



ENVIRONMENTAL INVESTIGATION SERVICES

24 October 2008
Ref: E22455KBlet1.2

Root Projects Australia Pty Ltd
Suite 2.02
The Cooperage
56 Bowman Street
Pyrmont, NSW 2009
(ABN:62 065 072 193)

ATTENTION: Mr. Crick

Dear Sir

**PRELIMINARY ENVIRONMENTAL SITE SCREENING AND WASTE CLASSIFICATION
ASSESSMENT**
PROPOSED EXTENSIONS TO THE MUSEUM OF CONTEMPORARY ART
140 GEORGE STREET, THE ROCKS

Root Projects Australia Pty Ltd commissioned Environmental Investigation Services (EIS), a division of Jeffery & Katauskas Pty Ltd (J&K), to undertake a preliminary site screening report to assign a waste classification to the soil at the site for the proposed extensions to The Museum of Contemporary Art located at 140 George Street, The Rocks. The site location is shown on Figure 1 and the investigation was confined to the site boundaries as shown on Figure 2.

The screening was undertaken generally in accordance with an EIS proposal of 23 September 2008 and Root Projects Pty Ltd written acceptance by email of 23 September 2008.

The proposed development includes re-levelling and capping of the site for extensions to The Museum of Contemporary Arts comprising a new 5 level extension, the first level being a car park & loading dock. The site is underlain by the archaeological remains of the "First Fleet" docks and the design approach is to minimise excavation to this area.

The purpose of this assessment was to assess the likelihood of contamination of the subsurface soils and to provide a waste classification to assess disposal/re-use options for the material to be excavated. This letter and the limited sampling and analyses undertaken should not be construed as a site contamination report and does not meet the NSW DECC (formerly EPA) requirements in relation to a full contaminated site assessment.

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Site Description

The site is bounded by George Street to the west, Argyle Street to the north and First Fleet Park to the east and south. Circular Quay Harbour is located to the east of the site beyond the grassed areas and access footpaths. The regional topography falls to the east towards Circular Quay Harbour with slopes of approximately 5°. The site topography is relatively flat with minor slopes of approximately 1° to 2° falling towards Circular Quay.

At the time of the investigation the area was a car park paved with asphaltic concrete. The entrance and exit access gate was located at the north of the investigation area adjoining Argyle Street. Trees were located along the east boundary. A retaining wall approximately 0.4m in height was located behind the trees along the east boundary of the investigation area. A metal container approximately 2m long was located in the west section of the investigation area.

The investigation area was bounded by the Museum of Contemporary Art to the south, Rock Burger Cafe and the Police Station to the east, Argyle Street to the north and Circular Quay grassed areas and access footpaths to the west.

The surrounding uses were: bars, cafes, restaurants and retail shops.

Regional Geology

The 1:100,000 geological map of Sydney (Map 9130, 1:100,000 Department of Mineral Resources – 1983) indicates the site to be underlain by Hawkesbury Sandstone of the Wianamatta Group, which typically consists of medium to coarse grained quartz sandstone, with very minor shale and laminate.

Subsurface Investigation and Soil Sampling Methods

Field work for this investigation was undertaken on 24 to 26 September 2008, from seven locations in the proposed extension area. EIS understands that approximately 280m³ of excavated fill material will be required to be disposed off-site.

Samples were obtained from test pits excavated for archaeological purposes. The samples were obtained using hand equipment. The hand equipment was decontaminated using a scrubbing brush and Decon 90 solution (phosphate free detergent) followed by rinsing with potable water. Sampling personnel used disposable Nitrile gloves during sampling activities.

Soil samples were obtained at various depths, based on observations made during the field investigation. All samples were placed in glass jars with plastic caps and teflon seals with minimal headspace. During the investigation, samples were preserved by immediate storage in an insulated sample container with ice. Each sample was labelled with a unique



job number, the sampling location, sampling depth and date. All samples were recorded on the borehole logs attached and on the chain of custody (COC) record.

On completion of the fieldwork, the samples were delivered in the insulated sample container to a NATA registered laboratory for analysis under standard chain of custody procedures.

Photoionisation Detector (PID) Screening

A portable PID was used in this investigation to assist with selection of samples for laboratory hydrocarbon (TPH/BTEX) analysis. The PID is sensitive to volatile organic compounds. The sensitivity of the PID is dependent on the organic compound and varies for different mixtures of hydrocarbons. Some compounds give relatively high readings and some can be undetectable even though present in identical concentrations. The portable PID is best used semi-quantitatively to compare samples contaminated by the same hydrocarbon source.

The PID is calibrated before use by measurement of an isobutylene standard gas. All the PID measurements are quoted as parts per million (ppm) isobutylene equivalents.

Photoionisation detector (PID) screening of detectable volatile organic compounds (VOC) was undertaken on soil samples using the soil sample headspace method. VOC data was obtained from partly filled glass jar samples following equilibration of the headspace gases. The PID headspace data is included on the COC documents.

ASSESSMENT CRITERIA DEVELOPMENT

Regulatory Background

In 1997 the NSW Government introduced the *Contaminated Land Management Act, 1997* (CLM Act). This act, associated regulations, State Environmental Planning Policy (SEPP) No.55 – Remediation of Land (1998) and associated NSW DECC (EPA) guidelines, were designed to provide uniform state-wide control of the management, investigation and remediation of contaminated land.

Prior to granting consent for any proposed rezoning or development, SEPP55 requires the consent authority to:

- consider whether the land is contaminated;
- consider whether the site is suitable, or if contaminated, can be made suitable by remediation, for the proposed land use;
- be satisfied that remediation works will be undertaken prior to use of the site for the proposed use.



Should the assessment indicate that the site poses a risk to human health or the environment, remediation of the site is required prior to commencement of the proposed development works. SEPP55 requires that the relevant local council be notified of all remediation works, whether or not development consent is required. Where development consent is not required, 30 days written notice of the proposed works must be provided to council. Details of validation of remediation work must also be submitted to Council within one month of completion of remediation works.

The consent authority may request that a site audit be undertaken during, or following the completion of the site assessment process. Under the terms of the CLM Act the NSW DECC (EPA) Site Auditor Scheme was developed to provide a system of independent review for assessment reports. An accredited Contaminated Site Auditor is engaged to review reports prepared by suitably qualified consultants to ensure that the investigation has been undertaken in accordance with the guidelines and confirm that the sites are suitable for their intended use.

Section 59(2) of the CLM Act states that specific notation relating to contaminated land issues must be included on S.149 planning certificates prepared by Council where the land to which the certificate relates is:

- within an investigation or remediation area.
- subject to an investigation or remediation order by the DECC (EPA).
- the subject of a voluntary investigation or remediation proposal.
- the subject of a site audit statement.

Submission of contaminated site investigation and validation reports to council as part of rezoning or development application submissions may also result in notation of actual or potential site contamination on future S.149 certificates prepared for the site.

Section 60 of the CLM Act sets out a positive duty on an owner, or person whose activities cause contamination, to notify the DECC if they are aware that the contamination presents a significant risk of harm.

Off-site disposal of fill, contaminated material and excess soil/rock excavated as part of the proposed development works is regulated by the provisions of the Protection of the Environment Operations Act (POEO Act 1997) and associated regulations and guidelines including the *Waste Classification Guidelines Part 1: Classifying Waste. DECC NSW 2008*. All materials should be classified in accordance with these guidelines prior to disposal.

Section 143 of the *Protection of the Environment Operations Act 1997* states that if waste is transported to a place that cannot lawfully be used as a waste facility for that waste, then the transporter and owner of the waste are each guilty of an offence. The transporter



and owner of the waste have a duty to ensure that the waste is disposed of in an appropriate manner.

Soil Contaminant Threshold Concentrations

The soil investigation levels adopted for this investigation are derived from the NSW DEC (now DECC) document *Guidelines for the NSW Site Auditor Scheme (2nd Edition) 2006* and the National Environmental Protection Council document *National Environmental Protection (Assessment of Site Contamination) Measure 1999*. The contaminant thresholds listed below are levels at which further investigation and evaluation is required to assess whether the site is considered suitable for the proposed urban land use.

To accommodate the range of human and ecological exposure settings, a number of generic settings are used on which the Health based Investigation Levels (HILs) can be based. Four categories of HILs are adopted for urban site assessments. Contaminant levels for a standard residential site with gardens and accessible soil (Column A in Table A-1) are based on protection of a young child resident at the site. The remaining categories (Columns D to F) present alternative exposure settings where there is reduced access to soil or reduced exposure time. These categories include residential land use with limited soil access, recreational and public open space and commercial/industrial use. Where the proposed land use will include more than one land use category (eg. mixed residential/commercial development) the exposure setting of the most "sensitive" land use is adopted for the site.

