON DA		n X 1.0	m X 0.6m				N/	NORTHII ATERIA		NA TA		I A	SPECT	North		64	MPLING		_	10%	
МЕТНОБ	SUPPORT	WATER	MOISTURE	DEPTH(M)	DENETP ATION	RESISTANCE	GRAPHIC LOG	CLASSIFICATION	Soil ty parti	ype, textui icle charae	DESCR re, structure, cteristics, org	PTION OF	F STR lour, pla	ATA sticity, rocks	s, oxidation, mponents,	,	CONSISTENCY	DENSITY INDEX	TYPE	DEPTH (M)	WIFLING	J & TES	ST IINC	<u> </u>	
вн	Nil	N	D	- - - - - 0.6				xx		FI	LL - SILT gravel	Y SAND s (5-10m	- Lig nm, 10	nt brown, )%).					A	0.05	2863/136/ 2863/136/				-
															1.0										
N S Bi H/ A C(	Na Sp H Ba A Ha Au C Coi V-E	itural e ade ckhoe nd aug ger ncrete Bit	/ MET exposu bucke ger Corer	re SH SC t RE Nil	Sh Ro	DRT noring notcrete ock Bol o suppo	ts <u>▼</u> Wat ort <del></del> Wat	e obser measure er level er outflo	ved D ed M W Wp ow WI		L Lo M M H H Iimit R R	loderate igh	VS S F St VSt H	SISTENCY Very Soft Soft Firm Stiff Very Stiff Hard Friable	DENSITY VL Ver L Loo MD Med D Den VD Very	ry Loose ose dium Den: ose	A Aug B Bul se U Und D Dis M Mo Ux Tub	ING & TE ger sample k sample disturbed sa turbed sa sture con e sample ironmenta	sample mple tent (x mm)	pp S VS DC	Pocket per Standard p Vane shea CP Dynamic penetron Field dens S Water san	penetration t ar cone neter ity		CLASSIFIC SYMBOLS SOIL DESC Y USC N Agric	AND RIPTION
P	V-Bit																								
						E	EXCAVATION	ON LO	G TO B	E READ	IN CONJ						RT NOTES	AND A	BBRE\	/IATIC	ONS				
1			-									MADTE	NO 9	100000	EC DTV	TD		1							

$\vdash$	IEN		_		ven City				LOGGED	19.09.12		CHECKED	19.09.1	_		HEF	TP13	37
-	OJE	:CT	_					tion Assessment	LOGGED	BM/JF			JF				of 1	
SIT	IPMEI	NIT	LO	t 1/DP1	Backhoe	and Lot		DP1063107 George ans Rd, Mundamia ∕	GEOLOGY EASTING	Sandstone		VEGETATION RL SURFACE				PROJECT NO	D. P1002863	
			DIMEN	SIONS	3.0m X 1.0	)m X 1 2m			NORTHING	NA		ASPECT	NA North			SLOPE	5-10%	
				ION DA		1.2		MA	TERIAL DA				140141		SAMPL	ING & TEST		
МЕТНОВ	SUPPORT	WATER	MOISTURE	DEPTH(M)	L PENETRATION H RESISTANCE	GRAPHIC LOG	CLASSIFICATION	DESCRII Soil type, texture, structure, n particle characteristics, orga	PTION OF STR	ATA asticity, rocks, o	oxidation, ponents,	CONSISTENCY	DENSITY INDEX		DEPTH (M)			
вн	Nil	N	D	- -			xx	FILL - Sand, with min	or clay, grave ight brown.	els (5-20mn	n, 10%),			A	0.15 2863/	137/ 0.15		
ВН	Nil	N	D	0.3 0.35		* * *	sc				narcoal	+	_+		0.35 2863/	137/ 0.35		
ВН	Nil	N	D		<u> </u>		SC	CLAYEY SAND - Ora		noist, fine g				B A		137/ 0.5 137/ 0.5		
ВН	Nil	N	D	- 1.0 1.1			SP	ŭ	- Gravels (5-5 t brown, mois Grades to	50mm, 30/4 st.	40%) -							1 <u>.</u> 1
вн	Nil	N	D	1.2		P 4	EW	EXTREMELY WEA	t grey,									
								Test pit terminated	d at 1.2m on v	weak sands	stone.							
				- - -														- - - -
				- 3.0														3 <u>.</u> 0
				- - -														
				- -														- -
				- 4.0 - -														4.0
N S B H A C V	Sp H Ba A Ha	atural bade ickhoe ind au iger ncrete Bit ngsten	exposi e bucke iger e Core i Carbi	ure S Set R N	UPPORT H Shoring C Shotcrete B Rock Bol	lts <u>▼</u> Wa	ne observ measure ter level ter outflo	ved D Dry L Lo ed M Moist M Mo W Wet H Hig Wp Plastic limit R Re ow WI Liquid limit	w VS oderate S gh F ifusal St VSt H	Very Soft Soft I Soft I Firm I Stiff I	DENSITY VL Very Loose L Loose MD Medium Dei D Dense VD Very Dense	e A Auge B Bulk nse U Undi D Distu M Mois Ux Tube	NG & TES er sample sample isturbed sa urbed sam sture conte e sample (x onmental s	ample ple ent x mm)	S Standa VS Vane DCP Dyn	amic cone etrometer density	Y USC	AND CRIPTION
۲	, ru	or tub			E	EXCAVATI	ON LO	G TO BE READ IN CONJU	INCTION WITH	I ACCOMPA	NYING REPO	RT NOTES	and abi	BREVI	IATIONS			
			_						MADTENS 9	ACCOCIATE	e DTV I TD		1					

Attachment E -Laboratory Analytical Certificates 12





**Envirolab Services Pty Ltd** 

ABN 37 112 535 645 12 Ashley St Chatswood NSW 2067 ph 02 9910 6200 fax 02 9910 6201 enquiries@envirolabservices.com.au www.envirolabservices.com.au

CERTIFICATE OF ANALYSIS 79298

Client:

Martens & Associates Pty Ltd 6/37 Leighton Place

Hornsby NSW 2077

Attention: Ben McGiffin

Sample log in details:

Your Reference: 2863-soil and material sampling-Mura

No. of samples: 50 Soils, 3 Materials

Date samples received / completed instructions received 24/09/2012, 25/09/1224/09/2012, 25/09/12

**Analysis Details:** 

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

**Report Details:** 

Date results requested by: / Issue Date: 3/10/12 / 3/10/12

Date of Preliminary Report: Not issued

NATA accreditation number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025. Tests not covered by NATA are denoted with \*.

**Results Approved By:** 

Nick Sarlamis
Inorganics Supervisor

Alex MacLean Chemist

Paul Ching Approved Signatory



vTRH&BTEX in Soil						
Our Reference:	UNITS	79298-1	79298-2	79298-3	79298-4	79298-5
Your Reference		2863/132	2863/131	2863/Dup4	2863/129	2863/128
Depth		0.05	0.05	-	0.05	0.05
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	29/09/2012	29/09/2012	29/09/2012	29/09/2012	29/09/2012
vTRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	87	99	99	100	99
vTRH & BTEX in Soil Our Reference:	UNITS	79298-6	79298-7	79298-8	79298-9	79298-11
Your Reference	UNITS	79298-6 2863/130	79298-7 2863/134	79298-8 2863/133	79298-9 2863/118	2863/117
Depth		0.05	2003/134	0.05	0.05	0.3
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	29/09/2012	29/09/2012	29/09/2012	29/09/2012	29/09/2012
vTRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	99	100	99	93	109
	<u> </u>		<u> </u>		<u> </u>	<u> </u>
vTRH&BTEX in Soil	LINITTO	70000 10	70000 4 4	70000 45	70000 40	70000 10
Our Reference: Your Reference	UNITS	79298-13 2863/SS119	79298-14	79298-15 2863/116	79298-16 2863/103	79298-19 2863/125
Depth		2003/33119	2863/SS122 -	0.15	0.25	0.3
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	29/09/2012	29/09/2012	29/09/2012	29/09/2012	29/09/2012
vTRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	105	95	81	101	100
Surrogate adas militorotoliterile	/0	100		J 01	101	100

Envirolab Reference: 79298 Revision No: R 01

vTRH&BTEX in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS	79298-20 2863/Dup3 - 19/09/2012 Soil	79298-21 2863/101 0.05 19/09/2012 Soil	79298-22 2863/107 0.05 19/09/2012 Soil	79298-23 2863/121 0.05 19/09/2012 Soil	79298-24 2863/137 0.15 19/09/2012 Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	29/09/2012	29/09/2012	29/09/2012	29/09/2012	29/09/2012
vTRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	105	99	103	105	124
vTRH&BTEX in Soil Our Reference: Your Reference Depth Date Sampled	UNITS	79298-25 2863/102 1.5 19/09/2012	79298-26 2863/Dup2 - 19/09/2012	79298-27 2863/103 1.2 19/09/2012	79298-28 2863/SS114 - 19/09/2012	79298-29 2863/105 0.2 19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	29/09/2012	29/09/2012	29/09/2012	29/09/2012	29/09/2012
vTRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	102	96	96	101	107
vTRH&BTEXin Soil Our Reference: Your Reference Depth Date Sampled	UNITS	79298-31 2863/108 1.0 19/09/2012	79298-32 2863/136 0.2 19/09/2012	79298-33 2863/123 0.1 19/09/2012	79298-34 2863/120 0.2 19/09/2012	79298-35 2863/138 0.5 19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	_	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	_	29/09/2012	29/09/2012	29/09/2012	29/09/2012	29/09/2012
vTRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	107	111	108	104	117
Sarrogato add Tillidolotoldollo		L	L	1		l

vTRH & BTEX in Soil						
Our Reference:	UNITS	79298-36	79298-37	79298-38	79298-39	79298-40
Your Reference		2863/116	2863/111	2863/112	2863/113	2863/104
Depth		0.05	0.25	0.5	0.4	0.3
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	29/09/2012	29/09/2012	29/09/2012	29/09/2012	29/09/2012
vTRHC6 - C9	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	96	107	104	110	108

vTRH&BTEX in Soil						
Our Reference:	UNITS	79298-46	79298-47	79298-48	79298-49	79298-51
Your Reference		MA Blank 1	MA Spike 1	MA Blank 2	MA Spike 2	2863/126
Depth		-	-	-	-	0.25
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	29/09/2012	29/09/2012	29/09/2012	29/09/2012	29/09/2012
vTRHC6 - C9	mg/kg	<25	[NA]	<25	[NA]	<25
Benzene	mg/kg	<0.2	101%	<0.2	107%	<0.2
Toluene	mg/kg	<0.5	101%	<0.5	107%	<0.5
Ethylbenzene	mg/kg	<1	102%	<1	106%	<1
m+p-xylene	mg/kg	<2	101%	<2	105%	<2
o-Xylene	mg/kg	<1	101%	<1	106%	<1
Surrogate aaa-Trifluorotoluene	%	109	103	103	104	114

sTRH in Soil (C10-C36)						
Our Reference:	UNITS	79298-1	79298-2	79298-3	79298-4	79298-5
Your Reference		2863/132	2863/131	2863/Dup4	2863/129	2863/128
Depth		0.05	0.05	-	0.05	0.05
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
TRHC 10 - C14	mg/kg	<50	<50	<50	<50	<50
TRHC 15 - C28	mg/kg	110	<100	<100	<100	<100
TRHC29 - C36	mg/kg	140	<100	110	120	<100
Surrogate o-Terphenyl	%	89	86	84	88	86
Surrogate 0-Telphenyi	70	05	00	04	00	00
sTRH in Soil (C10-C36)						
Our Reference:	UNITS	79298-6	79298-7	79298-8	79298-9	79298-11
Your Reference		2863/130	2863/134	2863/133	2863/118	2863/117
Depth		0.05	-	0.05	0.05	0.3
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	_	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
TRHC <sub>10</sub> - C <sub>14</sub>	mg/kg	<50	<50	<50	<50	<50
TRHC15 - C28	mg/kg	<100	<100	<100	<100	<100
TRHC29 - C36		<100	150	150	<100	<100
	mg/kg %	83	92		86	86
Surrogate o-Terphenyl	70	03	92	88	00	00
sTRH in Soil (C10-C36)						
Our Reference:	UNITS	79298-13	79298-14	79298-15	79298-16	79298-19
Your Reference		2863/SS119	2863/SS122	2863/116	2863/103	2863/125
Depth		-	-	0.15	0.25	0.3
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	_	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
TRHC10 - C14	mg/kg	<50	<50	<50	<50	<50
TRHC 15 - C28	mg/kg	<100	<100	<100	<100	<100
		<100	<100	<100	<100	<100
TRHC29 - C36	mg/kg					
Surrogate o-Terphenyl	%	86	83	76	80	81
sTRH in Soil (C10-C36)						
Our Reference:	UNITS	79298-20	79298-21	79298-22	79298-23	79298-24
Your Reference		2863/Dup3	2863/101	2863/107	2863/121	2863/137
Depth		-	0.05	0.05	0.05	0.15
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date extracted		i .	l		07/00/0040	07/00/0040
	_	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	- ma/ka		27/09/2012 <50	27/09/2012 <50		
Date analysed TRHC10 - C14	- mg/kg ma/ka	<50	<50	<50	<50	<50
Date analysed  TRHC10 - C14  TRHC15 - C28	mg/kg	<50 <100	<50 <100	<50 <100	<50 <100	<50 <100
Date analysed TRHC10 - C14		<50	<50	<50	<50	<50

	Client Refere	nce: 2863	-soil and mate	erial sampling	-Mura	
sTRH in Soil (C10-C36)  Our Reference:  Your Reference  Depth  Date Sampled	UNITS	79298-25 2863/102 1.5 19/09/2012	79298-26 2863/Dup2 - 19/09/2012	79298-27 2863/103 1.2 19/09/2012	79298-28 2863/SS114 - 19/09/2012	79298-29 2863/105 0.2 19/09/2012
Type of sample  Date extracted	-	Soil 27/09/2012	Soil 27/09/2012	Soil 27/09/2012	Soil 27/09/2012	Soil 27/09/2012
Date analysed TRHC10 - C14	- mg/kg	27/09/2012 <50	27/09/2012 <50	27/09/2012 <50	27/09/2012 <50	27/09/2012 <50
TRHC15 - C28 TRHC29 - C36  Surrogate o-Terphenyl	mg/kg mg/kg %	<100 180 83	<100 240 82	130 110 85	<100 <100 85	<100 100 67
sTRH in Soil (C10-C36)						
Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS	79298-31 2863/108 1.0 19/09/2012 Soil	79298-32 2863/136 0.2 19/09/2012 Soil	79298-33 2863/123 0.1 19/09/2012 Soil	79298-34 2863/120 0.2 19/09/2012 Soil	79298-35 2863/138 0.5 19/09/2012 Soil
Date extracted  Date analysed	-	27/09/2012 27/09/2012	27/09/2012 27/09/2012	27/09/2012 27/09/2012	27/09/2012 27/09/2012	27/09/2012 27/09/2012
TRHC 10 - C14 TRHC 15 - C28 TRHC 29 - C36	mg/kg mg/kg mg/kg	<50 <100 <100	<50 <100 <100	<50 <100 <100	<50 <100 <100	<50 <100 <100
Surrogate o-Terphenyl	%	66	77	75	65	79
sTRHin Soil (C10-C36)  Our Reference:  Your Reference  Depth  Date Sampled  Type of sample	UNITS	79298-36 2863/116 0.05 19/09/2012 Soil	79298-37 2863/111 0.25 19/09/2012 Soil	79298-38 2863/112 0.5 19/09/2012 Soil	79298-39 2863/113 0.4 19/09/2012 Soil	79298-40 2863/104 0.3 19/09/2012 Soil
Date extracted  Date analysed	-	27/09/2012 27/09/2012	27/09/2012 27/09/2012	27/09/2012 27/09/2012	27/09/2012 27/09/2012	27/09/2012 27/09/2012
TRHC 10 - C14 TRHC 15 - C28 TRHC 29 - C36	mg/kg mg/kg mg/kg	<50 <100 610	<50 <100 <100	<50 <100 <100	<50 <100 <100	<50 <100 120
Surrogate o-Terphenyl	%	72	72	71	72	67
sTRH in Soil (C10-C36)  Our Reference:  Your Reference  Depth  Date Sampled  Type of sample	UNITS	79298-51 2863/126 0.25 19/09/2012 Soil				
Date extracted		27/09/2012	1			

STREETITSOII(C10-C30)		
Our Reference:	UNITS	79298-51
Your Reference		2863/126
Depth		0.25
Date Sampled		19/09/2012
Type of sample		Soil
Date extracted	-	27/09/2012
Date analysed	-	27/09/2012
TRHC 10 - C14	mg/kg	<50
TRHC 15 - C28	mg/kg	<100
TRHC29 - C36	mg/kg	<100
Surrogate o-Terphenyl	%	81

PAHs in Soil						
Our Reference:	UNITS	79298-1	79298-2	79298-3	79298-4	79298-5
Your Reference		2863/132	2863/131	2863/Dup4	2863/129	2863/128
Depth		0.05	0.05	-	0.05	0.05
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	29/09/2012	29/09/2012	29/09/2012	29/09/2012	29/09/2012
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d <sub>14</sub>	%	91	95	97	95	98
3 , 1 ,						
PAHs in Soil						
Our Reference:	UNITS	79298-6	79298-7	79298-8	79298-9	79298-11
Our Reference: Your Reference		2863/130	79298-7 2863/134	2863/133	2863/118	2863/117
Our Reference: Your Reference Depth	UNITS	2863/130 0.05	2863/134	2863/133 0.05	2863/118 0.05	2863/117 0.3
Our Reference: Your Reference		2863/130		2863/133	2863/118	2863/117
Our Reference: Your Reference Depth Date Sampled Type of sample		2863/130 0.05 19/09/2012 Soil	2863/134 - 19/09/2012 Soil	2863/133 0.05 19/09/2012 Soil	2863/118 0.05 19/09/2012 Soil	2863/117 0.3 19/09/2012 Soil
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted		2863/130 0.05 19/09/2012 Soil 27/09/2012	2863/134 - 19/09/2012 Soil 27/09/2012	2863/133 0.05 19/09/2012 Soil 27/09/2012	2863/118 0.05 19/09/2012 Soil 27/09/2012	2863/117 0.3 19/09/2012 Soil 27/09/2012
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed	-	2863/130 0.05 19/09/2012 Soil 27/09/2012 29/09/2012	2863/134 - 19/09/2012 Soil 27/09/2012 29/09/2012	2863/133 0.05 19/09/2012 Soil 27/09/2012 29/09/2012	2863/118 0.05 19/09/2012 Soil 27/09/2012 29/09/2012	2863/117 0.3 19/09/2012 Soil 27/09/2012 29/09/2012
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene		2863/130 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1	2863/134 - 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1	2863/133 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1	2863/118 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1	2863/117 0.3 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene	- - - mg/kg mg/kg	2863/130 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1	2863/134 - 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1	2863/133 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1	2863/118 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1	2863/117 0.3 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene	- - - mg/kg mg/kg mg/kg	2863/130 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1	2863/134 - 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1	2863/133 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1	2863/118 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1	2863/117 0.3 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Fluorene		2863/130 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/134 - 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/133 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/118 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/117 0.3 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene		2863/130 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1	2863/134 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1	2863/133 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/118 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/117 0.3 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene		2863/130 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/134 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/133 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1	2863/118 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/117 0.3 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene	- mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/130 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/134 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/133 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/118 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/117 0.3 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene		2863/130 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/134 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/133 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/118 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/117 0.3 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene	- mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/130 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/134 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/133 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/118 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/117 0.3 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene		2863/130 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/134 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/133 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/118 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/117 0.3 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b+k)fluoranthene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/130 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/134 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/133 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/118 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/117 0.3 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b+k)fluoranthene Benzo(a)pyrene		2863/130 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/134 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/133 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/118 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/117 0.3 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b+k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-c,d)pyrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/130 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/134 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/133 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/118 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/117 0.3 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b+k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-c,d)pyrene Dibenzo(a,h)anthracene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/130 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/134 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/133 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/118 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/117 0.3 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b+k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-c,d)pyrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/130 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/134 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/133 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/118 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/117 0.3 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1

PAHs in Soil						
Our Reference:	UNITS	79298-13	79298-14	79298-15	79298-16	79298-19
Your Reference		2863/SS119	2863/SS122	2863/116	2863/103	2863/125
Depth		-	-	0.15	0.25	0.3
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	29/09/2012	29/09/2012	29/09/2012	29/09/2012	29/09/2012
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene		<0.1	<0.1	<0.1	<0.1	<0.1
	mg/kg					
Surrogate p-Terphenyl-d <sub>14</sub>	%	99	80	84	87	90
PAHs in Soil						
PAHs in Soil Our Reference:	UNITS	79298-20	79298-21	79298-22	79298-23	79298-24
	UNITS	79298-20 2863/Dup3	79298-21 2863/101	79298-22 2863/107	79298-23 2863/121	79298-24 2863/137
Our Reference: Your Reference Depth						
Our Reference: Your Reference Depth Date Sampled		2863/Dup3 - 19/09/2012	2863/101 0.05 19/09/2012	2863/107 0.05 19/09/2012	2863/121 0.05 19/09/2012	2863/137 0.15 19/09/2012
Our Reference: Your Reference Depth		2863/Dup3 -	2863/101 0.05	2863/107 0.05	2863/121 0.05	2863/137 0.15
Our Reference: Your Reference Depth Date Sampled		2863/Dup3 - 19/09/2012	2863/101 0.05 19/09/2012	2863/107 0.05 19/09/2012	2863/121 0.05 19/09/2012	2863/137 0.15 19/09/2012
Our Reference: Your Reference Depth Date Sampled Type of sample		2863/Dup3 - 19/09/2012 Soil	2863/101 0.05 19/09/2012 Soil	2863/107 0.05 19/09/2012 Soil	2863/121 0.05 19/09/2012 Soil	2863/137 0.15 19/09/2012 Soil
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted		2863/Dup3 - 19/09/2012 Soil 27/09/2012	2863/101 0.05 19/09/2012 Soil 27/09/2012	2863/107 0.05 19/09/2012 Soil 27/09/2012	2863/121 0.05 19/09/2012 Soil 27/09/2012	2863/137 0.15 19/09/2012 Soil 27/09/2012
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed		2863/Dup3 - 19/09/2012 Soil 27/09/2012 29/09/2012	2863/101 0.05 19/09/2012 Soil 27/09/2012 29/09/2012	2863/107 0.05 19/09/2012 Soil 27/09/2012 29/09/2012	2863/121 0.05 19/09/2012 Soil 27/09/2012 29/09/2012	2863/137 0.15 19/09/2012 Soil 27/09/2012 29/09/2012
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene		2863/Dup3 - 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1	2863/101 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1	2863/107 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1	2863/121 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1	2863/137 0.15 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene	- - - mg/kg mg/kg	2863/Dup3 - 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1	2863/101 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1	2863/107 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1	2863/121 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1	2863/137 0.15 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene	- - - mg/kg mg/kg mg/kg	2863/Dup3 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1	2863/101 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1	2863/107 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1	2863/121 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1	2863/137 0.15 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene	mg/kg mg/kg mg/kg mg/kg mg/kg	2863/Dup3 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/101 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/107 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/121 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/137 0.15 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene	- mg/kg mg/kg mg/kg mg/kg mg/kg	2863/Dup3 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1	2863/101 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 0.1	2863/107 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1	2863/121 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/137 0.15 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/Dup3 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/101 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1	2863/107 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/121 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1	2863/137 0.15 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene	- mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/Dup3 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/101 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 0.1 <0.1	2863/107 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/121 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/137 0.15 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene	- mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/Dup3 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/101 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 0.4 0.4	2863/107 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/121 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/137 0.15 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene		2863/Dup3 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/101 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 0.4 0.4 0.2 0.2	2863/107 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/121 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/137 0.15 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b+k)fluoranthene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/Dup3 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/101 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 0.4 0.4 0.2 0.2 0.3	2863/107 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/121 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/137 0.15 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b+k)fluoranthene Benzo(a)pyrene		2863/Dup3 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/101 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 0.4 0.4 0.2 0.2 0.3 0.27	2863/107 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/121 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/137 0.15 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b+k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-c,d)pyrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/Dup3 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/101 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 0.1 <0.1 0.4 0.4 0.2 0.2 0.3 0.27 0.1	2863/107 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/121 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/137 0.15 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Fluoranthene Benzo(a)anthracene Chrysene Benzo(b+k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-c,d)pyrene Dibenzo(a,h)anthracene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/Dup3 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/101 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 0.4 0.4 0.2 0.2 0.3 0.27 0.1 <0.1 <0.1	2863/107 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/121 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/137 0.15 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b+k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-c,d)pyrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/Dup3 - 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/101 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 0.1 <0.1 0.4 0.4 0.2 0.2 0.3 0.27 0.1	2863/107 0.05 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/121 0.05 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/137 0.15 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1