Threshold concentrations for petroleum hydrocarbon contaminants including total petroleum hydrocarbons (TPH) and monocyclic aromatic hydrocarbon (BTEX) compounds have previously been established in the *NSW DECC (EPA) Contaminated Sites: Guidelines for Assessing Service Station Sites* (1994) publication and this document is referenced in the 1998 Site Auditor Guidelines. Heavy fraction petroleum hydrocarbon aliphatic/aromatic component threshold concentrations have also been introduced in the *National Environmental Protection (Assessment of Site Contamination) Measure 1999* (NEPC Guidelines).

The *National Environmental Protection (Assessment of Site Contamination) Measure 1999* (NEPC Guidelines) do not provide numeric guidelines for the assessment of asbestos in soil. NSW DECC (EPA) advice (2006) has indicated that consultants should use their 'professional judgement' regarding determination of appropriate investigation and remediation levels for asbestos in soils; however the NSW DECC (EPA) have not published numerical guidelines for the assessment of asbestos in subsurface soils.



The WorkCover publication *Working with Asbestos Guide* (NSW WorkCover 2008) states that, where buried asbestos is encountered, "A competent occupational hygienist should assess the site to determine:

- If asbestos material is bonded or friable
- The extent of asbestos contamination
- Safe work procedures for the remediation of the site"

"Any asbestos cement products that have been subjected to weathering, or damaged by hail, fire or water blasting are considered to be friable asbestos and an asbestos removal contractor with a WorkCover license for friable asbestos removal is required for its removal". Under the *NSW Occupational Health and Safety (OHS) Regulations 2001* and WorkCover requirements all necessary disturbance works associated with asbestos containing materials must be conducted by a licensed AS-1 Asbestos Removal Contractor.

Site Assessment Criteria for Soil Contaminants

The 'commercial/industrial' exposure setting has been adopted for this assessment and the appropriate soil criteria are listed in the following table:

Site Soil Assessment Criteria (mg/kg)		
Contaminant	HIL Column F Exposure Setting	Guidelines for Assessing Service Station Sites (1994)
Inorganics		
Arsenic (total)	500	
Cadmium	100	
Chromium (III)	60%	
Copper	5000	
Lead	1500	
Mercury (inorganic)	75	
Nickel	3000	
Zinc	3500	
Organic Contaminants		
TPH (C ₆ -C ₉)		65
TPH (C ₁₀ -C ₃₆)		1000
Benzene		1
Toluene		1.4
Ethylbenzene		3.1
Total Xylenes		14
Total PAHs	100	
Benzo(a)pyrene	5	
Aldrin + Dieldrin	50	
Chlordane	250	
DDT + DDD + DDE	1000	
Heptachlor	50	
PCBs (Total)	50	

For the purpose of off-site disposal, the classification of soil into 'General Solid Waste', "Restricted Solid Waste" and 'Hazardous Waste' categories is defined by chemical contaminant criteria outlined in *Waste Classification Guidelines Part 1: Classifying Waste. DECC NSW 2008*. These chemical contaminant criteria are summarised in Table A-2.



Evaluation of Soil Analysis Data and Contaminant Threshold Concentrations

The soil analysis data has been evaluated by comparison with the site assessment criteria specified in the above table.

Subsurface Conditions

The subsurface conditions encountered generally consisted of concrete pavement to a maximum depth of 0.25m, underlain by fill material to a maximum termination depth of the testpits at approximately 1.8m. The fill material typically consisted of silty sand or silty gravelly sand with inclusions of ash; igneous gravel; sandstone gravel, cobbles and boulders; root fibres; glass fragments; asphalt; tile fragments; piping; PVC bags; quartz gravel and concrete gravel.

Laboratory Results

Selected laboratory analyses were scheduled on six fill samples obtained from the site. The laboratory report is attached to this letter. Results are as follows:

Heavy Metals

Six selected fill soil samples were analysed for heavy metals. Sample TP3 (0.7m-0.8m) encountered an elevated concentration of lead of 1,600mg/kg. The site assessment criterion for lead is 1,500mg/kg. The results of the remaining analyses were below the site assessment criteria.

The results of all analyses were less than the SCC2 criteria outlined in the Waste Classification Guidelines Part 1: Classifying Waste DECC NSW 2008.

TCLP leachates were prepared from four fill samples and analysed for lead and nickel. The results of the analyses were less than the TCLP2 criteria for Restricted Solid Waste.

Polycyclic Aromatic Hydrocarbons (PAHs)

Six selected fill soil samples were analysed for a range of PAHs including Benzo(a)pyrene. Sample TP3 (0.7m-0.8m) encountered elevated concentrations of PAHs of 152.3 mg/kg and benzo(a)pyrene of 19 mg/kg. The site assessment criteria for total PAHs and B(a)P are 100mg/kg and 5 mg/kg, respectively. The remainder of the results were below the site assessment criteria.

The results of all analyses were less than the SCC2 criteria outlined in the Waste Classification Guidelines Part 1: Classifying Waste DECC NSW 2008.

TCLP leachates were prepared from two fill samples and analysed for PAHs including Benzo(a)pyrene. The results of the TCLP analyses were less than the TCLP1 criteria for Solid Waste.

Organochlorine (OC) and OP Pesticides and Polychlorinated Biphenyls (PCBs)

The six soil samples were analysed for a range of OC/OP pesticides and PCBs. The results of the analyses were below laboratory practical quantitation limit and less than the site assessment criteria.

The results of all analyses were less than the SCC1 criteria outlined in the Waste Classification Guidelines Part 1: Classifying Waste DECC NSW 2008.

Petroleum Hydrocarbons (TPH) and Monocyclic Aromatic Hydrocarbons (BTEX)

PID soil sample headspace readings were all below 0.1 ppm equivalent isobutylene. These results indicate a lack of PID detectable volatile organic contaminants. Six selected fill soil samples were analysed for petroleum hydrocarbons and BTEX compounds. TP3 (0.7m-0.8m) encountered elevated concentrations of mid to heavy (C₁₀-C₃₆) fraction petroleum hydrocarbons of 1570mg/kg. The site assessment criteria for (C₁₀-C₃₆) petroleum hydrocarbons is 1000mg/kg. The remainder of the results were below the site assessment criteria.

The results of all analyses were less than the SCC1 criteria outlined in the Waste Classification Guidelines Part 1: Classifying Waste DECC NSW 2008.

Asbestos

The six samples were screened for the presence of asbestos in soil. The results of the analyses indicated that no asbestos fragments were present and no respirable fibres were detected.

Discussion and Recommendations

The preliminary environmental site screening and waste classification assessment for the fill material included an inspection of the site and immediate surrounds, soil sampling and subsequent analysis of six fill soil samples for a wide range of contaminants commonly encountered in the Sydney Region.

The proposed development includes re-levelling and capping of the site for extensions to The Museum of Contemporary Arts. The site is underlain by the archaeological remains of the "First Fleet" docks and the design approach is to minimise excavation to this area

Elevated levels of contaminants were encountered in fill soil samples during this investigation. A summary of the elevated results are presented in the table below:

Summary of Contamination Data in Fill Soil (mg/kg)				
Contaminant	HIL ⁺	No. of Samples Analysed	No. of Results above the HIL	Maximum Value
Lead	1500	6	1	1600
Total PAHs	100	6	1	152.3
B(a)P	5	6	1	19
TPH (C ₁₀ -C ₃₆)	1000	6	1	1570

Guideline Levels:
 + Health-Based investigation Level - *National Environment Protection (Assessment of Site Contamination) Measure 1999 Commercial/Industrial criteria*

Explanation:

B(a)P	Benzo(a)pyrene
PAH	Total Polycyclic Aromatic Hydrocarbons
TPH	Total Petroleum Hydrocarbons

The source of the contamination is most likely the ash and slag containing fill used to backfill the site. Lead and PAH are frequently associated with this type of fill material that is commonly encountered in the central and inner suburbs of Sydney.

Based on the results of the assessment, the fill material is considered to be 'Restricted Solid Waste (non-putrescible)' according to the criteria outlined in *Waste Classification Guidelines Part 1: Classifying Waste DECC NSW 2008*. The material should be disposed of to a suitably licensed NSW DECC (EPA) landfill.

Additional sampling and analysis on a regular grid around TP3 may allow delineation of the "Restricted Solid Waste" fill material. This would allow the excavated fill to be separated into "General Solid Waste" and "Restricted Solid Waste". This would significantly reduce fill disposal costs.

The investigation undertaken by EIS included the analysis of six soil samples for the presence of asbestos fibres using NATA accredited microscopic screening techniques. Asbestos, neither apparent to the naked eye nor apparent using microscopic techniques were not detected within the samples. The scope of work undertaken was designed to assess widespread surficial contamination and has not included an exhaustive assessment of the site for the presence of small scale asbestos contamination. EIS adopts no responsibility for small scale or buried asbestos features at the site which may be encountered during future earth or construction works at the site.



The testpits excavated for the investigation have enabled an assessment to be made of the existence of significant, large quantities of contaminated soils. The conclusions based on this investigation are that pockets of contaminated fill soil are likely to be located across the site and may be encountered with smaller scale features between testpits. EIS adopts no responsibility whatsoever for any problems such as underground storage tanks, buried items or contaminated material that may be encountered between sampling locations at the site. The proposed construction activities at the site should be planned on this basis, and any unexpected problem areas that are encountered between boreholes should be immediately inspected by experienced environmental personnel. This should ensure that such problems are dealt with in an appropriate manner, with minimal disruption to the project timetable and budget.

The site is underlain by the archaeological remains of the "First Fleet" docks and removal of all the contaminated fill from the site is likely to result in damage to these remains and EIS understand that this is to be avoided. In response to the proposed design approach, which is to re-level and cap the site as required and to minimise the extent of excavation EIS recommend capping the area to provide an effective barrier between the contamination and the site occupants. EIS recommend the following approach to the capping:

- Prepare an appropriate occupational health and safety plan for the contaminants encountered on the site;
- Where necessary, excavate the site to achieve the desired final levels;
- Where excavated material is to be taken off site ensure this is disposed of appropriately;
- Sample the exposed surface and walls of the excavation(s) and analyse samples for lead, PAH and mid to heavy fraction hydrocarbons. This will provide a record of what remains beneath the site;
- Place a marker membrane over the contaminated fill to alert future excavators to the presence of contaminated fill soil;
- Only Virgin Excavated Natural Material (VENM) should be imported onto the site for backfilling purposes. Any material imported onto the site should be accompanied by analytical data that demonstrates that the soil is VENM.
- Pave/cap the area in a manner that restricts access to the underlying soil;
- Proceed with construction;
- Prepare an Environmental Management Plan for the site that records the presence and concentration of contaminants beneath the site and includes a protocol for dealing with contaminated soil in the event of future disturbance (eg excavation for services); and
- Notate the s149 certificate for the site, so that the EMP is associated with the land title and future land owners/occupiers are aware of the presence of contamination beneath the site.



If the above recommendations are adhered to in the management of the identified soil contamination the site should be suitable for the intended use.

Normal good engineering site management practice including control of run-off and dust suppression is recommended during earthworks and construction. We understand that these provisions will be required of the contractor and detailed in the Construction and Environmental Management plan.

Fill and contaminated soil disposal costs are significant and may affect project viability. These costs should be assessed at an early stage of the project development to avoid significant future unexpected additional costs.

Section 143 of the *Protection of the Environment Operations Act 1997* states that if waste is transported to a place that cannot lawfully be used as a waste facility for that waste, then the transporter and owner of the waste are each guilty of an offence. The transporter and owner of the waste have a duty to ensure that the waste is disposed of in an appropriate manner. EIS accepts no liability whatsoever for the unlawful disposal of any waste from any site.

LIMITATIONS

The conclusions developed in this letter are based on site conditions which existed at the time of the site assessment and the scope of work outlined previously in this report. They are based on investigation of conditions at specific locations, chosen to be as representative as possible under the given circumstances, and visual observations of the site and vicinity, together with the interpretation of available historical information and documents reviewed as described in this report.

This investigation for this assessment and preparation of this letter have been undertaken in accordance with accepted practice for environmental consultants, with reference to applicable environmental regulatory authority and industry standards, guidelines and the assessment criteria outlined previously in this letter.

Where information has been provided by third parties, EIS has not undertaken any verification process, except where specifically stated.

EIS has not undertaken any assessment of off-site areas that may be potential contamination sources or may have been impacted by site contamination.



Subsurface soil and rock conditions encountered between investigation locations may be found to be different from those expected. Groundwater conditions may also vary, especially after climatic changes.

Previous use of this site may have involved excavation for the foundations of buildings, services, and similar facilities. In addition, unrecorded excavation and burial of material may have occurred on the site. Backfilling of excavations could have been undertaken with potentially contaminated material that may be discovered in discrete, isolated locations across the site during construction work.

EIS accept no responsibility for potentially asbestos containing materials that may exist at the site. These materials may be associated with demolition of pre-1970 constructed buildings or fill material at the site.

EIS have not and will not make any determination regarding finances associated with the site.

Changes in the proposed or current site use may result in remediation or further investigation being required at the site.

During construction at the site, soil, fill and any unsuspected materials that are encountered should be monitored by qualified environmental and geotechnical engineers to confirm assumptions made on the basis of the limited investigation data, and possible changes in site level and other conditions since the investigation. Soil materials considered to be suitable from a geotechnical point of view may be unsatisfactory from a soil contamination viewpoint, and vice versa.

This letter has been prepared for the particular project described and no responsibility is accepted for the use of any part of this report in any other context or for any other purpose. Copyright in this report is the property of EIS. EIS has used a degree of care, skill and diligence normally exercised by consulting engineers in similar circumstances and locality. No other warranty expressed or implied is made or intended. Subject to payment of all fees due for the investigation, the client alone shall have a licence to use this report.



Should you require any further information regarding the above, please do not hesitate to contact us.

A handwritten signature in black ink, appearing to read 'Adrian Kingswell', is written over the text 'Yours faithfully'.

Yours faithfully

ENVIRONMENTAL INVESTIGATION SERVICES

A handwritten signature in black ink, appearing to read 'Rose Healy', is written above the printed name.

Rose Healy

Environmental Scientist

Adrian Kingswell

Senior Associate

Attachments:

- Table A-1: Environmental and Health-Based Soil Investigation Levels
- Table A-2: Chemical Contaminant Criteria For Waste Classification
- Table B: Summary Of Soil Sample Laboratory Analysis Schedule
- Table C: Summary Of Laboratory Test Data – Soil: TCLP
- Table D: Summary Of Laboratory Test Data – QA/QC Duplicate RPD Results

- Figure 1: Site Location Plan
- Figure 2: Borehole Location Plan

- Borehole Logs BH1 to BH7 inclusive
- Envirolab Services Laboratory Report Numbers - 23038 and 23038-A and Chain of Custody Documents

TABLE A-1
ENVIRONMENTAL AND HEALTH-BASED SOIL INVESTIGATION LEVELS (mg/kg)

Substances	Health Investigation Levels (HILs) ¹				Provisional Phyto-toxicity Investigation Levels (PPILs) ¹	NSW EPA Guidelines for Assessing Service Station Sites ²	Back- ground Ranges ¹
	A	D	E	F			
	"Standard" residential with garden/ accessible soil (home- grown produce contributing less than 10% of vegetable and fruit intake; no poultry); includes children's day-care centres, kindergartens, preschools and primary schools	Residential with minimal opportunities for soil access: includes dwellings with fully and permanently paved yard space such as high-rise apartments and flats	Parks, recreational open space and playing fields: includes secondary schools	Commercial/Industrial: includes premises such as shops and offices as well as factories and industrial sites			
METALS/METALLOIDS							
Arsenic (total)	100	400	200	500	20		1-50
Barium					300		100-3000
Beryllium	20	80	40	100			
Cadmium	20	80	40	100	3		1
Chromium(III)	12%	48%	24%	60%	400		
Chromium(VI)	100	400	200	500	1		
Chromium (total)							5-1000
Cobalt	100	400	200	500			1-40
Copper	1000	4000	2000	5000	100		2-100
Lead	300	1200	600	1500	600		2-200
Manganese	1500	6000	3000	7500	500		850
Methyl mercury	10	40	20	50			
Mercury (inorganic)	15	60	30	75	1		0.03
Nickel	600	2400	600	3000	60		5-500
Vanadium					50		20-500
Zinc	7000	28000	14000	35000	200		10-300
ORGANICS							
Aldrin + Dieldrin	10	40	20	50			
Chlordane	50	200	100	250			
DDT + DDD + DDE	200	800	400	1000			
Heptachlor	10	40	20	50			
Polycyclic aromatic hydrocarbons (PAHs)	20	80	40	100			
Benzo(a)pyrene	1	4	2	5			
Phenol	8500	34000	17000	42500			
PCBs (total)	10	40	20	50			
Petroleum Hydrocarbon Components (constituents):							
>C16 - C35 Aromatics	90	360	180	450			
>C16 - C35 Aliphatics	5600	22400	11200	28000			
>C35 Aliphatics	56000	224000	112000	280000			
C6-C9						65	
C10-C40						1000	
Benzene						1	
Toluene						1.4	
Ethyl Benzene						3.1	
Total Xylenes						14	
OTHER							
Boron	3000	12000	6000	15000			
Cyanides (complexed)	500	2000	1000	2500			
Cyanides (free)	250	1000	500	1250			
Phosphorus					2000		
Sulfur					600		
Sulfate					2000		

Reference should be made to the following guidelines for further details (as referenced in the above table):

1 National Environment Protection (Assessment of Site Contamination) Measure - 1999, National Environment Protection Council. Human exposure settings based on land use have been established for HILs and details are outlined in Taylor and Langley 1998.