PAHs in Soil						
Our Reference:	UNITS	79298-25	79298-26	79298-27	79298-28	79298-29
Your Reference		2863/102	2863/Dup2	2863/103	2863/SS114	2863/105
Depth Date Committee		1.5	-	1.2	-	0.2
Date Sampled Type of sample		19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	29/09/2012	29/09/2012	29/09/2012	29/09/2012	29/09/2012
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	0.5	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	0.4	<0.1	<0.1
Phenanthrene	mg/kg	0.2	0.2	7.6	<0.1	0.3
Anthracene	mg/kg	<0.1	<0.1	1.9	<0.1	<0.1
Fluoranthene	mg/kg	0.3	0.5	11	<0.1	0.6
Pyrene	mg/kg	0.3	0.5	8.7	<0.1	0.7
Benzo(a)anthracene	mg/kg	0.1	0.2	4.2	<0.1	0.3
Chrysene	mg/kg	0.2	0.2	3.5	<0.1	0.4
Benzo(b+k)fluoranthene	mg/kg	0.4	0.5	6.1	<0.2	0.8
Benzo(a)pyrene	mg/kg	0.27	0.38	4.7	<0.05	0.48
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	0.2	2.1	<0.1	0.3
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	0.4	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1	0.2	1.4	<0.1	0.2
Surrogate p-Terphenyl-d14	%	91	92	93	94	77
_						
PAHs in Soil	LINITTO	70200 24	70200 22	70200 22	70200 24	70200 25
Our Reference:	UNITS	79298-31 2863/108	79298-32 2863/136	79298-33 2863/123	79298-34 2863/120	79298-35 2863/138
Our Reference: Your Reference	UNITS	79298-31 2863/108 1.0	79298-32 2863/136 0.2	79298-33 2863/123 0.1	2863/120	79298-35 2863/138 0.5
Our Reference:	UNITS	2863/108	2863/136	2863/123		2863/138
Our Reference: Your Reference Depth	UNITS	2863/108 1.0	2863/136 0.2	2863/123 0.1	2863/120 0.2	2863/138 0.5
Our Reference: Your Reference Depth Date Sampled	UNITS	2863/108 1.0 19/09/2012	2863/136 0.2 19/09/2012	2863/123 0.1 19/09/2012	2863/120 0.2 19/09/2012	2863/138 0.5 19/09/2012
Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS	2863/108 1.0 19/09/2012 Soil	2863/136 0.2 19/09/2012 Soil	2863/123 0.1 19/09/2012 Soil	2863/120 0.2 19/09/2012 Soil	2863/138 0.5 19/09/2012 Soil
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted	UNITS	2863/108 1.0 19/09/2012 Soil 27/09/2012	2863/136 0.2 19/09/2012 Soil 27/09/2012	2863/123 0.1 19/09/2012 Soil 27/09/2012	2863/120 0.2 19/09/2012 Soil 27/09/2012	2863/138 0.5 19/09/2012 Soil 27/09/2012
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed		2863/108 1.0 19/09/2012 Soil 27/09/2012 29/09/2012	2863/136 0.2 19/09/2012 Soil 27/09/2012 29/09/2012	2863/123 0.1 19/09/2012 Soil 27/09/2012 29/09/2012	2863/120 0.2 19/09/2012 Soil 27/09/2012 29/09/2012	2863/138 0.5 19/09/2012 Soil 27/09/2012 29/09/2012
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene		2863/108 1.0 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1	2863/136 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1	2863/123 0.1 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1	2863/120 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1	2863/138 0.5 19/09/2012 Soil 27/09/2012 29/09/2012 0.2
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene	- - - mg/kg mg/kg	2863/108 1.0 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 0.1	2863/136 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1	2863/123 0.1 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1	2863/120 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1	2863/138 0.5 19/09/2012 Soil 27/09/2012 29/09/2012 0.2 0.5
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene	- - - mg/kg mg/kg mg/kg	2863/108 1.0 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 0.1 <0.1	2863/136 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1	2863/123 0.1 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1	2863/120 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1	2863/138 0.5 19/09/2012 Soil 27/09/2012 29/09/2012 0.2 0.5 0.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene	mg/kg mg/kg mg/kg mg/kg	2863/108 1.0 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 0.1 <0.1	2863/136 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/123 0.1 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/120 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/138 0.5 19/09/2012 Soil 27/09/2012 29/09/2012 0.2 0.5 0.1 0.4
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene	- mg/kg mg/kg mg/kg mg/kg mg/kg	2863/108 1.0 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 0.1 <0.1 <0.1 <0.1	2863/136 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/123 0.1 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/120 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1	2863/138 0.5 19/09/2012 Soil 27/09/2012 29/09/2012 0.2 0.5 0.1 0.4 4.9
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene		2863/108 1.0 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 0.1 <0.1 <0.1 <0.1 <0.1	2863/136 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1	2863/123 0.1 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1	2863/120 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1	2863/138 0.5 19/09/2012 Soil 27/09/2012 29/09/2012 0.2 0.5 0.1 0.4 4.9 0.8
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene	- mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/108 1.0 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/136 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/123 0.1 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/120 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/138 0.5 19/09/2012 Soil 27/09/2012 29/09/2012 0.2 0.5 0.1 0.4 4.9 0.8 4.0
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene		2863/108 1.0 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.2	2863/136 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/123 0.1 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/120 0.2 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/138 0.5 19/09/2012 Soil 27/09/2012 29/09/2012 0.2 0.5 0.1 0.4 4.9 0.8 4.0 4.1
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene	- mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/108 1.0 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/136 0.2 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/123 0.1 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/120 0.2 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 0.1 0.1 0.1 <0.1	2863/138 0.5 19/09/2012 Soil 27/09/2012 29/09/2012 0.2 0.5 0.1 0.4 4.9 0.8 4.0 4.1 1.7
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene		2863/108 1.0 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 0.2 0.2 0.1	2863/136 0.2 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/123 0.1 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/120 0.2 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 0.1 0.1 0.1 <0.1 <	2863/138 0.5 19/09/2012 Soil 27/09/2012 29/09/2012 0.2 0.5 0.1 0.4 4.9 0.8 4.0 4.1 1.7 1.6
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b+k)fluoranthene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/108 1.0 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 0.2 0.2 0.4	2863/136 0.2 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/123 0.1 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/120 0.2 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 0.1 0.1 <0.1 <	2863/138 0.5 19/09/2012 Soil 27/09/2012 29/09/2012 0.2 0.5 0.1 0.4 4.9 0.8 4.0 4.1 1.7 1.6 2.3
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b+k)fluoranthene Benzo(a)pyrene		2863/108 1.0 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 0.1 <0.1 <0.1 <0.1 <0.1 0.2 0.2 0.1 0.2 0.4 0.37	2863/136 0.2 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/123 0.1 19/09/2012 Soil 27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/120 0.2 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 0.1 0.1 0.1 <0.1 <	2863/138 0.5 19/09/2012 Soil 27/09/2012 29/09/2012 0.2 0.5 0.1 0.4 4.9 0.8 4.0 4.1 1.7 1.6 2.3 2.0
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b+k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-c,d)pyrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/108 1.0 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 0.1 <0.1 <0.1 <0.1 <0.1 0.2 0.2 0.1 0.2 0.4 0.37 0.2	2863/136 0.2 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/123 0.1 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/120 0.2 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 0.1 0.1 <0.1 <	2863/138 0.5 19/09/2012 Soil 27/09/2012 29/09/2012 0.2 0.5 0.1 0.4 4.9 0.8 4.0 4.1 1.7 1.6 2.3 2.0 0.9
Our Reference: Your Reference Depth Date Sampled Type of sample  Date extracted Date analysed Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Fluoranthene Benzo(a)anthracene Chrysene Benzo(b+k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-c,d)pyrene Dibenzo(a,h)anthracene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	2863/108 1.0 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 0.1 <0.1 <0.1 <0.1 <0.1 0.2 0.2 0.1 0.2 0.4 0.37 0.2 <0.1	2863/136 0.2 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	2863/123 0.1 19/09/2012 Soil 27/09/2012 29/09/2012 <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	2863/120 0.2 19/09/2012 Soil  27/09/2012 29/09/2012 <0.1 <0.1 <0.1 <0.1 <0.1 0.1 0.1 <0.1 <	2863/138 0.5 19/09/2012 Soil 27/09/2012 29/09/2012 0.2 0.5 0.1 0.4 4.9 0.8 4.0 4.1 1.7 1.6 2.3 2.0 0.9 0.1

PAHs in Soil						
Our Reference:	UNITS	79298-36	79298-37	79298-38	79298-39	79298-40
Your Reference		2863/116	2863/111	2863/112	2863/113	2863/104
Depth		0.05	0.25	0.5	0.4	0.3
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	29/09/2012	29/09/2012	29/09/2012	29/09/2012	29/09/2012
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.3
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.3
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	0.3
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	0.22
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate p-Terphenyl-d14	%	80	82	82	81	71

PAHs in Soil		
Our Reference:	UNITS	79298-51
Your Reference		2863/126
Depth		0.25
Date Sampled		19/09/2012
Type of sample		Soil
Date extracted	-	27/09/2012
Date analysed	-	29/09/2012
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Surrogate p-Terphenyl-d <sub>14</sub>	%	61

Organochlorine Pesticides in soil						
Our Reference:	UNITS	79298-7	79298-8	79298-16	79298-25	79298-26
Your Reference		2863/134	2863/133	2863/103	2863/102	2863/Dup2
Depth		-	0.05	0.25	1.5	-
Date Sampled		19/09/2012	19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil	19/09/2012
Type of sample		Soil	5011	5011	5011	Soil
Date extracted	-	27/9/2012	27/9/2012	27/9/2012	27/9/2012	27/9/2012
Date analysed	-	29/9/2012	29/9/2012	29/9/2012	29/9/2012	29/9/2012
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	90	102	91	90	91

Organochlorine Pesticides in soil						
Our Reference:	UNITS	79298-27	79298-28	79298-29	79298-31	79298-32
Your Reference		2863/103	2863/SS114	2863/105	2863/108	2863/136
Depth		1.2	-	0.2	1.0	0.2
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/9/2012	27/9/2012	27/9/2012	27/9/2012	27/9/2012
Date analysed	-	29/9/2012	29/9/2012	29/9/2012	29/9/2012	29/9/2012
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	90	98	78	81	85

Organochlorine Pesticides in soil						
Our Reference:	UNITS	79298-33	79298-34	79298-35	79298-36	79298-37
Your Reference		2863/123	2863/120	2863/138	2863/116	2863/111
Depth		0.1	0.2	0.5	0.05	0.25
Date Sampled		19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil	19/09/2012
Type of sample		5011	5011	5011	5011	Soil
Date extracted	-	27/9/2012	27/9/2012	27/9/2012	27/9/2012	27/9/2012
Date analysed	-	29/9/2012	29/9/2012	29/9/2012	29/9/2012	29/9/2012
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	84	73	63	74	85

Organochlorine Pesticides in soil				
Our Reference:	UNITS	79298-38	79298-39	79298-40
Your Reference		2863/112	2863/113	2863/104
Depth		0.5	0.4	0.3
Date Sampled		19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil
Date extracted	-	27/9/2012	27/9/2012	27/9/2012
Date analysed	-	29/9/2012	29/9/2012	29/9/2012
HCB	mg/kg	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1
Surrogate TCMX	%	81	89	81

Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS	79298-7 2863/134 - 19/09/2012 Soil	79298-8 2863/133 0.05 19/09/2012 Soil	79298-16 2863/103 0.25 19/09/2012 Soil	79298-25 2863/102 1.5 19/09/2012 Soil	79298-26 2863/Dup2 - 19/09/2012 Soil
Date extracted	-	27/9/2012	27/9/2012	27/9/2012	27/9/2012	27/9/2012
Date analysed	-	29/9/2012	29/9/2012	29/9/2012	29/9/2012	29/9/2012
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	90	102	91	90	91
			ı			
Organophosphorus Pesticides						
Our Reference:	UNITS	79298-27	79298-28	79298-29	79298-31	79298-32
Your Reference		2863/103	2863/SS114	2863/105	2863/108	2863/136
Depth		1.2	-	0.2	1.0	0.2
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/9/2012	27/9/2012	27/9/2012	27/9/2012	27/9/2012
Date analysed	-	29/9/2012	29/9/2012	29/9/2012	29/9/2012	29/9/2012
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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Fenitrothion

Bromophos-ethyl

Ethion

Surrogate TCMX

mg/kg

mg/kg

mg/kg

%

<0.1

<0.1

<0.1

90

<0.1

<0.1

<0.1

98

< 0.1

<0.1

<0.1

78

<0.1

<0.1

<0.1

81

<0.1

<0.1

<0.1

85

Organophosphorus Pesticides

Organophosphorus Pesticides						
Our Reference:	UNITS	79298-33	79298-34	79298-35	79298-36	79298-37
Your Reference		2863/123	2863/120	2863/138	2863/116	2863/111
Depth		0.1	0.2	0.5	0.05	0.25
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/9/2012	27/9/2012	27/9/2012	27/9/2012	27/9/2012
Date analysed	-	29/9/2012	29/9/2012	29/9/2012	29/9/2012	29/9/2012
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	84	73	63	74	85

One and a selection of the selection of				
Organophosphorus Pesticides				
Our Reference:	UNITS	79298-38	79298-39	79298-40
Your Reference		2863/112	2863/113	2863/104
Depth		0.5	0.4	0.3
Date Sampled		19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil
Date extracted	-	27/9/2012	27/9/2012	27/9/2012
Date analysed	-	29/9/2012	29/9/2012	29/9/2012
Diazinon	mg/kg	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1
Chlorpyriphos-methyl	mg/kg	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1
Surrogate TCMX	%	81	89	81

PCBs in Soil						
Our Reference:	UNITS	79298-7	79298-8	79298-16	79298-25	79298-26
Your Reference	014113	2863/134	2863/133	2863/103	2863/102	2863/Dup2
Depth		2003/134	0.05	0.25	1.5	2003/Dup2
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/9/2012	27/9/2012	27/9/2012	27/9/2012	27/9/2012
Date analysed	-	29/9/2012	29/9/2012	29/9/2012	29/9/2012	29/9/2012
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	90	102	91	90	91
Sarrogato Tollyin	,,	- 55	1 .02	<u> </u>	1 33	<u> </u>
PCBs in Soil						
Our Reference:	UNITS	79298-27	79298-28	79298-29	79298-31	79298-32
Your Reference		2863/103	2863/SS114	2863/105	2863/108	2863/136
Depth		1.2	-	0.2	1.0	0.2
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/9/2012	27/9/2012	27/9/2012	27/9/2012	27/9/2012
Date analysed	-	29/9/2012	29/9/2012	29/9/2012	29/9/2012	29/9/2012
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
		<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg					
Surrogate TCLMX	%	90	98	78	81	85
PCBs in Soil						
Our Reference:	UNITS	79298-33	79298-34	79298-35	79298-36	79298-37
Your Reference		2863/123	2863/120	2863/138	2863/116	2863/111
Depth		0.1	0.2	0.5	0.05	0.25
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/9/2012	27/9/2012	27/9/2012	27/9/2012	27/9/2012
Date analysed	_	29/9/2012	29/9/2012	29/9/2012	29/9/2012	29/9/2012
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242		<0.1	<0.1	<0.1	<0.1	<0.1
	mg/kg					
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	84	73	63	74	85

PCBs in Soil				
Our Reference:	UNITS	79298-38	79298-39	79298-40
Your Reference		2863/112	2863/113	2863/104
Depth		0.5	0.4	0.3
Date Sampled		19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil
Date extracted	-	27/9/2012	27/9/2012	27/9/2012
Date analysed	-	29/9/2012	29/9/2012	29/9/2012
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1
Arochlor 1221	mg/kg	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1
Surrogate TCLMX	%	81	89	81