2 NSW DECC (formerly EPA) Guidelines for Assessing Service station Sites - 1994.

TABLE A - 2
CHEMICAL CONTAMINANT CRITERIA FOR WASTE CLASSIFICATION

Waste Classification Guidelines, Part 1: Classifying Waste DECC NSW April 2008

GENERAL SOLID WASTE	RESTRICTED SOLID WASTE	HAZARDOUS WASTE
IF $SCC \leq CT1$, TCLP NOT NEEDED TO CLASSIFY AS GENERAL SOLID WASTE	IF $SCC \leq CT2$, TCLP NOT NEEDED TO CLASSIFY AS RESTRICTED SOLID WASTE	IF $SCC > SCC2$ TREAT AS HAZARDOUS WASTE
IF $TCLP \leq TCLP1$ AND $SCC \leq SCC1$ TREAT AS GENERAL SOLID WASTE	IF $TCLP \leq TCLP2$ AND $SCC \leq SCC2$ TREAT AS RESTRICTED SOLID WASTE	IF $> TCLP2$ TREAT AS HAZARDOUS WASTE

	GENERAL SOLID WASTE			RESTRICTED SOLID WASTE		
CONTAMINANT	CT1 (mg/kg)	TCLP1 (mg/L)	SCC1 (mg/kg)	CT2 (mg/kg)	TCLP2 (mg/L)	SCC2 (mg/kg)
Arsenic	100	5	500	400	20	2,000
Beryllium	20	1.0	100	80	4	400
Cadmium	20	1.0	100	80	4	400
Chromium VI	100	5	1,900	400	20	7,600
Cyanide (total)	320	16	5,900	1280	64	23,600
Cyanide (Amenable)	70	3.5	300	280	14	1,200
Fluoride	3,000	150	10,000	12,000	600	40,000
Lead	100	5	1,500	400	20	6,000
Mercury	4	0.2	50	16	0.8	200
Molybdenum	100	5	1,000	400	20	4,000
Nickel	40	2	1,050	160	8	4,200
Selenium	20	1	50	80	4	200
Silver	100	5.0	180	400	20	720
Benzene	10	0.5	18	40	2	72
Toluene	288	14.4	518	1,152	57.6	2,073
Ethylbenzene	600	30	1,080	2,400	120	4,320
Total xylenes	1,000	50	1,800	4,000	200	7,200
Total petroleum hydrocarbons (C6-C9)	-	-	650	-	-	2,600
Total petroleum hydrocarbons (C10-C36) (C10-C14, C15-C28, C29-C36)	-	-	10,000	-	-	40,000
Benzo(a)pyrene	0.8	0.04	10	3.2	0.16	23
Polycyclic aromatic hydrocarbons (Total)	-	-	200	-	-	800
Polychlorinated biphenyls	-	-	<50	-	-	<50
Phenol (nonhalogenated)	288	14.4	518	1,152	57.6	2,073
Scheduled chemicals	-	-	<50	-	-	<50



TABLE B SUMMARY OF LABORATORY TEST DATA SITE CHARACTERISATION ASSESSMENT All data in mg/kg unless stated otherwise																											
ANALYTE	Sample Description	HEAVY METALS								PAHs		ORGANOCHLORINE PESTICIDES					Total OP Pesticides [®]	PCBs	PETROLEUM HYDROCARBONS					Asbestos Fibres			
		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total PAHs	B(a)P	Aldrin and Dieldrin	Chlordane	DDT, DDD & DDE	Heptachlor	Total Petroleum Hydrocarbons				Benzene	Toluene	Ethyl Benzene	Total Xylenes				
																C ₆ -C ₉			C ₁₀ -C ₁₄						C ₁₅ -C ₂₈	C ₂₉ -C ₃₆	
PQL - Envirolab Services		4.0	1.0	1.0	1.0	1.0	0.1	1.0	1.0	-	0.05	0.1	0.1	0.1	0.1		0.1	25	50	100	100	1.0	1.0	1.0	3.0		
Guideline concentration-HIL *		500	100	60%	5000	1500	75	3000	35000	100	5	50	250	1000	50		50	65 ^		1000 ^		1 ^	1.4 ^	3.1 ^	14 ^		
SAMPLE (Depth in metres)																											
TP1 (0.3-0.4)	Fill	LPQL	LPQL	2	18	7	LPQL	1	15	1.1	0.3	LPQL	LPQL	LPQL	LPQL		LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	Not Detected	
TP3 (0.7-0.8)	Fill	51	13	11	360	1600	1	42	8300	152.3	19	LPQL	LPQL	LPQL	LPQL		LPQL	LPQL	LPQL	760	810	LPQL	LPQL	LPQL	LPQL	Not Detected	
TP4 (0.3-0.4)	Fill	4	LPQL	7	53	150	0.3	8	91	1.8	0.2	LPQL	LPQL	LPQL	LPQL		LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	Not Detected	
TP5 (0.3-0.4)	Fill	7	0.5	12	110	990	0.7	80	240	9.3	1	LPQL	LPQL	LPQL	LPQL		LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	Not Detected	
TP6 (1.6-1.7)	Fill	29	LPQL	8	37	330	0.5	5	99	3	0.3	LPQL	LPQL	LPQL	LPQL		LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	Not Detected	
TP7 (0.4-0.5)	Fill	5	LPQL	11	160	410	0.8	13	300	7.4	0.7	LPQL	LPQL	LPQL	LPQL		LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	Not Detected	
Total no. of samples		6	6	6	6	6	6	6	6	6	6	6	6	6	6		6	6	6	6	6	6	6	6	6		
Maximum Value		51	13	12	360	1600	1	80	8300	152.3	19	0	0	0	0		0	0	0	760	810	0	0	0	0	0	
EXPLANATION: * National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC Guidelines) HIL - Column F, Commercial/Industrial [^] NSW DECC (EPA) Guidelines for Assessing Service Station Sites (1994) [®] The lowest Practical Quantitation Limit was selected as the guideline criterion Concentration above Site Assessment Criteria VALUE ABBREVIATIONS: PQL: Practical Quantitation Limit LPQL: Less than PQL PAHs: Polycyclic Aromatic Hydrocarbons B(a)P: Benzo(a)pyrene OP: Organophosphorus PCB: Polychlorinated biphenyls																											



TABLE C SUMMARY OF LABORATORY TEST DATA TOXICITY CHARACTERISTICS LEACHING PROCEDURE (TCLP) All data in mg/L unless stated otherwise			
ANALYTE	Pb	Ni	B(a)P
PQL - Envirolab	0.03	0.02	0.001
Guideline concentration * TCLP1 General	5	2	0.04
Guideline concentration *TCLP2 Restricted	20	8	0.16
Guideline concentration * Hazardous	>20	>8	>0.16
SAMPLE (Depth in metres)			
TP3 (0.7-0.8)	0.96	0.03	LPQL
TP4 (0.3-0.4)	0.11	NA	NA
TP5 (0.3-0.4)	11	0.05	LPQL
TP7 (0.4-0.5)	0.89	NA	NA
Total no. of samples	4	4	4
Maximum Value	0.09	0.07	LPQL
EXPLANATION: *Environmental Guidelines: Waste Classification Guidelines Part 1: Classifying Waste. DECC NSW 2008. Further reference should be made to Table A-2 for waste classification criteria Value above guideline level VALUE ABBREVIATIONS: PQL: Practical Quantitation Limit LPQL: Less than PQL Pb: Lead Ni: Nickel B(a)P: Benzo(a)pyrene NA: Not Analysed			



TABLE D
SOIL INTRA LABORATORY DUPLICATE RESULTS
QA/QC - RELATIVE PERCENTAGE DIFFERENCES

SAMPLE	ANALYSIS	INITIAL (mg/kg)	REPEAT (mg/kg)	MEAN (mg/kg)	RPD %
Intra-laboratory Soil sample ID = TP1 (0.3-0.4) Dup ID = Dup 1 Sample Date: 26-9-08 Batch Ref:23038	Arsenic	LPQL	LPQL	NC	NC
	Cadmium	LPQL	LPQL	NC	NC
	Chromium	2	2	2	0
	Copper	18	17	17.5	6
	Lead	7	6	6.5	15
	Mercury	LPQL	LPQL	NC	NC
	Nickel	1	1	1	0
	Zinc	15	20	17.5	29