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Acid Extractable metals in soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS	79298-1 2863/132 0.05 19/09/2012 Soil	79298-2 2863/131 0.05 19/09/2012 Soil	79298-3 2863/Dup4 - 19/09/2012 Soil	79298-4 2863/129 0.05 19/09/2012 Soil	79298-5 2863/128 0.05 19/09/2012 Soil
Type of sample		5011	5011	5011	5011	5011
Date digested	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	mg/kg	12	12	19	3	19
Copper	mg/kg	1	<1	<1	<1	<1
Lead	mg/kg	6	5	6	4	6
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	2	1	1	<1	1
Zinc	mg/kg	5	3	3	2	4
Acid Extractable metals in soil Our Reference: Your Reference Depth	UNITS	79298-6 2863/130 0.05	79298-7 2863/134 -	79298-8 2863/133 0.05	79298-9 2863/118 0.05	79298-11 2863/117 0.3
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Arsenic	mg/kg	<4	<4	<4	<4	<4
Cadmium	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	mg/kg	9	9	9	12	16
Copper	mg/kg	<1	<1	1	<1	<1
Lead	mg/kg	6	4	8	5	4
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	<1	2	2	2
Zinc	mg/kg	2	2	6	2	2
Acid Extractable metals in soil Our Reference: Your Reference Depth	UNITS	79298-12 2863/117 1.0 19/09/2012	79298-13 2863/SS119 - 19/09/2012	79298-14 2863/SS122 -	79298-15 2863/116 0.15	79298-16 2863/103 0.25 19/09/2012
Date Sampled Type of sample		19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil
Date digested	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Arsenic	mg/kg	[NA]	5	<4	<4	7
Cadmium	mg/kg	[NA]	<0.5	<0.5	<0.5	<0.5
Chromium	mg/kg	[NA]	8	11	39	21
Copper	mg/kg	[NA]	2	2	1	26
Lead	mg/kg	[NA]	8	9	7	14
Marcon	, and an /1 can	TA LA T	.0.4	.0.4	.0.4	.0.4

<0.1

1

58

[NA]

[NA]

[NA]

<0.1

2

64

<0.1

3

5

Envirolab Reference: 79298 Revision No: R 01 mg/kg

mg/kg

mg/kg

Mercury

Nickel

Zinc

<0.1

8

41

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Acid Extractable metals in soil Our Reference: Your Reference Depth Date Sampled	UNITS	79298-12 2863/117 1.0 19/09/2012	79298-13 2863/SS119 - 19/09/2012	79298-14 2863/SS122 - 19/09/2012	79298-15 2863/116 0.15 19/09/2012	79298-16 2863/103 0.25 19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Magnesium	mg/kg	220	[NA]	[NA]	[NA]	[NA]
Acid Extractable metals in soil Our Reference: Your Reference Depth Date Sampled	UNITS	79298-17 2863/103 0.4 19/09/2012	79298-18 2863/125 0.05 19/09/2012	79298-19 2863/125 0.3 19/09/2012	79298-20 2863/Dup3 - 19/09/2012	79298-21 2863/101 0.05 19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested  Date analysed	- -	27/09/2012 27/09/2012	27/09/2012 27/09/2012	27/09/2012 27/09/2012	27/09/2012 27/09/2012	27/09/2012 27/09/2012
Arsenic	mg/kg	[NA]	[NA]	<4	6	8
Cadmium	mg/kg	[NA]	[NA]	<0.5	<0.5	<0.5
Chromium	mg/kg	[NA]	[NA]	16	20	24
Copper	mg/kg	[NA]	[NA]	<1	38	11
Lead	mg/kg	[NA]	[NA]	4	33	48
Mercury	mg/kg	[NA]	[NA]	<0.1	<0.1	<0.1
Nickel	mg/kg	[NA]	[NA]	2	8	5
Zinc	mg/kg	[NA]	[NA]	1	52	47
Magnesium	mg/kg	2,400	200	[NA]	[NA]	[NA]
Acid Extractable metals in soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS	79298-22 2863/107 0.05 19/09/2012 Soil	79298-23 2863/121 0.05 19/09/2012 Soil	79298-24 2863/137 0.15 19/09/2012 Soil	79298-25 2863/102 1.5 19/09/2012 Soil	79298-26 2863/Dup2 - 19/09/2012 Soil
Date digested	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Arsenic	mg/kg	<4	9	<4	6	7
Cadmium	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	mg/kg	17	24	25	21	19
Copper	mg/kg	<1	3	<1	40	38
Lead	mg/kg	6	9	6	170	170
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	<1	1	7	7
Zinc	mg/kg	4	3	1	200	190

Acid Extractable metals in soil						
Our Reference:	UNITS	79298-27	79298-28	79298-29	79298-31	79298-32
Your Reference		2863/103	2863/SS114	2863/105	2863/108	2863/136
Depth		1.2	-	0.2	1.0	0.2
Date Sampled Type of sample		19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil
Date digested	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Arsenic	mg/kg	6	5	7	8	<4
Cadmium	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	mg/kg	16	8	23	19	15
Copper	mg/kg	19	5	63	22	<1
Lead	mg/kg	43	17	310	21	4
Mercury	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
Nickel	mg/kg	5	5	5	4	<1
Zinc	mg/kg	200	310	130	26	1
Acid Extractable metals in soil	_					
Our Reference:	UNITS	79298-33	79298-34	79298-35	79298-36	79298-37
Your Reference Depth		2863/123 0.1	2863/120 0.2	2863/138 0.5	2863/116 0.05	2863/111 0.25
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Arsenic	mg/kg	<4	9	9	<4	5
Cadmium	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	mg/kg	3	30	32	21	23
Copper	mg/kg	<1	14	20	3	44
Lead	mg/kg	5	67	33	6	10
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<1	4	2	3	2
Zinc	mg/kg	3	81	18	10	13
	3 3					
Acid Extractable metals in soil						
Our Reference:	UNITS	79298-38	79298-39	79298-40	79298-42	79298-51
Your Reference		2863/112	2863/113	2863/104	2863/118	2863/126
Depth Date Sampled		0.5 19/09/2012	0.4 19/09/2012	0.3 19/09/2012	0.3	0.25 19/09/2012
Type of sample		19/09/2012 Soil	Soil	Soil	19/09/2012 Soil	Soil
Date digested	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Arsenic	mg/kg	5	6	7	[NA]	<4
Cadmium	mg/kg	<0.5	<0.5	<0.5	[NA]	<0.5
Chromium	mg/kg	9	17	22	[NA]	37
Copper	mg/kg	8	29	29	[NA]	<1
Lead	mg/kg	15	36	91	[NA]	5
Mercury	mg/kg	<0.1	<0.1	<0.1	[NA]	<0.1
Nickel	mg/kg	4	6	6	[NA]	<1
Zinc	mg/kg	72	57	130	[NA]	_1

mg/kg

23

57

130

[NA]

Zinc

<1

Acid Extractable metals in soil						
Our Reference:	UNITS	79298-38	79298-39	79298-40	79298-42	79298-51
Your Reference		2863/112	2863/113	2863/104	2863/118	2863/126
Depth		0.5	0.4	0.3	0.3	0.25
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Magnesium	mg/kg	[NA]	[NA]	[NA]	180	[NA]

Acid Extractable metals in soil		
Our Reference:	UNITS	79298-54
	UNITS	
Your Reference		2863/132 -
		Triplicate
Depth		0.05
Date Sampled		19/09/2012
Type of sample		Soil
Date digested	-	27/09/2012
Date analysed	-	27/09/2012
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.5
Chromium	mg/kg	15
Copper	mg/kg	<1
Lead	mg/kg	6
Mercury	mg/kg	<0.1
Nickel	mg/kg	2
Zinc	mg/kg	5
Magnesium	mg/kg	220

T IDI O		T				
Total Phenolics in Soil	LINUTTO	70000 7	70000 0	70000 10	70000 05	70000 00
Our Reference:	UNITS	79298-7	79298-8	79298-16	79298-25	79298-26
Your Reference		2863/134	2863/133	2863/103	2863/102	2863/Dup2
Depth		-	0.05	0.25	1.5	-
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5
Total Phenolics in Soil		I	I			
Our Reference:	UNITS	79298-27	79298-28	79298-29	79298-31	79298-32
Your Reference		2863/103	2863/SS114	2863/105	2863/108	2863/136
Depth		1.2	2003/00114	0.2	1.0	0.2
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5
Total Phenolics in Soil		T	T			
Our Reference:	UNITS	79298-33	79298-34	79298-35	79298-36	79298-37
Your Reference	ONITS	2863/123	2863/120	2863/138	2863/116	2863/111
Depth		0.1	0.2	0.5	0.05	0.25
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil
Date extracted	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5
Total Phenolics in Soil					]	
Our Reference:	UNITS	79298-38	79298-39	79298-40		
Your Reference		2863/112	2863/113	2863/104		
Depth		0.5	0.4	0.3		
Date Sampled	]	19/09/2012	19/09/2012	19/09/2012		
Type of sample		Soil	Soil	Soil		
Date extracted	_	27/09/2012	27/09/2012	27/09/2012		
Date analysed	_	27/09/2012	27/09/2012	27/09/2012		
Total Phenolics (as Phenol)	ma/ka	<5	<5	<5		
Total Friendics (as Priend)	mg/kg	<2	<2	<0	1	