ABBREVIATIONS:

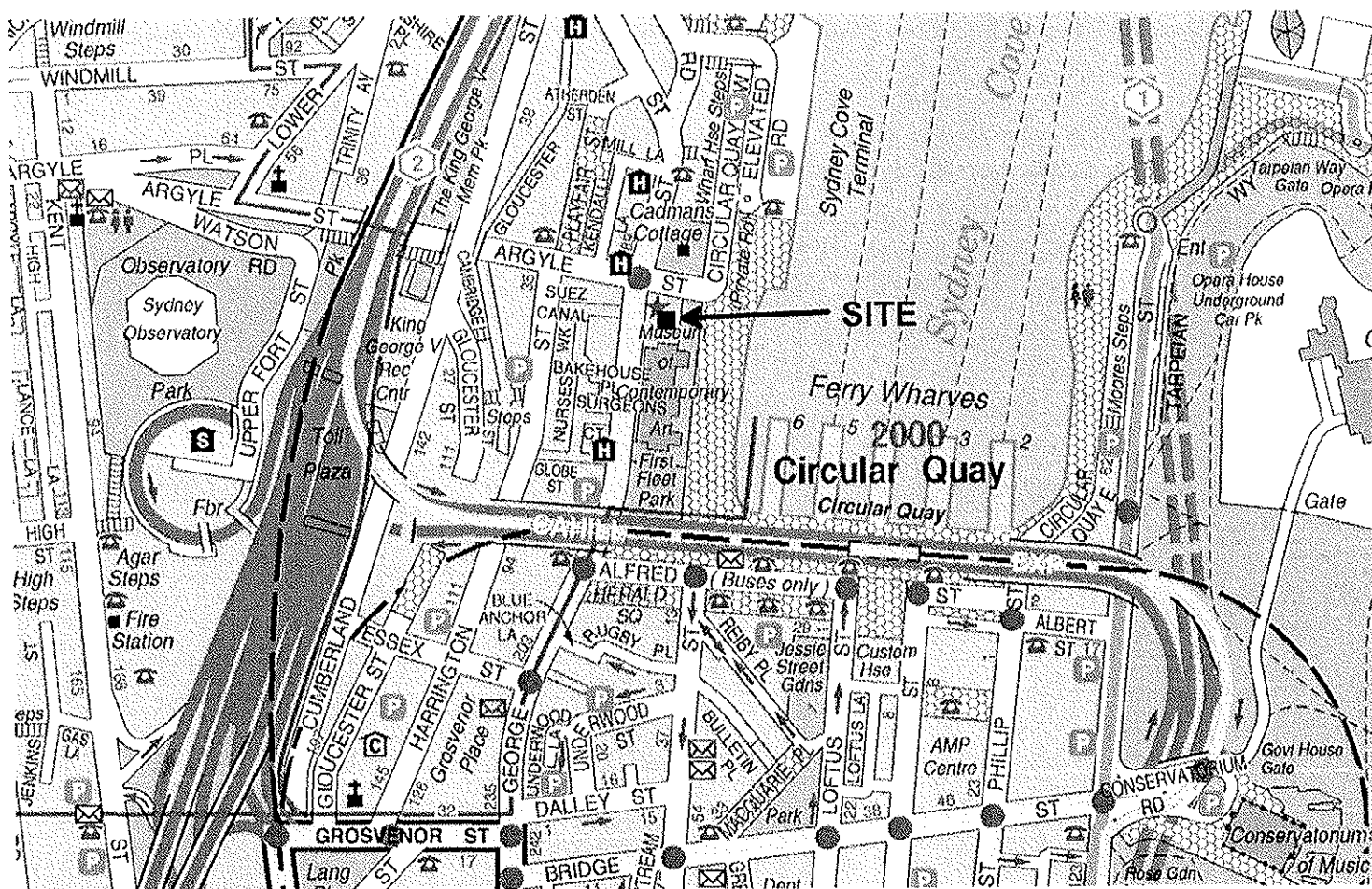
NC : Not Calculated

PQL: Practical Quantitation Limit

LPQL: Less than Practical Quantitation Limit

Job Ref: E22455KB

Date: October 2008



Recreated from UBD
Ref: 236 D6

NOT TO SCALE

Note: Reference should be made to the text for a full understanding of this plan

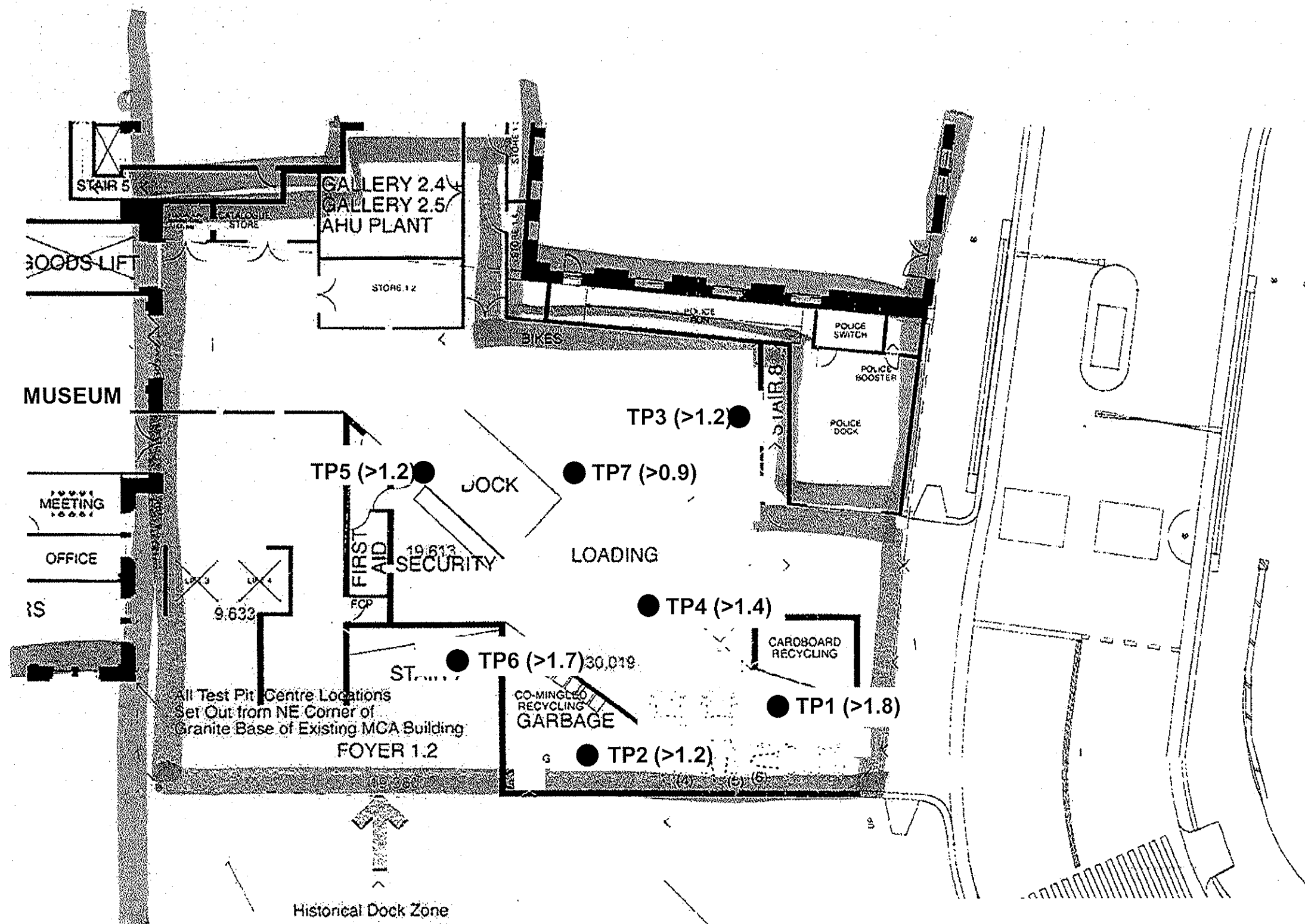
SITE LOCATION PLAN

The Museum of Contemporary Arts
140 George Street, The Rocks



ENVIRONMENTAL
INVESTIGATION
SERVICES

Job No: E22455KB
Figure: 1



Legend:

● TP1(>1.8)

EIS TESTPIT LOCATION, NUMBER & DEPTH OF FILL (M)

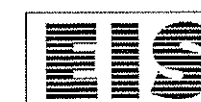
Approximate Scale (m)



Note: Reference should be made to the text for a full understanding of this plan

TESTPIT LOCATION PLAN

The Museum of Contemporary Art
140 George Street, The Rocks



ENVIRONMENTAL
INVESTIGATION
SERVICES

Job No: E22455KB
Figure: 2

ENVIRONMENTAL LOG

Test Pit No.