Moisture Our Reference Dur Reference Dur Reference Depth Our Sampled Soil Soil Dete Sampled Determined Determi			T	T	T	T	
Your Reference Depth         2863/132 on 0.05         2863/129 on 0.05         2863/129 on 0.05         2863/129 on 0.05         2863/129 on 0.05         2863/129 on 0.05         2863/129 on 0.05         2863/129 on 0.05         2863/129 on 0.05         0.05 on 0.05 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>							
Depth   Dept		UNITS					
Date Sampled   19/08/2012   1					2863/Dup4		
Type of sample	·				-		
Date prepared   -     27/09/2012   27/09/2	·						
Date analysed   -   27/09/2012   27/09/201	Type of sample		Soil	Soil	Soil	Soil	Soil
Moisture	Date prepared	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Moisture         UNITS         79298-6         79298-7         79298-8         79298-9         79298-9         79298-11           Your Reference         2863/130         2863/134         2863/133         2863/13         2863/13         2863/13         2863/13         2863/13         2863/13         2863/13         2863/13         2863/13         2863/13         2863/13         2863/13         2863/13         2863/13         2863/13         2863/13         2863/13         2863/11         0.05	Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Our Reference:         UNITS         7928-6         7928-7         79298-8         7928-9         7928-9         7928-9         7928-9         7928-9         7928-9         7928-9         7928-9         7928-9         7928-9         7928-11         Your Reference         2863/130         2863/134         2863/133         2863/133         2863/131         2863/131         2863/134         2863/132         2863/131         2863/134         2863/134         2863/134         2863/132         2863/134 <td>Moisture</td> <td>%</td> <td>18</td> <td>7.7</td> <td>7.8</td> <td>7.0</td> <td>9.5</td>	Moisture	%	18	7.7	7.8	7.0	9.5
Our Reference:         UNITS         7928-6         7928-7         79298-8         7928-9         7928-9         7928-9         7928-9         7928-9         7928-9         7928-9         7928-9         7928-9         7928-9         7928-11         Your Reference         2863/130         2863/134         2863/133         2863/133         2863/131         2863/131         2863/134         2863/132         2863/131         2863/134         2863/134         2863/134         2863/132         2863/134 <td></td> <td>T</td> <td>T</td> <td>T</td> <td>T</td> <td>T</td> <td></td>		T	T	T	T	T	
Your Reference Depth         2863/130         2863/134         2863/133         2863/118         2863/117           Depth         0.06         -         0.06         -         0.06         0.06         0.03           Date Sampled         1909/2012         1909/2012         1909/2012         1909/2012         1909/2012         1909/2012         2909/2012         2709/2012         290/2012							
Depth		UNITS					
Date Sample				2863/134			
Type of sample	1			-			
Date prepared - 27/09/2012 2863/16 2863/103 Depth	•						
Date analysed   -	Type of sample		Soil	Soil	Soil	Soil	Soil
Moisture         %         13         7.1         17         11         9.1           Moisture         Our Reference:         UNITS         79298-12         79298-13         79298-14         79298-15         79298-16           Your Reference:         2663/117         2863/SS119         2863/SS122         2863/116         2863/103           Depth         1.0         -         -         0.15         0.25           Date Sample         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         27/09/2	Date prepared	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Moisture         UNITS         79298-12 2863/117 2863/SS119 2863/SS122 2863/116 2863/103 0.15 0.25           Pour Reference         ————————————————————————————————————	Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Our Reference:         UNITS         79298-12 2863/117 2863/SS119 2863/SS122 2863/116 2863/103 0.25         79298-16 2863/I16	Moisture	%	13	7.1	17	11	9.1
Our Reference:         UNITS         79298-12 2863/117 2863/SS119 2863/SS122 2863/116 2863/103 0.25         79298-16 2863/I16		T	1	1	Т	T	T
Your Reference Depth         2863/117         2863/SS119         2863/SS122         2863/116         2863/103         0.25           Date Sampled Type of sample         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         27/09/2012         2863/103         2863/103         2863/125         2863/103         2863/103         2863/103         2863/103         2863/103         2863/103         2863/103         2863/103         2863/103         2863/103         2863/103         2863/103         2863/103         2863/103         2863/103         2863/103         2863/103 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
Depth		UNITS					
Date Sampled Type of sample         19/09/2012 Soil         27/09/2012 Soil         28/09/2012 Soil <t< td=""><td></td><td></td><td></td><td>2863/SS119</td><td>2863/SS122</td><td></td><td></td></t<>				2863/SS119	2863/SS122		
Type of sample         Soil         27/09/2012         27/09/2012         27/09/2012         27/09/2012         27/09/2012         27/09/2012         27/09/2012         27/09/2012         27/09/2012         27/09/2012         27/09/2012         27/09/2012         29/09/2012         3         2         9.7         24           Moisture         UNITS         79298-17         79298-18         79298-19         79298-20         79298-21         79298-21         79298-21         79298-21         79298-21         79298-21         2863/101         0.05         0.3         -         0.05 <t< td=""><td>1</td><td></td><td></td><td>-</td><td>-</td><td></td><td></td></t<>	1			-	-		
Date prepared   -	· ·						
Date analysed   -	Type of sample		Soil	Soil	Soil	Soil	Soil
Moisture         %         13         17         25         9.7         24           Moisture Our Reference: Your Reference         UNITS         79298-17 2863/103         79298-18 2863/125         79298-19 2863/125         79298-20 2863/125         79298-20 2863/103         79298-21 2863/105         2863/125 2863/125         2863/Dup3 2863/101         2863/105 2863/101         2863/Dup3 2863/101         2863/Dup3 2863/101         0.05 2863/102         0.05 2863/102         0.05 2863/102         0.05 2863/102         19/09/2012 27/09/2012         19/09/2012 27/09/2012         27/09/2012 27/09/2012         27/09/2012 27/09/2012         27/09/2012 27/09/2012         27/09/2012 27/09/2012         27/09/2012 27/09/2012         27/09/2012 27/09/2012         27/09/2012 27/09/2012         19/09/2012 2863/Dup3 2863/	Date prepared	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Moisture         UNITS         79298-17         79298-18         79298-19         79298-20         79298-21           Your Reference         2863/103         2863/125         2863/125         2863/125         2863/125         2863/1093         2863/101           Depth         0.4         0.05         0.3         -         0.05           Date Sampled         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         27/09/2012 <td>Date analysed</td> <td>-</td> <td>27/09/2012</td> <td>27/09/2012</td> <td>27/09/2012</td> <td>27/09/2012</td> <td>27/09/2012</td>	Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Our Reference:         UNITS         79298-17         79298-18         79298-19         79298-20         79298-21           Your Reference	Moisture	%	13	17	25	9.7	24
Our Reference:         UNITS         79298-17         79298-18         79298-19         79298-20         79298-21           Your Reference		T	T	T	T	T	T
Your Reference Depth         2863/103         2863/125         2863/125         2863/125         2863/103         2863/101           Depth         0.4         0.05         0.3         -         0.05           Date Sampled Type of sample         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         27/09/2012         2863/107         2863/107         2863/107         2863/107         2863/107         2863/107         2863/107         2863/107         2863/107         2863/102         2863/102         2863/102         2863/102         2863/102         2863/102         2863/102         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012         19/09/2012 <t< td=""><td></td><td></td><td></td><td><b>70000 10</b></td><td></td><td></td><td></td></t<>				<b>70000 10</b>			
Depth Date Sampled Type of sample							
Date Sampled Type of sample         19/09/2012 Soil         27/09/2012 Soil <t< td=""><td></td><td></td><td></td><td></td><td></td><td>2863/Dup3</td><td></td></t<>						2863/Dup3	
Type of sample         Soil         27/09/2012         27/09/201	·					40/00/05:5	
Date prepared - 27/09/2012 27/09/							
Date analysed Moisture         -         27/09/2012         27/0			2011				SOII
Moisture         %         14         9.0         7.8         19         15           Moisture Our Reference: Your Reference Depth         UNITS         79298-22 2863/107         79298-23 2863/121         79298-24 2863/121         79298-25 2863/102         79298-26 2863/Dup2 2863/Dup2 2863/Dup2 0.05         2863/137 0.05         2863/102 0.15         2863/Dup2 1.5         -		-		27/09/2012	27/09/2012		27/09/2012
Moisture         UNITS         79298-22         79298-23         79298-24         79298-25         79298-26           Your Reference	Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Our Reference:         UNITS         79298-22         79298-23         79298-24         79298-25         79298-26           Your Reference	Moisture	%	14	9.0	7.8	19	15
Our Reference:         UNITS         79298-22         79298-23         79298-24         79298-25         79298-26           Your Reference	Moioturo						
Your Reference		LINITO	70209-22	70208-22	70208-24	70208-25	70208-26
Depth Date Sampled Type of sample		UNITS					
Date Sampled Type of sample         19/09/2012 Soil         20/09/2012 Soil <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>2003/Dup2</td></t<>							2003/Dup2
Type of sample         Soil	-						10/00/2012
Date prepared - 27/09/2012 27/09/2012 27/09/2012 27/09/2012 27/09/2012 27/09/2012 Date analysed - 27/09/2012 27/09/2012 27/09/2012 27/09/2012 27/09/2012	· ·						
Date analysed - 27/09/2012 27/09/2012 27/09/2012 27/09/2012 27/09/2012							
		-					
Moisture		-					
	Moisture	%	8.5	17	5.2	28	29

	T	T	T		T	
Moisture Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS	79298-27 2863/103 1.2 19/09/2012 Soil	79298-28 2863/SS114 - 19/09/2012 Soil	79298-29 2863/105 0.2 19/09/2012 Soil	79298-31 2863/108 1.0 19/09/2012 Soil	79298-32 2863/136 0.2 19/09/2012 Soil
Date prepared	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Moisture	%	18	31	23	23	4.9
		Т	T		Т	<del></del>
Moisture Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS	79298-33 2863/123 0.1 19/09/2012 Soil	79298-34 2863/120 0.2 19/09/2012 Soil	79298-35 2863/138 0.5 19/09/2012 Soil	79298-36 2863/116 0.05 19/09/2012 Soil	79298-37 2863/111 0.25 19/09/2012 Soil
Date prepared	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	_	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Moisture	%	15	7.5	9.7	15	9.1
Wolotare	70	10	7.0	0.1	10	0.1
Moisture Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS	79298-38 2863/112 0.5 19/09/2012 Soil	79298-39 2863/113 0.4 19/09/2012 Soil	79298-40 2863/104 0.3 19/09/2012 Soil	79298-42 2863/118 0.3 19/09/2012 Soil	79298-46 MA Blank 1 - 19/09/2012 Soil
Date prepared	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Date analysed	-	27/09/2012	27/09/2012	27/09/2012	27/09/2012	27/09/2012
Moisture	%	28	16	18	10	19
Moisture Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS	79298-48 MA Blank 2 - 19/09/2012 Soil	79298-51 2863/126 0.25 19/09/2012 Soil	-	-	-
Date prepared	_	27/09/2012	27/09/2012			
Date prepared  Date analysed	_	27/09/2012	27/09/2012			
•	0/	17				
Moisture	%	17	6.8			

Asbestos ID - soils						
Our Reference:	UNITS	79298-1	79298-2	79298-3	79298-4	79298-5
Your Reference		2863/132	2863/131	2863/Dup4	2863/129	2863/128
Depth		0.05	0.05	- -	0.05	0.05
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012
Sample mass tested	g	Approx 40g				
Sample Description	-	Brown	Brown	Brown	Brown	Brown
		coarse-	coarse-	coarse-	coarse-	coarse-
		grained soil				
Asbestos ID in soil	-	No asbestos				
		detected at				
		reporting limit of 0.1g/kg	reporting limit of 0.1g/kg	reporting limit of 0.1g/kg	reporting limit of 0.1g/kg	reporting limit of 0.1g/kg
Trace Analysis	_	No respirable				
Trace Analysis		fibres	fibres	fibres	fibres	fibres
		detected	detected	detected	detected	detected
Asbestos ID - soils						
Our Reference:	UNITS	79298-6	79298-7	79298-8	79298-16	79298-25
Your Reference		2863/130	2863/134	2863/133	2863/103	2863/102
Depth		0.05	-	0.05	0.25	1.5
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012
Sample mass tested	g	Approx 40g				
Sample Description	-	Brown	Brown	Brown fine-	Brown	Brown fine-
		coarse-	coarse-	grained	coarse-	grained
		grained soil	grained sandy soil	clayey soil	grained soil	clayey soil
Asbestos ID in soil	_	No asbestos				
		detected at				
		reporting limit	reporting limit	reporting limit	reportinglimit	reporting limit
		of 0.1g/kg				
Trace Analysis	-	No respirable				
		fibres	fibres	fibres	fibres	fibres
		detected	detected	detected	detected	detected

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Asbestos ID - soils						
Our Reference:	UNITS	79298-26	79298-27	79298-28	79298-29	79298-31
Your Reference		2863/Dup2	2863/103	2863/SS114	2863/105	2863/108
Depth		-	1.2	-	0.2	1.0
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012
Sample mass tested	g	Approx 40g				
Sample Description	-	Brown fine-	Brown fine-	Brown	Brown fine-	Brown
		grained	grained	coarse-	grained soil	coarse-
		clayey soil	clayey soil	grained soil		grained
						clayey soil
Asbestos ID in soil	-	No asbestos				
		detected at				
		reporting limit of 0.1g/kg	reporting limit of 0.1g/kg	reporting limit of 0.1g/kg	reporting limit of 0.1g/kg	reporting limit of 0.1g/kg
Trace Analysis	-	No respirable fibres				
		detected	detected	detected	detected	detected
		detected	detected	detected	detected	detected
Asbestos ID - soils						
Our Reference:	UNITS	79298-32	79298-33	79298-34	79298-35	79298-36
Your Reference		2863/136	2863/123	2863/120	2863/138	2863/116
Depth		0.2	0.1	0.2	0.5	0.05
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012
Sample mass tested	g	Approx 40g				
Sample Description	_	Brown	Beige coarse-	Brown fine-	Brown	Brown fine-
Campio Description		coarse-	grained soil	grained	coarse-	grained soil &
		grained soil		clayey soil	grained soil	organic
						debris
Asbestos ID in soil	-	No asbestos				
		detected at				
		reporting limit				
		of 0.1g/kg				
Trace Analysis	-	No respirable				
		fibres	fibres	fibres	fibres	fibres
		detected	detected	detected	detected	detected

Asbestos ID - soils						
Our Reference:	UNITS	79298-37	79298-38	79298-39	79298-40	79298-51
Your Reference		2863/111	2863/112	2863/113	2863/104	2863/126
Depth		0.25	0.5	0.4	0.3	0.25
Date Sampled Type of sample		19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil	19/09/2012 Soil
Date analysed	-	02/10/2012	02/10/2012	02/10/2012	02/10/2012	02/10/2012
Sample mass tested	g	Approx 40g				
Sample Description	-	Brown coarse- grained soil	Brown fine- grained clayey soil	Brown fine- grained clayey soil	Brown fine- grained clayey soil	Mustard coarse- grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg
Trace Analysis	-	No respirable fibres detected				

Asbestos ID - materials				
Our Reference:	UNITS	79298-43	79298-44	79298-45
Your Reference		2863/ASB101	2863/ASB102	2863/ASB103
Depth		-	-	-
Date Sampled		19/09/2012	19/09/2012	19/09/2012
Type of sample		Material	Material	Material
Date analysed	-	28/09/2012	28/09/2012	28/09/2012
Mass / Dimension of Sample	-	106x82x4mm	80x69x4mm	135x55x4mm
Sample Description	-	Grey compressed fibre cement material	Grey compressed fibre cement material	Grey compressed fibre cement material
Asbestos ID in materials	-	Chrysotile asbestos detected	Chrysotile asbestos detected	Chrysotile asbestos detected

ESP/CEC					
Our Reference:	UNITS	79298-12	79298-17	79298-18	79298-42
Your Reference		2863/117	2863/103	2863/125	2863/118
Depth		1.0	0.4	0.05	0.3
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil
Exchangeable Ca	meq/100g	<0.1	5.2	0.4	<0.1
Exchangeable K	meq/100g	<0.1	0.5	0.1	<0.1
Exchangeable Mg	meq/100g	1.5	6.7	0.81	0.80
Exchangeable Na	meq/100g	<0.1	<0.1	<0.1	<0.1
Cation Exchange Capacity	meq/100g	1.7	12	1.4	<1.0
ESP	%	5.8	<1.0	6.9	6.1

Miscellaneous Inorg - soil					
Our Reference:	UNITS	79298-12	79298-17	79298-18	79298-42
Your Reference		2863/117	2863/103	2863/125	2863/118
Depth		1.0	0.4	0.05	0.3
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	28/09/2012	28/09/2012	28/09/2012	28/09/2012
Date analysed	-	28/09/2012	28/09/2012	28/09/2012	28/09/2012
pH 1:5 soil:water	pH Units	4.8	5.5	4.8	5.3
Electrical Conductivity 1:5 soil:water	μS/cm	29	51	40	18
Chloride, Cl 1:5 soil:water	mg/kg	40	49	45	28
Sulphate, SO4 1:5 soil:water	mg/kg	32	53	24	21

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sPOCAS field test						
Our Reference:	UNITS	79298-4	79298-7	79298-8	79298-10	79298-11
Your Reference		2863/129	2863/134	2863/133	2863/117	2863/117
Depth		0.05	-	0.05	0.05	0.3
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
pHF (field pH test)*	pH Units	4.5	4.7	5.2	5.1	5.7
pHFox (field peroxide test)*	pH Units	2.0	2.7	1.9	2.6	3.7
Reaction Rate*	-	Moderate	Moderate	Moderate	Moderate	Moderate
				T		Г
sPOCAS field test						
Our Reference:	UNITS	79298-12	79298-17	79298-18	79298-28	79298-29
Your Reference		2863/117	2863/103	2863/125	2863/SS114	2863/105
Depth		1.0	0.4	0.05	-	0.2
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
pHF (field pH test)*	pH Units	5.2	5.4	4.7	6.9	5.0
pHFox (field peroxide test)*	pH Units	4.0	3.7	2.1	3.8	2.9
Reaction Rate*	-	Slight	Moderate	Slight	High	Moderate
sPOCAS field test						
Our Reference:	UNITS	79298-30	79298-33	79298-41	79298-52	79298-53
Your Reference	ONITO	2863/105	2863/123	2863/115	2863/129	2863/128
Depth		0.6	0.1	0.05	0.2	0.05
Date Sampled		19/09/2012	19/09/2012	19/09/2012	19/09/2012	19/09/2012
Type of sample		Soil	Soil	Soil	Soil	Soil
pHF (field pH test)*	pHUnits	4.8	5.3	4.9	5.5	5.7
pHFox (field peroxide test)*	pH Units	3.0	3.3	3.4	3.5	3.7
Reaction Rate*	-	Slight	Slight	Moderate	Moderate	Moderate

Method ID	Methodology Summary						
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.  Water samples are analysed directly by purge and trap GC-MS.						
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.						
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.						
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.						
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.						
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.						
Metals-020 ICP- AES	Determination of various metals by ICP-AES.						
Metals-021 CV- AAS	Determination of Mercury by Cold Vapour AAS.						
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.						
Inorg-008	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.						
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.						
Metals-009	Determination of exchangeable cations and cation exchange capacity in soil based on Rayment and Lyons 2011.						
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA 22nd ED, 4500-H+.						
Inorg-002	Conductivity and Salinity - measured using a conductivity cell and dedicated meter, in accordance with APHA 22nd ED 2510 and Rayment & Lyons.						
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA 22nd ED, 4110 -B.						
Inorg-063	pH- measured using pH meter and electrode. Soil is oxidised with Hydrogen Peroxide or extracted with water. Based on section H, Acid Sulfate Soils Laboratory Methods Guidelines, Version 2.1 - June 2004. To ensure accurate results these tests are recommended to be done in the field as pH may change with time thus these results may not be representative of true field conditions.						