1

1/1

Environmental logs are not to be used for geotechnical purposes

Client: MUSEUM OF CONTEMPORARY ART

Project: PROPOSED EXTENSIONS TO THE MUSEUM OF CONTEMPORARY ART

Location: 140 GEORGE STREET, THE ROCKS, NSW

Job No. E22455KB

Method: EXCAVATOR

R.L. Surface: N/A

Date: 25-9-08

Datum:

Logged/Checked by: R.H./XW

Groundwater Record	SAMPLES				Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	USO	DB	DS									
DRY ON COMPLET- ION						0		-	ASPHALTIC CONCRETE: 120mm.t	M	-	-	
						1		-	FILL: Silty sand, fine to medium grained, brown, light brown and grey brown, with ash, igneous and sandstone gravel and a trace of root fibres and glass fragments. as above, but with sandstone boulders and asphalt and a trace of tile fragments.				
						2			END OF TEST PIT AT 1.8m				TERMINATED IN FILL
						3							
						4							
						5							
						6							
						7							

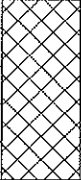
ENVIRONMENTAL LOG

Test Pit No.

2

1/1

Environmental logs are not to be used for geotechnical purposes

Client: MUSEUM OF CONTEMPORARY ART Project: PROPOSED EXTENSIONS TO THE MUSEUM OF CONTEMPORARY ART Location: 140 GEORGE STREET, THE ROCKS, NSW													
Job No. E22455KB Date: 25-9-08			Method: EXCAVATOR Logged/Checked by: R.H./ 			R.L. Surface: N/A Datum:							
Groundwater Record	SAMPLES				Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	U50	DB	DS									
DRY ON COMPLETION						0			ASPHALTIC CONCRETE: 250mm.t				
						1		-	FILL: Silty sand, fine to medium grained, dark brown, light brown, grey brown and orange brown, with sandstone gravel and cobbles, igneous gravel, with a trace of ash, tile, asphalt and glass fragments and metal piping.	M	-	-	
									END OF TEST PIT AT 1.2m				TERMINATED ON SANDSTONE BOULDERS
						2							
						3							
						4							
						5							
						6							
						7							

ENVIRONMENTAL INVESTIGATION SERVICES

CONSULTING ENVIRONMENTAL ENGINEERS



ENVIRONMENTAL LOG

Test Pit No.

3

1/1

Environmental logs are not to be used for geotechnical purposes

Client: MUSEUM OF CONTEMPORARY ART

Project: PROPOSED EXTENSIONS TO THE MUSEUM OF CONTEMPORARY ART

Location: 140 GEORGE STREET, THE ROCKS, NSW

Job No. E22455KB

Method: EXCAVATOR

R.L. Surface: N/A

Date: 24-9-08

Datum:

Logged/Checked by: R.H./ASZ

Groundwater Record	SAMPLES				Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	USO	DB	DS									
DRY ON COMPLET ION						0		-	ASPHALTIC CONCRETE: 120mm.t FILL: Silty sand, fine to medium grained, dark brown and grey brown, with sandstone gravel, cobbles and boulders, igneous gravel, with a trace of root fibres, asphalt and pvc builders bags.	M	-	-	
						1			as above, but with a trace of ash and terracotta pipe fragments. END OF TEST PIT AT 1.2m				
						2							TERMINATED ON SANDSTONE BOULDERS
						3							
						4							
						5							
						6							
						7							

ENVIRONMENTAL LOG

Test Pit No.

4

1/1

Environmental logs are not to be used for geotechnical purposes

Client: MUSEUM OF CONTEMPORARY ART

Project: PROPOSED EXTENSIONS TO THE MUSEUM OF CONTEMPORARY ART

Location: 140 GEORGE STREET, THE ROCKS, NSW

Job No. E22455KB

Method: EXCAVATOR

R.L. Surface: N/A

Date: 24-9-08

Datum:

Logged/Checked by: R.H./ASK

Groundwater Record	SAMPLES				Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	USO	DB	DS									
DRY ON COMPLETION						0		-	ASPHALTIC CONCRETE: 160mm.t				
								-	FILL: Silty sand, fine to medium grained, brown, with sandstone and igneous gravel, and a trace of root fibres and asphalt and glass fragments.	M	-	-	
						1		-	CONCRETE: 200mm.t				
									FILL: Silty sand, fine to medium grained, dark brown and grey brown, with sandstone cobbles and gravel, igneous gravel, asphalt and a trace of root fibres.				
						2			FILL: Silty sand, fine to medium grained, grey brown, with igneous, quartz and sandstone gravel and asphalt.				
									END OF TEST PIT AT 1.4m				TERMINATED ON SANDSTONE BOULDERS
						3							
						4							
						5							
						6							
						7							

ENVIRONMENTAL LOG

Test Pit No.

5

1/1

Environmental logs are not to be used for geotechnical purposes

Client: MUSEUM OF CONTEMPORARY ART

Project: PROPOSED EXTENSIONS TO THE MUSEUM OF CONTEMPORARY ART

Location: 140 GEORGE STREET, THE ROCKS, NSW

Job No. E22455KB

Method: EXCAVATOR

R.L. Surface: N/A

Date: 26-9-08

Datum:

Logged/Checked by: R.H./*RJK*

Groundwater Record	SAMPLES				Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	FS	USO	DB	DS									
DRY ON COMPLET- ION						0			ASPHALTIC CONCRETE: 100mm.t				
						1			FILL: Silty gravelly sand, fine to medium grained, dark brown, light brown, grey brown and orange brown, with sandstone gravel and cobbles, igneous gravel, asphalt and a trace of pvc builders bags, piping and root fibres.	M	-	-	
									END OF TEST PIT AT 1.2m				TERMINATED ON SANDSTONE BOULDERS
						2							
						3							
						4							
						5							
						6							
						7							

ENVIRONMENTAL LOG

Test Pit No.

7

1/1

Environmental logs are not to be used for geotechnical purposes

Client: MUSEUM OF CONTEMPORARY ART
 Project: PROPOSED EXTENSIONS TO THE MUSEUM OF CONTEMPORARY ART
 Location: 140 GEORGE STREET, THE ROCKS, NSW

Job No. E22455KB

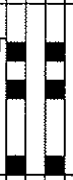
Method: EXCAVATOR

R.L. Surface: N/A

Date: 26-9-08

Datum:

Logged/Checked by: R.H./

Groundwater Record	SAMPLES				Field Tests	Depth (m)	Graphic Log	Unified Classification	DESCRIPTION	Moisture Condition/ Weathering	Strength/ Rel. Density	Hand Penetrometer Readings (kPa.)	Remarks
	ES	USO	DB	DS									
DRY ON COMPLETION						0		-	ASPHALTIC CONCRETE: 70mm.t FILL: Silty gravelly sand, fine to medium grained, dark brown, light brown, grey brown and orange brown, with sandstone, asphalt and igneous gravel, and a trace of root fibres, ash and pvc builders bags.	M	-	-	
						1			END OF TEST PIT AT 0.9m				TERMINATED ON SANDSTONE BOULDERS
						2							
						3							
						4							
						5							
						6							
						7							



Envirolab Services Pty Ltd
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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 23038

Client:

Environmental Investigation Services
PO Box 976
North Ryde BC
NSW 1670

Attention: Rose Healy

Sample log in details:

Your Reference:	<u>E22455K, The Rocks</u>
No. of samples:	28 Soils
Date samples received:	29/09/08
Date completed instructions received:	29/09/08

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.