2863-soil and material sampling-Mura **Client Reference:** PQL QUALITYCONTROL UNITS **METHOD** Blank Duplicate **Duplicate results** Spike Sm# Spike % Sm# Recovery vTRH&BTEX in Soil Base II Duplicate II % RPD 27/09/2 79298-1 27/09/2012 | 27/09/2012 LCS-4 Date extracted 27/09/2012 012 29/09/2 Date analysed 79298-1 29/09/2012 | 29/09/2012 LCS-4 29/09/2012 012 vTRHC6 - C9 25 Org-016 <25 79298-1 <25||<25 LCS-4 114% mg/kg Benzene 0.2 Org-016 <0.2 79298-1 <0.2||<0.2 LCS-4 118% mg/kg 79298-1 LCS-4 Toluene 0.5 Org-016 < 0.5 <0.5||<0.5 114% mg/kg Ethylbenzene mg/kg 1 Org-016 79298-1 <1||<1 LCS-4 112% <1 m+p-xylene 2 Org-016 79298-1 <2||<2 LCS-4 113% mg/kg <2 LCS-4 105% o-Xylene Org-016 79298-1 mg/kg 1 <1 <1||<1 % Org-016 100 79298-1 87 || 101 || RPD: 15 LCS-4 107% Surrogate aaa-Trifluorotoluene QUALITYCONTROL **UNITS** PQL METHOD Blank Duplicate **Duplicate results** Spike Sm# Spike % Sm# Recovery sTRH in Soil (C10-C36) Base II Duplicate II % RPD Date extracted 27/09/2 79298-1 27/09/2012 | 27/09/2012 LCS-4 27/09/2012 012 27/09/2 Date analysed 79298-1 27/09/2012 | 27/09/2012 LCS-4 27/09/2012 012 TRHC<sub>10</sub> - C<sub>14</sub> mg/kg 50 Org-003 <50 79298-1 <50||<50 LCS-4 91% Org-003 79298-1 LCS-4 108% TRHC<sub>15</sub> - C<sub>28</sub> mg/kg 100 <100 110||<100 TRHC29 - C36 mg/kg 100 Org-003 <100 79298-1 140 || 100 || RPD: 33 LCS-4 92% Surrogate o-Terphenyl % Org-003 72 79298-1 89 | 85 | RPD: 5 LCS-4 93% QUALITYCONTROL UNITS PQL Blank METHOD **Duplicate Duplicate results** Spike Sm# Spike % Sm# Recovery PAHs in Soil Base II Duplicate II % RPD Date extracted 27/09/2 79298-1 27/09/2012 || 27/09/2012 LCS-4 27/09/2012 012 28/09/2 29/09/2012 | 29/09/2012 LCS-4 28/09/2012 Date analysed 79298-1 012 Naphthalene Org-012 79298-1 LCS-4 113% mg/kg 0.1 < 0.1 <0.1 || <0.1 subset Org-012 Acenaphthylene mg/kg 0.1 <0.1 79298-1 <0.1||<0.1 [NR] [NR] subset Org-012 Acenaphthene 0.1 <0.1 79298-1 <0.1||<0.1 [NR] [NR] mg/kg subset Org-012 LCS-4 117% Fluorene < 0.1 79298-1 <0.1||<0.1 mg/kg 0.1 subset Org-012 Phenanthrene mg/kg 0.1 <0.1 79298-1 <0.1||<0.1 LCS-4 100% subset Anthracene 0.1 Org-012 79298-1 [NR] [NR] mg/kg < 0.1 <0.1||<0.1 subset LCS-4 Fluoranthene Org-012 79298-1 100% mg/kg 0.1 < 0.1 <0.1||<0.1 subset Org-012 <0.1 79298-1 <0.1||<0.1 LCS-4 114% Pyrene mg/kg 0.1 subset Benzo(a)anthracene Org-012 79298-1 [NR] [NR] mg/kg 0.1 < 0.1 <0.1 || <0.1 subset LCS-4 Org-012 <0.1 79298-1 110% Chrysene mg/kg 0.1 <0.1||<0.1 subset

Client Reference: 2863-soil and material sampling-Mura										
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery		
PAHs in Soil						Base II Duplicate II %RPD				
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	79298-1	<0.2  <0.2	[NR]	[NR]		
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	79298-1	<0.05  <0.05	LCS-4	120%		
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	79298-1	<0.1  <0.1	[NR]	[NR]		
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	79298-1	<0.1  <0.1	[NR]	[NR]		
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	79298-1	<0.1  <0.1	[NR]	[NR]		
Surrogate p-Terphenyl- d <sub>14</sub>	%		Org-012 subset	78	79298-1	91    101    RPD: 10	LCS-4	81%		
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate	Duplicate results	Spike Sm#	Spike %		
Organochlorine Pesticides in soil					Sm#	Base II Duplicate II %RPD		Recovery		
Date extracted	-			27/9/20	79298-31	27/9/2012  27/9/2012	LCS-5	27/9/2012		
				12						
Date analysed	-			29/9/20 12	79298-31	29/9/2012  29/9/2012	LCS-5	29/9/2012		
HCB	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1    <0.1	[NR]	[NR]		
alpha-BHC	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	LCS-5	109%		
gamma-BHC	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	[NR]	[NR]		
beta-BHC	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	LCS-5	123%		
Heptachlor	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	LCS-5	108%		
delta-BHC	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	[NR]	[NR]		
Aldrin	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	LCS-5	119%		
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	LCS-5	108%		
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	[NR]	[NR]		
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	[NR]	[NR]		
Endosulfan I	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	[NR]	[NR]		
pp-DDE	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	LCS-5	109%		
Dieldrin	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	LCS-5	111%		
Endrin	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	LCS-5	103%		
pp-DDD	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	LCS-5	120%		
Endosulfan II	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	[NR]	[NR]		
pp-DDT	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	[NR]	[NR]		
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	[NR]	[NR]		
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	LCS-5	97%		
Methoxychlor	mg/kg	0.1	Org-005	<0.1	79298-31	<0.1  <0.1	[NR]	[NR]		
Surrogate TCMX	%		Org-005	94	79298-31	81    83    RPD: 2	LCS-5	61%		

**Client Reference:** 2863-soil and material sampling-Mura QUALITYCONTROL UNITS PQL **METHOD** Blank Duplicate **Duplicate results** Spike Sm# Spike % Sm# Recovery Organophosphorus Base II Duplicate II % RPD **Pesticides** Date extracted 27/9/20 79298-31 27/9/2012 | 27/9/2012 LCS-5 27/9/2012 12 Date analysed 29/9/20 79298-31 29/9/2012 | 29/9/2012 LCS-5 29/9/2012 12 Diazinon mg/kg 0.1 Org-008 <0.1 79298-31 <0.1||<0.1 [NR] [NR] Dimethoate 0.1 Org-008 <0.1 79298-31 <0.1 || <0.1 [NR] [NR] mg/kg Org-008 Chlorpyriphos-methyl 0.1 <0.1 79298-31 <0.1 || <0.1 [NR] [NR] mg/kg Ronnel 0.1 Org-008 <0.1 79298-31 <0.1||<0.1 [NR] [NR] mg/kg Chlorpyriphos 0.1 Org-008 <0.1 79298-31 <0.1||<0.1 LCS-5 99% mg/kg LCS-5 Fenitrothion 0.1 Org-008 <0.1 79298-31 <0.1||<0.1 93% mg/kg Bromophos-ethyl 0.1 Org-008 <0.1 79298-31 <0.1||<0.1 [NR] [NR] mg/kg **Ethion** 0.1 Org-008 <0.1 79298-31 <0.1||<0.1 LCS-5 98% mg/kg LCS-5 % Org-008 94 79298-31 81 | 83 | RPD: 2 60% Surrogate TCMX QUALITYCONTROL UNITS PQL **METHOD** Blank **Duplicate Duplicate results** Spike Sm# Spike % Sm# Recovery PCBs in Soil Base II Duplicate II % RPD 27/9/20 79298-31 27/9/2012 | 27/9/2012 LCS-5 Date extracted 27/9/2012 12 29/9/20 79298-31 29/9/2012 | 29/9/2012 LCS-5 29/9/2012 Date analysed 12 Arochlor 1016 mg/kg 0.1 Org-006 <0.1 79298-31 <0.1 || <0.1 [NR] [NR] Arochlor 1221 mg/kg 0.1 Org-006 <0.1 79298-31 <0.1 || <0.1 [NR] [NR] Arochlor 1232 mg/kg 0.1 Org-006 <0.1 79298-31 <0.1||<0.1 [NR] [NR] Arochlor 1242 mg/kg 0.1 Org-006 <0.1 79298-31 <0.1||<0.1 [NR] [NR] Arochlor 1248 mg/kg 0.1 Org-006 < 0.1 79298-31 <0.1 || <0.1 [NR] [NR] Arochlor 1254 mg/kg 0.1 Org-006 <0.1 79298-31 <0.1||<0.1 LCS-5 103% Arochlor 1260 mg/kg 0.1 Org-006 <0.1 79298-31 <0.1||<0.1 [NR] [NR] % Org-006 94 79298-31 81 || 83 || RPD: 2 LCS-5 60% Surrogate TCLMX UNITS PQL Blank QUALITYCONTROL METHOD **Duplicate Duplicate results** Spike Sm# Spike % Sm# Recovery Acid Extractable metals Base II Duplicate II % RPD in soil 27/09/2 27/09/2012 | 27/09/2012 LCS-1 27/09/2012 **Date digested** 79298-1 012 27/09/2 LCS-1 Date analysed 79298-1 27/09/2012 | 27/09/2012 27/09/2012 012 Metals-020 LCS-1 Arsenic 4 79298-1 <4||5 94% mg/kg <4 **ICP-AES** Cadmium mg/kg 0.5 Metals-020 <0.5 79298-1 <0.5||<0.5 LCS-1 94% **ICP-AES** Chromium mg/kg 1 Metals-020 <1 79298-1 12||29||RPD:83 LCS-1 97% **ICP-AES** Metals-020 LCS-1 79298-1 95% Copper mg/kg 1 <1 1 || <1 **ICP-AES** Lead Metals-020 79298-1 6||9||RPD:40 LCS-1 95% mg/kg 1 <1 **ICP-AES** Metals-021 79298-1 LCS-1 101% Mercury mg/kg 0.1 < 0.1 <0.1||<0.1 CV-AAS

**Client Reference:** 2863-soil and material sampling-Mura PQL QUALITYCONTROL UNITS METHOD Blank Duplicate **Duplicate results** Spike Sm# Spike % Sm# Recovery Acid Extractable metals Base II Duplicate II % RPD in soil Nickel Metals-020 79298-1 2||2||RPD:0 LCS-1 95% mg/kg 1 <1 **ICP-AES** Zinc Metals-020 79298-1 5||4||RPD:22 LCS-1 98% mg/kg 1 <1 **ICP-AES** Metals-020 LCS-1 Magnesium mg/kg 5 <5 [NT] [NT] 93% **ICP-AES** QUALITYCONTROL **UNITS** PQL METHOD Blank Duplicate **Duplicate results** Spike % Spike Sm# Recovery Sm# Total Phenolics in Soil Base II Duplicate II % RPD 27/09/2 79298-7 27/09/2012 || 27/09/2012 LCS-1 27/09/2012 Date extracted 012 27/09/2 79298-7 27/09/2012 || 27/09/2012 LCS-1 27/09/2012 Date analysed 012 Total Phenolics (as 5 Inorg-030 79298-7 <5||<5 LCS-1 81% mg/kg <5 Phenol) QUALITYCONTROL UNITS PQL METHOD Blank Moisture Date prepared [NT] Date analysed [NT] Moisture % Inorg-008 [NT] 0.1 UNITS QUALITYCONTROL PQL METHOD Blank Asbestos ID - soils Date analysed [NT] QUALITYCONTROL UNITS PQL METHOD Blank Asbestos ID - materials Date analysed [NT] UNITS PQL QUALITYCONTROL METHOD Blank **Duplicate Duplicate results** Spike Sm# Spike % Sm# Recovery ESP/CEC Base II Duplicate II % RPD Exchangeable Ca meq/100 0.1 Metals-009 <0.1 79298-12 <0.1||<0.1 LCS-1 100% Exchangeable K meq/100 Metals-009 79298-12 LCS-1 0.1 <0.1 <0.1||<0.1 99% Exchangeable Mg Metals-009 1.5 || 1.5 || RPD: 0 LCS-1 meq/100 0.1 <0.1 79298-12 96% g Exchangeable Na meq/100 0.1 Metals-009 79298-12 LCS-1 99% <0.1 <0.1||<0.1 g Cation Exchange meq/100 Metals-009 1.7 || 1.7 || RPD: 0 [NR] [NR] 1 <1.0 79298-12 Capacity g