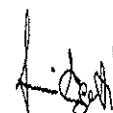
Report Details:

Date results requested by:	6/10/08
Date of Preliminary Report:	Not Issued
Issue Date:	3/10/08

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

Results Approved By:


Jacinta Hurst
Operations Manager


Giovanni Agosti
Technical Manager


Joshua Lim
Chemist

Envirolab Reference: 23038
Revision No: R 00

Page 1 of 21



vTPH & BTEX in Soil						
Our Reference:	UNITS	23038-1	23038-10	23038-12	23038-15	23038-20
Your Reference	-----	TP1	TP3	TP4	TP5	TP6
Depth	-----	0.3-0.4	0.7-0.8	0.3-0.4	0.3-0.4	1.6-1.7
Date Sampled		25/09/08	24/09/08	24/09/08	26/09/08	25/09/08
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	1/10/2008	1/10/2008	1/10/2008	1/10/2008	1/10/2008
Date analysed	-	2/10/2008	2/10/2008	2/10/2008	2/10/2008	2/10/2008
vTPH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
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	%	98	101	103	105	100

vTPH & BTEX in Soil		
Our Reference:	UNITS	23038-22
Your Reference	-----	TP7
Depth	-----	0.4-0.5
Date Sampled		26/09/08
Type of sample		Soil
Date extracted	-	1/10/2008
Date analysed	-	2/10/2008
vTPH C ₆ - C ₉	mg/kg	<25
Benzene	mg/kg	<0.5
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	103

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	23038-1	23038-10	23038-12	23038-15	23038-20
Your Reference	-----	TP1	TP3	TP4	TP5	TP6
Depth	-----	0.3-0.4	0.7-0.8	0.3-0.4	0.3-0.4	1.6-1.7
Date Sampled		25/09/08	24/09/08	24/09/08	26/09/08	25/09/08
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	1/10/2008	1/10/2008	1/10/2008	1/10/2008	1/10/2008
Date analysed	-	2/10/2008	2/10/2008	2/10/2008	2/10/2008	2/10/2008
TPH C10 - C14	mg/kg	<50	<50	<50	<50	<50
TPH C15 - C28	mg/kg	<100	760	<100	<100	<100
TPH C29 - C36	mg/kg	<100	810	<100	<100	<100
Surrogate o-Terphenyl	%	90	115	89	89	88

sTPH in Soil (C10-C36)		
Our Reference:	UNITS	23038-22
Your Reference	-----	TP7
Depth	-----	0.4-0.5
Date Sampled		26/09/08
Type of sample		Soil
Date extracted	-	1/10/2008
Date analysed	-	2/10/2008
TPH C10 - C14	mg/kg	<50
TPH C15 - C28	mg/kg	<100
TPH C29 - C36	mg/kg	<100
Surrogate o-Terphenyl	%	92

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	23038-1 TP1 0.3-0.4 25/09/08 Soil	23038-10 TP3 0.7-0.8 24/09/08 Soil	23038-12 TP4 0.3-0.4 24/09/08 Soil	23038-15 TP5 0.3-0.4 26/09/08 Soil	23038-20 TP6 1.6-1.7 25/09/08 Soil
Date extracted	-	1/10/2008	1/10/2008	1/10/2008	1/10/2008	1/10/2008
Date analysed	-	2/10/2008	2/10/2008	2/10/2008	2/10/2008	2/10/2008
Naphthalene	mg/kg	<0.1	0.5	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	1.3	<0.1	0.1	<0.1
Acenaphthene	mg/kg	<0.1	0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	0.2	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	5.6	0.1	0.5	0.3
Anthracene	mg/kg	<0.1	1.6	<0.1	0.1	<0.1
Fluoranthene	mg/kg	<0.1	19	0.3	1.5	0.5
Pyrene	mg/kg	<0.1	22	0.3	1.5	0.5
Benzo(a)anthracene	mg/kg	<0.1	12	0.2	0.9	0.3
Chrysene	mg/kg	<0.1	13	0.2	0.8	0.3
Benzo(b+k)fluoranthene	mg/kg	0.2	28	0.3	1.6	0.5
Benzo(a)pyrene	mg/kg	0.3	19	0.2	1	0.3
Indeno(1,2,3-c,d)pyrene	mg/kg	0.3	14	0.1	0.7	0.2
Dibenzo(a,h)anthracene	mg/kg	<0.1	3	<0.1	0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.3	13	0.1	0.5	0.1
Surrogate p-Terphenyl-d14	%	98	96	98	99	99

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	23038-22 TP7 0.4-0.5 26/09/08 Soil
Date extracted	-	1/10/2008
Date analysed	-	2/10/2008
Naphthalene	mg/kg	0.2
Acenaphthylene	mg/kg	0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	0.5
Anthracene	mg/kg	0.1
Fluoranthene	mg/kg	1.1
Pyrene	mg/kg	1.1
Benzo(a)anthracene	mg/kg	0.7
Chrysene	mg/kg	0.7
Benzo(b+k)fluoranthene	mg/kg	1.2
Benzo(a)pyrene	mg/kg	0.7
Indeno(1,2,3-c,d)pyrene	mg/kg	0.5
Dibenzo(a,h)anthracene	mg/kg	0.1
Benzo(g,h,i)perylene	mg/kg	0.4
Surrogate p-Terphenyl-d ₁₄	%	98

Organochlorine Pesticides in soil						
Our Reference:	UNITS	23038-1	23038-10	23038-12	23038-15	23038-20
Your Reference	-----	TP1	TP3	TP4	TP5	TP6
Depth	-----	0.3-0.4	0.7-0.8	0.3-0.4	0.3-0.4	1.6-1.7
Date Sampled		25/09/08	24/09/08	24/09/08	26/09/08	25/09/08
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/10/2008	01/10/2008	01/10/2008	01/10/2008	01/10/2008
Date analysed	-	02/10/2008	02/10/2008	02/10/2008	02/10/2008	02/10/2008
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
Dieidrin	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 TCLMX	%	137	136	138	132	132

Organochlorine Pesticides in soil	UNITS	23038-22
Our Reference:	-----	TP7
Your Reference	-----	0.4-0.5
Depth		26/09/08
Date Sampled		Soil
Type of sample		
Date extracted	-	01/10/2008
Date analysed	-	02/10/2008
HCB	mg/kg	<0.1
alpha-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Surrogate TCLMX	%	128

Organophosphorus Pesticides						
Our Reference:	UNITS	23038-1	23038-10	23038-12	23038-15	23038-20
Your Reference	-----	TP1	TP3	TP4	TP5	TP6
Depth	-----	0.3-0.4	0.7-0.8	0.3-0.4	0.3-0.4	1.6-1.7
Date Sampled		25/09/08	24/09/08	24/09/08	26/09/08	25/09/08
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	01/10/2008	01/10/2008	01/10/2008	01/10/2008	01/10/2008
Date analysed	-	02/10/2008	02/10/2008	02/10/2008	02/10/2008	02/10/2008
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
Chlorpyrifos-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
Chlorpyrifos	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 TCLMX	%	137	136	138	132	132

Organophosphorus Pesticides		
Our Reference:	UNITS	23038-22
Your Reference	-----	TP7
Depth	-----	0.4-0.5
Date Sampled		26/09/08
Type of sample		Soil
Date extracted	-	01/10/2008
Date analysed	-	02/10/2008
Diazinon	mg/kg	<0.1
Dimethoate	mg/kg	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1
Ronnel	mg/kg	<0.1
Chlorpyrifos	mg/kg	<0.1
Fenitrothion	mg/kg	<0.1
Bromophos-ethyl	mg/kg	<0.1
Ethion	mg/kg	<0.1
Surrogate TCLMX	%	128

PCBs in Soil	UNITS	23038-1	23038-10	23038-12	23038-15	23038-20
Our Reference:	-----	TP1	TP3	TP4	TP5	TP6
Your Reference	-----	0.3-0.4	0.7-0.8	0.3-0.4	0.3-0.4	1.6-1.7
Depth		25/09/08	24/09/08	24/09/08	26/09/08	25/09/08
Date Sampled		Soil	Soil	Soil	Soil	Soil
Type of sample						
Date extracted	-	01/10/2008	01/10/2008	01/10/2008	01/10/2008	01/10/2008
Date analysed	-	02/10/2008	02/10/2008	02/10/2008	02/10/2008	02/10/2008
Arochlor 1016	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	%	137	136	138	132	132

PCBs in Soil	UNITS	23038-22
Our Reference:	-----	TP7
Your Reference	-----	0.4-0.5
Depth		26/09/08
Date Sampled		Soil
Type of sample		
Date extracted	-	01/10/2008
Date analysed	-	02/10/2008
Arochlor 1016	mg/kg	<0.1
Arochlor 1232	mg/kg	<0.1
Arochlor 1242	mg/kg	<0.1
Arochlor 1248	mg/kg	<0.1
Arochlor 1254	mg/kg	<0.1
Arochlor 1260	mg/kg	<0.1
Surrogate TCLMX	%	128