Metals-009

<1.0

79298-12

5.8 | | 5.6 | | RPD: 4

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%

1

**ESP** 

[NR]

[NR]

**Client Reference:** 2863-soil and material sampling-Mura PQL QUALITYCONTROL UNITS METHOD Blank Duplicate **Duplicate results** Spike Sm# Spike % Sm# Recovery Base II Duplicate II % RPD Miscellaneous Inorg - soil 28/09/2 [NT] LCS-1 28/09/2012 Date prepared [NT] 012 28/09/2 Date analysed [NT] [NT] LCS-1 28/09/2012 012 pH 1:5 soil:water pH Units Inorg-001 [NT] [NT] [NT] LCS-1 102% 106% **Electrical Conductivity** µS/cm 1 Inorg-002 [NT] [NT] LCS-1 <1 1:5 soil:water Chloride, CI 1:5 LCS-1 116% mg/kg 2 Inorg-081 <2 [NT] [NT] soil:water Sulphate, SO41:5 2 Inorg-081 <2 [NT] [NT] LCS-1 119% mg/kg soil:water QUALITYCONTROL UNITS PQL METHOD Blank sPOCAS field test pH Units Inorg-063 [NT] pHF (field pH test)\* pH Units pHFox (field peroxide Inorg-063 [NT] test)3 QUALITYCONTROL **UNITS** Dup. Sm# Duplicate Spike Sm# Spike % Recovery vTRH & BTEX in Soil Base + Duplicate + %RPD Date extracted 79298-11 27/09/2012 | 27/09/2012 LCS-5 27/09/2012 79298-11 29/09/2012 | 29/09/2012 LCS-5 29/09/2012 Date analysed vTRHC6 - C9 mg/kg 79298-11 <25||<25 LCS-5 113% Benzene 79298-11 LCS-5 121% mg/kg <0.2||<0.2 Toluene 79298-11 <0.5||<0.5 LCS-5 117% mg/kg Ethylbenzene mg/kg 79298-11 <1||<1 LCS-5 107% LCS-5 109% m+p-xylene mg/kg 79298-11 <2||<2 o-Xylene LCS-5 mg/kg 79298-11 <1||<1 100% LCS-5 79298-11 109 | 102 | RPD: 7 112% % Surrogate aaa-Trifluorotoluene QUALITYCONTROL UNITS Dup. Sm# Spike Sm# Spike % Recovery **Duplicate** sTRH in Soil (C10-C36) Base + Duplicate + %RPD Date extracted 79298-11 27/09/2012 | 27/09/2012 LCS-5 27/09/2012 Date analysed 79298-11 27/09/2012 | 27/09/2012 LCS-5 27/09/2012 79298-11 <50||<50 LCS-5 88% TRHC<sub>10</sub> - C<sub>14</sub> mg/kg TRHC<sub>15</sub> - C<sub>28</sub> mg/kg 79298-11 <100 || <100 LCS-5 102% <100 || <100 TRHC29 - C36 mg/kg 79298-11 LCS-5 89% Surrogate o-Terphenyl % 79298-11 86 | 85 | RPD: 1 LCS-5 76% QUALITYCONTROL **UNITS** Dup. Sm# **Duplicate** Spike Sm# Spike % Recovery PAHs in Soil Base + Duplicate + %RPD Date extracted 79298-11 27/09/2012 | 27/09/2012 LCS-5 27/09/2012 LCS-5 29/09/2012 | 29/09/2012 28/09/2012 Date analysed 79298-11 LCS-5 Naphthalene mg/kg 79298-11 <0.1||<0.1 105% Acenaphthylene 79298-11 <0.1||<0.1 [NR] [NR] mg/kg

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mg/kg

mg/kg

79298-11

79298-11

<0.1||<0.1

<0.1||<0.1

[NR]

LCS-5

Acenaphthene

Fluorene

[NR]

108%

Client Reference: 2863-soil and material sampling-Mura					
QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base+Duplicate+%RPD	Spike Sm#	Spike % Recovery
Phenanthrene	mg/kg	79298-11	<0.1  <0.1	LCS-5	91%
Anthracene	mg/kg	79298-11	<0.1  <0.1	[NR]	[NR]
Fluoranthene	mg/kg	79298-11	<0.1  <0.1	LCS-5	92%
		79298-11		LCS-5	104%
Pyrene	mg/kg		<0.1  <0.1		
Benzo(a)anthracene	mg/kg	79298-11	<0.1  <0.1	[NR]	[NR]
Chrysene	mg/kg	79298-11	<0.1  <0.1	LCS-5	100%
Benzo(b+k)fluoranthene	mg/kg	79298-11	<0.2  <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	79298-11	<0.05  <0.05	LCS-5	115%
Indeno(1,2,3-c,d)pyrene	mg/kg	79298-11	<0.1  <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	79298-11	<0.1  <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	79298-11	<0.1  <0.1	[NR]	[NR]
Surrogate p-Terphenyl- d <sub>14</sub>	%	79298-11	93  93  RPD:0	LCS-5	60%
QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	79298-32	27/9/2012
Date analysed	-	[NT]	[NT]	79298-32	29/9/2012
HCB	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	[NT]	[NT]	79298-32	110%
gamma-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	[NT]	[NT]	79298-32	78%
Heptachlor	mg/kg	[NT]	[NT]	79298-32	97%
delta-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	[NT]	[NT]	79298-32	119%
Heptachlor Epoxide	mg/kg	[NT]	[NT]	79298-32	108%
gamma-Chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	[NT]	[NT]	79298-32	107%
Dieldrin	mg/kg	[NT]	[NT]	79298-32	68%
Endrin	mg/kg	[NT]	[NT]	79298-32	98%
pp-DDD	mg/kg	[NT]	[NT]	79298-32	102%
Endosulfan II	mg/kg	[NT]	. <i>.</i> [NT]	[NR]	[NR]
pp-DDT	mg/kg	[NT]	. <i>.</i> [NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	[NT]	[NT]	79298-32	95%
Methoxychlor	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%	[NT]	[NT]	79298-32	87%

		Client Reference	e: 2863-soil and mate	erial sampling-Mu	ıra
QUALITY CONTROL Organophosphorus Pesticides	UNITS	Dup. Sm#	Duplicate  Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
 Date extracted	-	[NT]	[NT]	79298-32	27/9/2012
Date analysed	-	[NT]	[NT]	79298-32	29/9/2012
Diazinon	mg/kg	[NT]	[NT]	[NR]	[NR]
Dimethoate	mg/kg	[NT]	[NT]	[NR]	[NR]
Chlorpyriphos-methyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Ronnel	mg/kg	[NT]	[NT]	[NR]	[NR]
Chlorpyriphos	mg/kg	[NT]	[NT]	79298-32	106%
Fenitrothion	mg/kg	[NT]	[NT]	79298-32	95%
Bromophos-ethyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	[NT]	[NT]	79298-32	106%
Surrogate TCMX	%	[NT]	[NT]	79298-32	94%
QUALITYCONTROL	UNITS	Dup. Sm#	Duplicate	Spike Sm#	Spike % Recovery
PCBs in Soil			Base + Duplicate + %RPD	·	,
Date extracted	-	[NT]	[NT]	79298-32	27/9/2012
Date analysed	-	[NT]	[NT]	79298-32	29/9/2012
Arochlor 1016	mg/kg	[NT]	[NT]	[NR]	[NR]
Arochlor 1221	mg/kg	[NT]	[NT]	[NR]	[NR]
Arochlor 1232	mg/kg	[NT]	[NT]	[NR]	[NR]
Arochlor 1242	mg/kg	[NT]	[NT]	[NR]	[NR]
Arochlor 1248	mg/kg	[NT]	[NT]	[NR]	[NR]
Arochlor 1254	mg/kg	[NT]	[NT]	79298-32	102%
Arochlor 1260	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%	[NT]	[NT]	79298-32	93%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date digested	-	79298-11	27/09/2012  27/09/2012	LCS-2	27/09/2012
Date analysed	-	79298-11	27/09/2012  27/09/2012	LCS-2	27/09/2012
Arsenic	mg/kg	79298-11	<4  <4	LCS-2	94%
Cadmium	mg/kg	79298-11	<0.5  <0.5	LCS-2	95%
Chromium	mg/kg	79298-11	16  19  RPD:17	LCS-2	97%
Copper	mg/kg	79298-11	<1  <1	LCS-2	96%
Lead	mg/kg	79298-11	4  4  RPD:0	LCS-2	95%
Mercury	mg/kg	79298-11	<0.1  <0.1	LCS-2	99%
Nickel	mg/kg	79298-11	2  2  RPD:0	LCS-2	95%
Zinc					
ZIIIC	mg/kg	79298-11	2  2  RPD:0	LCS-2	95%

		Client Reference	e: 2863-soil and mat	eriai sampiing-wit	ıra
QUALITY CONTROL Total Phenolics in Soil	UNITS	Dup. Sm#	Duplicate Base+Duplicate+%RPD	Spike Sm#	Spike % Recovery
Date extracted	-	79298-33	27/09/2012  27/09/2012	79298-8	27/09/2012
Date analysed	-	79298-33	27/09/2012  27/09/2012	79298-8	27/09/2012
Total Phenolics (as Phenol)	mg/kg	79298-33	 <5  <5	79298-8	8%
QUALITYCONTROL	UNITS	Dup. Sm#	Duplicate	Spike Sm#	Spike % Recovery
Miscellaneous Inorg - soil		·	Base + Duplicate + %RPD		
Date prepared	-	[NT]	[NT]	79298-2	28/09/2012
Date analysed	-	[NT]	[NT]	79298-2	28/09/2012
pH 1:5 soil:water	pH Units	[NT]	[NT]	79298-2	102%
Electrical Conductivity 1:5 soil:water	μS/cm	[NT]	[NT]	79298-2	106%
Chloride, Cl 1:5 soil:water	mg/kg	[NT]	[NT]	79298-2	116%
Sulphate, SO41:5 soil:water	mg/kg	[NT]	[NT]	79298-2	119%
QUALITY CONTROL vTRH & BTEX in Soil	UNITS	Dup. Sm#	Duplicate Base+Duplicate+%RPD	Spike Sm#	Spike % Recovery
Date extracted	-	79298-21	27/09/2012  27/09/2012	79298-2	27/09/2012
Date analysed	-	79298-21	29/09/2012  29/09/2012	79298-2	28/09/2012
vTRHC6 - C9	mg/kg	79298-21	<25  <25	79298-2	98%
Benzene	mg/kg	79298-21	<0.2  <0.2	79298-2	103%
Toluene	mg/kg	79298-21	<0.5  <0.5	79298-2	99%
Ethylbenzene	mg/kg	79298-21	<1  <1	79298-2	95%
m+p-xylene	mg/kg	79298-21	<2  <2	79298-2	96%
o-Xylene	mg/kg	79298-21	<1  <1	79298-2	89%
Surrogate aaa- Trifluorotoluene	%	79298-21	99  102  RPD:3	79298-2	99%
QUALITYCONTROL	UNITS	Dup. Sm#	Duplicate	Spike Sm#	Spike % Recovery
sTRH in Soil (C10-C36)			Base + Duplicate + %RPD		
Date extracted	-	79298-21	27/09/2012  27/09/2012	79298-2	27/09/2012
Date analysed	-	79298-21	27/09/2012  27/09/2012	79298-2	27/09/2012
TRHC10 - C14	mg/kg	79298-21	<50  <50	79298-2	94%
TRHC15 - C28	mg/kg	79298-21	<100  <100	79298-2	119%
TRHC29 - C36	mg/kg	79298-21	<100  <100	79298-2	111%
Surrogate o-Terphenyl	%	79298-21	83    84    RPD: 1	79298-2	102%
QUALITYCONTROL	UNITS	Dup. Sm#	Duplicate	Spike Sm#	Spike % Recovery
PAHs in Soil			Base + Duplicate + %RPD		
Date extracted	-	79298-21	27/09/2012  27/09/2012	79298-2	27/09/2012
Date analysed	-	79298-21	29/09/2012  29/09/2012	79298-2	29/09/2012
Naphthalene	mg/kg	79298-21	<0.1  <0.1	79298-2	102%
Acenaphthylene	mg/kg	79298-21	<0.1    <0.1	[NR]	[NR]
Acenaphthene	mg/kg	79298-21	<0.1  <0.1	[NR]	[NR]
Fluorene	mg/kg	79298-21	<0.1    <0.1	79298-2	114%
Phenanthrene	mg/kg	79298-21	0.1    0.1    RPD: 0	79298-2	92%

Client Reference: 2863-soil and material sampling-Mura					
QUALITYCONTROL	UNITS	Dup. Sm#	Duplicate	Spike Sm#	Spike % Recovery
PAHs in Soil			Base + Duplicate + %RPD		
Anthracene	mg/kg	79298-21	<0.1  <0.1	[NR]	[NR]
Fluoranthene	mg/kg	79298-21	0.4  0.3  RPD:29	79298-2	93%
Pyrene	mg/kg	79298-21	0.4  0.3  RPD:29	79298-2	105%
Benzo(a)anthracene	mg/kg	79298-21	0.2  0.1  RPD:67	[NR]	[NR]
Chrysene	mg/kg	79298-21	0.2  0.2  RPD:0	79298-2	100%
Benzo(b+k)fluoranthene	mg/kg	79298-21	0.3  0.3  RPD:0	[NR]	[NR]
Benzo(a)pyrene	mg/kg	79298-21	0.27    0.22    RPD: 20	79298-2	120%
Indeno(1,2,3-c,d)pyrene	mg/kg	79298-21	0.1    0.1    RPD: 0	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	79298-21	<0.1  <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	79298-21	0.1    0.1    RPD: 0	[NR]	[NR]
Surrogate p-Terphenyl- d <sub>14</sub>	%	79298-21	93  105  RPD:12	79298-2	99%
QUALITYCONTROL	UNITS	Dup. Sm#	Duplicate	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil			Base + Duplicate + %RPD		
Date digested	-	79298-21	27/09/2012  27/09/2012	LCS-3	27/09/2012
Date analysed	-	79298-21	27/09/2012  27/09/2012	LCS-3	27/09/2012
Arsenic	mg/kg	79298-21	8  8  RPD:0	LCS-3	101%
Cadmium	mg/kg	79298-21	<0.5  <0.5	LCS-3	99%
Chromium	mg/kg	79298-21	24  23  RPD:4	LCS-3	104%
Copper	mg/kg	79298-21	11    11    RPD: 0	LCS-3	101%
Lead	mg/kg	79298-21	48  47  RPD:2	LCS-3	101%
Mercury	mg/kg	79298-21	<0.1  <0.1	LCS-3	104%
Nickel	mg/kg	79298-21	5  5  RPD:0	LCS-3	101%
Zinc	mg/kg	79298-21	47  43  RPD:9	LCS-3	102%
Magnesium	mg/kg	[NT]	[NT]	LCS-3	101%
QUALITYCONTROL vTRH&BTEX in Soil	UNITS	Dup. Sm#	Duplicate  Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	79298-31	27/09/2012  27/09/2012	79298-32	27/09/2012
Date analysed	-	79298-31	29/09/2012  29/09/2012	79298-32	29/09/2012
vTRHC6 - C9	mg/kg	79298-31	 <25  <25	79298-32	85%
Benzene	mg/kg	79298-31	<0.2  <0.2	79298-32	92%
Toluene	mg/kg	79298-31	<0.5  <0.5	79298-32	88%
Ethylbenzene	mg/kg	79298-31	~1    <1	79298-32	81%
m+p-xylene	mg/kg	79298-31	<2  <2	79298-32	83%
o-Xylene	mg/kg	79298-31	~1    <1	79298-32	76%
Surrogate aaa- Trifluorotoluene	%	79298-31	107  111  RPD:4	79298-32	86%

Client Reference: 2863-soil and material sampling-Mura					ıra
QUALITYCONTROL	UNITS	Dup. Sm#	Duplicate	Spike Sm#	Spike % Recovery
sTRH in Soil (C10-C36)			Base + Duplicate + %RPD		
Date extracted	-	79298-31	27/09/2012  27/09/2012	79298-32	27/09/2012
Date analysed	-	79298-31	27/09/2012  27/09/2012	79298-32	27/09/2012
TRHC10 - C14	mg/kg	79298-31	<50  <50	79298-32	88%
TRHC 15 - C28	mg/kg	79298-31	<100  <100	79298-32	106%
TRHC29 - C36	mg/kg	79298-31	<100  <100	79298-32	93%
Surrogate o-Terphenyl	%	79298-31	66  72  RPD:9	79298-32	114%
QUALITYCONTROL	UNITS	Dup.Sm#	Duplicate	Spike Sm#	Spike % Recovery
PAHs in Soil			Base + Duplicate + %RPD		
Date extracted	-	79298-31	27/09/2012  27/09/2012	79298-32	27/09/2012
Date analysed	-	79298-31	29/09/2012  29/09/2012	79298-32	29/09/2012
Naphthalene	mg/kg	79298-31	<0.1  <0.1	79298-32	103%
Acenaphthylene	mg/kg	79298-31	0.1    0.1    RPD: 0	[NR]	[NR]
Acenaphthene	mg/kg	79298-31	<0.1  <0.1	[NR]	[NR]
Fluorene	mg/kg	79298-31	<0.1  <0.1	79298-32	106%
Phenanthrene	mg/kg	79298-31	<0.1    0.1	79298-32	90%
Anthracene	mg/kg	79298-31	<0.1  <0.1	[NR]	[NR]
Fluoranthene	mg/kg	79298-31	0.2  0.2  RPD:0	79298-32	90%
Pyrene	mg/kg	79298-31	0.2  0.2  RPD:0	79298-32	102%
Benzo(a)anthracene	mg/kg	79298-31	0.1    0.2    RPD: 67	[NR]	[NR]
Chrysene	mg/kg	79298-31	0.2  0.2  RPD:0	79298-32	98%
Benzo(b+k)fluoranthene	mg/kg	79298-31	0.4  0.4  RPD:0	[NR]	[NR]
Benzo(a)pyrene	mg/kg	79298-31	0.37    0.41    RPD: 10	79298-32	110%
Indeno(1,2,3-c,d)pyrene	mg/kg	79298-31	0.2  0.2  RPD:0	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	79298-31	<0.1  <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	79298-31	0.2  0.2  RPD:0	[NR]	[NR]
Surrogate p-Terphenyl- d <sub>14</sub>	%	79298-31	73  83  RPD:13	79298-32	82%

		Client Reference	e: 2863-soil and mate	ıra	
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate  Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date digested	-	79298-31	27/09/2012  27/09/2012	79298-2	27/09/2012
Date analysed	-	79298-31	27/09/2012  27/09/2012	79298-2	27/09/2012
Arsenic	mg/kg	79298-31	8  10  RPD:22	79298-2	99%
Cadmium	mg/kg	79298-31	<0.5  <0.5	79298-2	97%
Chromium	mg/kg	79298-31	19  29  RPD:42	79298-2	108%
Copper	mg/kg	79298-31	22  22  RPD:0	79298-2	104%
Lead	mg/kg	79298-31	21    24    RPD: 13	79298-2	99%
Mercury	mg/kg	79298-31	<0.1  <0.1	79298-2	95%
Nickel	mg/kg	79298-31	4  4  RPD:0	79298-2	100%
Zinc	mg/kg	79298-31	26  24  RPD:8	79298-2	99%
Magnesium	mg/kg	[NT]	[NT]	[NR]	[NR]
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date digested	-	[NT]	[NT]	79298-32	27/09/2012
Date analysed	-	[NT]	[NT]	79298-32	27/09/2012
Arsenic	mg/kg	[NT]	[NT]	79298-32	101%
Cadmium	mg/kg	[NT]	[NT]	79298-32	99%
Chromium	mg/kg	[NT]	[NT]	79298-32	104%
Copper	mg/kg	[NT]	[NT]	79298-32	101%
Lead	mg/kg	[NT]	[NT]	79298-32	101%
Mercury	mg/kg	[NT]	[NT]	79298-32	104%
Nickel	mg/kg	[NT]	[NT]	79298-32	101%
Zinc	mg/kg	[NT]	[NT]	79298-32	102%
Magnesium	mg/kg	[NT]	[NT]	79298-32	101%

### **Report Comments:**

Asbestos in Soil: A portion of the supplied sample was sub-sampled for asbestos analysis according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g of sample in its own container.

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteriae has been exceeded for 79298-1 for Cr. Therefore a triplicate result has been issued as laboratory sample number 79298-54.

Asbestos ID was analysed by Approved Identifier: Kim Femia, Paul Ching

Asbestos ID was authorised by Approved Signatory: Paul Ching

INS: Insufficient sample for this test PQL: Practical Quantitation Limit NT: Not tested NA: Test not required RPD: Relative Percent Difference NA: Test not required

## **Quality Control Definitions**

**Blank**: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

**Duplicate**: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

**Matrix Spike**: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

**LCS (Laboratory Control Sample)**: This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

**Surrogate Spike:** Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

### **Laboratory Acceptance Criteria**

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batched of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes and LCS: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

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13 Attachment F- Data Validation Report





1.	Sample Handling				
				Yes	No
					(Comments below)
a.	Were sample holding times met?			✓	
b.	Were samples in proper custody between t reaching the laboratory?	h€	e field and	✓	
C.	Were the samples properly and adequately	У	preserved?	✓	
d.	Were the samples received by the laborato condition?	ry	in good	✓	
C	DMMENTS				
Sa	mple handling is:	/	Satisfactory		
			Partially Satisfactory		
			Unsatisfactory	/	





2. Precision / Accuracy Statement

	Yes	No
		(Comments below)
a. Was a NATA registered laboratory used?	✓	
b. Did the laboratory perform the requested tests?	✓	
c. Were laboratory methods adopted NATA endorsed?	✓	
d. Were appropriate test procedures followed?	✓	
e. Were reporting limits satisfactory?	✓	
f. Was the NATA Seal on the reports?	✓	
g. Were reports signed by an authorised person?	✓	
COMMENTS		
Precision / Accuracy of the Laboratory Report: ✓ Satisfactor	У	
Partially Satisfactor	Y	
Unsatisfac	tory	





3. Field Quality Assurance / Quality Control (QA/QC)

a.	Number of Primary Samples analysed	Soil:
	(does not include duplicates)	Water:

b. Number of days of sampling

c. Number and Type of QA/QC Samples analysed	
--	--

Intra-Laboratory Field Duplicates

Inter-Laboratory Field triplicates

Trip Blanks

Wash Blanks

Other (Field Blanks, Spikes, Trip Blanks, etc.)

## Field Duplicates

Adequate Numbers of intra-laboratory field duplicates analysed?

Adequate Numbers of inter-laboratory field duplicates analysed?

Were RPDs within Control Limits?

i. Organics (+ 50%)

ii. Metals / Inorganics (+ 50%)

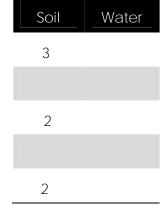
iii. Nutrients (+ 50%)

## COMMENTS

RPD Copper, Lead, Nickel and Zinc exceeds control limits for 2863/Dup3.

The primary and duplicate samples were taken from a CBR sample with a depth range of 0.1-0.4 mbgl. These results indicate that there is a high degree of variability within the fill material sampled. As concentrations are well below HIL criteria this result is not considered sufficient to affect the suitability of data to inform this investigation.





Media

Number

44

3











# Trip Blank / Wash Blanks

		Yes	No (Comments below)
Were Adequate Numbers of trip blanks analysed	1?	✓	
Were Adequate Numbers of wash blanks analys	ed?	✓	
Were the Trip Blanks free of contaminants?		✓	
Were the Wash Blanks free of contaminants?		✓	
(If no, comment whether the contaminants pres detected in the samples and whether they are laboratory chemicals.)			
COMMENTS			
<u>Trip Spikes</u>			
<u>Trip Spikes</u>		Yes	No (Comments below)
Trip Spikes  Were adequate numbers of Trip Spikes analysed	?	Yes	(Comments
	?		(Comments
Were adequate numbers of Trip Spikes analysed	?	<b>√</b>	(Comments
Were adequate numbers of Trip Spikes analysed Were the Trip Spike results within control limits?	?	<b>√</b>	(Comments
Were adequate numbers of Trip Spikes analysed Were the Trip Spike results within control limits?	? Satisfactory	<b>√</b>	(Comments
Were adequate numbers of Trip Spikes analysed Were the Trip Spike results within control limits? COMMENTS		<b>√</b>	(Comments





- 3. Laboratory Internal Quality Assurance / Quality Control (QA/QC) Procedures
- a. Type and Number of QA/QC Samples

QA/QC Type		Yes	No
Laboratory Blanks/Reagent Blanks (at least 1 per batch)		✓	
Matrix Spikes/Matrix Spike Duplicates (1 for each soil type	)	✓	
Laboratory Control Samples		✓	
Laboratory Duplicates (at least one per batch or 1 per 10 whichever is smaller)	samples,	✓	
Surrogates (where appropriate) <sup>1</sup>		✓	
<sup>1</sup> Number of surrogate spikes carried out on each sample		Yes	NO (Comments below)
b. Were the laboratory blanks/reagents blank contamination?	s free of	✓	
c. Were the spike recoveries within control lim	its?	✓	
d. Were the RPDs of the laboratory duplicates limits?	within control		
i. Organics (60 to 120 %)		✓	
ii. Metals / Inorganics (70 to 130 %)		✓	
e. Were the surrogate recoveries within contro	ol limits?	✓	
COMMENTS			
Laboratory internal QA / QC is: ✓	Satisfactory Partially Satisfactory		
	Unsatisfactory	/	





4. Summary of Quality Assurance / Quality Control (QA/QC)

QA/QC Type	Satisfactory	Partially Satisfactory	Unsatisfactory
Sample handling	✓		
Precision / Accuracy of the Laboratory Report	✓		
Field QA / QC	✓		
Laboratory Internal QA / QC	✓		
5. <b>Data</b> Usability			
1. Data directly usable ✓			
2. Data usable with the following corrections/modifications (see comment below)			
3. Data not usable.			
COMMENTS			