Acid Extractable metals in soil	UNITS	23038-1	23038-10	23038-12	23038-15	23038-20
Our Reference:	-----	TP1	TP3	TP4	TP5	TP6
Your Reference	-----	0.3-0.4	0.7-0.8	0.3-0.4	0.3-0.4	1.6-1.7
Depth		25/09/08	24/09/08	24/09/08	26/09/08	25/09/08
Date Sampled		Soil	Soil	Soil	Soil	Soil
Type of sample						
Date digested	-	2/10/2008	2/10/2008	2/10/2008	2/10/2008	2/10/2008
Date analysed	-	2/10/2008	2/10/2008	2/10/2008	2/10/2008	2/10/2008
Arsenic	mg/kg	<4	51	4	7	29
Cadmium	mg/kg	<0.5	13	<0.5	0.5	<0.5
Chromium	mg/kg	2	11	7	12	8
Copper	mg/kg	18	360	53	110	37
Lead	mg/kg	7	1,600	150	990	330
Mercury	mg/kg	<0.1	1	0.3	0.7	0.5
Nickel	mg/kg	1	42	8	80	5
Zinc	mg/kg	15	8,300	91	240	99

Acid Extractable metals in soil	UNITS	23038-22	23038-24
Our Reference:	-----	TP7	Dup1
Your Reference	-----	0.4-0.5	-
Depth		26/09/08	-
Date Sampled		Soil	Soil
Type of sample			
Date digested	-	2/10/2008	2/10/2008
Date analysed	-	2/10/2008	2/10/2008
Arsenic	mg/kg	5	<4
Cadmium	mg/kg	<0.5	<0.5
Chromium	mg/kg	11	2
Copper	mg/kg	160	17
Lead	mg/kg	410	6
Mercury	mg/kg	0.8	<0.1
Nickel	mg/kg	13	1
Zinc	mg/kg	300	20

Moisture						
Our Reference:	UNITS	23038-1	23038-10	23038-12	23038-15	23038-20
Your Reference	-----	TP1	TP3	TP4	TP5	TP6
Depth	-----	0.3-0.4	0.7-0.8	0.3-0.4	0.3-0.4	1.6-1.7
Date Sampled		25/09/08	24/09/08	24/09/08	26/09/08	25/09/08
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	1/10/2008	1/10/2008	1/10/2008	1/10/2008	1/10/2008
Date analysed	-	1/10/2008	1/10/2008	1/10/2008	1/10/2008	1/10/2008
Moisture	%	1.4	12	5.8	8.6	4.5

Moisture			
Our Reference:	UNITS	23038-22	23038-24
Your Reference	-----	TP7	Dup1
Depth	-----	0.4-0.5	-
Date Sampled		26/09/08	-
Type of sample		Soil	Soil
Date prepared	-	1/10/2008	1/10/2008
Date analysed	-	1/10/2008	1/10/2008
Moisture	%	11	1.7

Asbestos ID - soils	UNITS	23038-1	23038-10	23038-12	23038-15	23038-20
Our Reference:	-----	TP1	TP3	TP4	TP5	TP6
Your Reference	-----	0.3-0.4	0.7-0.8	0.3-0.4	0.3-0.4	1.6-1.7
Depth		25/09/08	24/09/08	24/09/08	26/09/08	25/09/08
Date Sampled		Soil	Soil	Soil	Soil	Soil
Type of sample						
Date analysed	-	1/10/2008	1/10/2008	1/10/2008	1/10/2008	1/10/2008
Sample Description	-	40g sand	40g sand	40g sand	40g sand	40g sand
Asbestos ID in soil	-	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg	No asbestos found at reporting limit of 0.1g/kg
Trace Analysis	-	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected

Asbestos ID - soils	UNITS	23038-22
Our Reference:	-----	TP7
Your Reference	-----	0.4-0.5
Depth		26/09/08
Date Sampled		Soil
Type of sample		
Date analysed	-	1/10/2008
Sample Description	-	40g sand
Asbestos ID in soil	-	No asbestos found at reporting limit of 0.1g/kg
Trace Analysis	-	Respirable fibres not detected

Method ID	Methodology Summary
GC.16	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.
GC.3	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.
GC.12 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
GC-5	Soil samples are extracted with hexane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
GC.8	Soil samples are extracted with hexane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
GC-6	Soil samples are extracted with hexane/acetone and waters with dichloromethane and analysed by GC-ECD.
Metals.20 ICP-AES	Determination of various metals by ICP-AES.
Metals.21 CV-AAS	Determination of Mercury by Cold Vapour AAS.
LAB.8	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.
AS4964-2004	Qualitative identification of asbestos type fibres in bulk using Polarised Light Microscopy and Dispersion Staining Techniques.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTPH & BTEX in Soil						Base II Duplicate II %RPD		
Date extracted	-			1/10/08	23038-1	1/10/2008 1/10/2008	LCS-5	1/10/08
Date analysed	-			2/10/08	23038-1	2/10/2008 2/10/2008	LCS-5	2/10/08
vTPH C ₆ - C ₉	mg/kg	25	GC.16	<25	23038-1	<25 <25	LCS-5	107%
Benzene	mg/kg	0.5	GC.16	<0.5	23038-1	<0.5 <0.5	LCS-5	99%
Toluene	mg/kg	0.5	GC.16	<0.5	23038-1	<0.5 <0.5	LCS-5	106%
Ethylbenzene	mg/kg	1	GC.16	<1	23038-1	<1 <1	LCS-5	110%
m+p-xylene	mg/kg	2	GC.16	<2	23038-1	<2 <2	LCS-5	109%
o-Xylene	mg/kg	1	GC.16	<1	23038-1	<1 <1	LCS-5	109%
Surrogate aaa-Trifluorotoluene	%		GC.16	105	23038-1	98 99 RPD: 1	LCS-5	110%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
sTPH in Soil (C10-C36)						Base II Duplicate II %RPD		
Date extracted	-			1/10/08	23038-1	1/10/2008 1/10/2008	LCS-5	1/10/08
Date analysed	-			2/10/08	23038-1	2/10/2008 2/10/2008	LCS-5	2/10/08
TPH C ₁₀ - C ₁₄	mg/kg	50	GC.3	<50	23038-1	<50 <50	LCS-5	98%
TPH C ₁₅ - C ₂₈	mg/kg	100	GC.3	<100	23038-1	<100 <100	LCS-5	95%
TPH C ₂₉ - C ₃₆	mg/kg	100	GC.3	<100	23038-1	<100 <100	LCS-5	110%
Surrogate o-Terphenyl	%		GC.3	91	23038-1	90 90 RPD: 0	LCS-5	92%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			1/10/2008	23038-1	1/10/2008 1/10/2008	LCS-5	1/10/2008
Date analysed	-			2/10/08	23038-1	2/10/2008 2/10/2008	LCS-5	2/10/08
Naphthalene	mg/kg	0.1	GC.12 subset	<0.1	23038-1	<0.1 <0.1	LCS-5	94%
Acenaphthylene	mg/kg	0.1	GC.12 subset	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	GC.12 subset	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	GC.12 subset	<0.1	23038-1	<0.1 <0.1	LCS-5	90%
Phenanthrene	mg/kg	0.1	GC.12 subset	<0.1	23038-1	<0.1 <0.1	LCS-5	91%
Anthracene	mg/kg	0.1	GC.12 subset	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	GC.12 subset	<0.1	23038-1	<0.1 0.1	LCS-5	89%
Pyrene	mg/kg	0.1	GC.12 subset	<0.1	23038-1	<0.1 0.3	LCS-5	95%
Benzo(a)anthracene	mg/kg	0.1	GC.12 subset	<0.1	23038-1	<0.1 0.3	[NR]	[NR]
Chrysene	mg/kg	0.1	GC.12 subset	<0.1	23038-1	<0.1 0.4	LCS-5	107%

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QUALITY CONTROL	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	GC.12 subset	<0.2	23038-1	0.2 1.4 RPD: 150	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	GC.12 subset	<0.05	23038-1	0.3 1.3 RPD: 125	LCS-5	105%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	GC.12 subset	<0.1	23038-1	0.3 1.1 RPD: 114	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	GC.12 subset	<0.1	23038-1	<0.1 0.2	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	GC.12 subset	<0.1	23038-1	0.3 1.1 RPD: 114	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		GC.12 subset	102	23038-1	98 100 RPD: 2	LCS-5	106%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organochlorine Pesticides in soil						Base II Duplicate II %RPD		
Date extracted	-			1/10/08	23038-1	01/10/2008 01/10/2008	LCS-4	1/10/08
Date analysed	-			2/10/08	23038-1	02/10/2008 02/10/2008	LCS-4	2/10/08
HCB	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
alpha-BHC	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	LCS-4	114%
gamma-BHC	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
beta-BHC	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	LCS-4	115%
Heptachlor	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	LCS-4	102%
delta-BHC	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Aldrin	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	LCS-4	108%
Heptachlor Epoxide	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	LCS-4	116%
gamma-Chlordane	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Endosulfan I	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
pp-DDE	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	LCS-4	116%
Dieldrin	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	LCS-4	114%
Endrin	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	LCS-4	104%
pp-DDD	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	LCS-4	118%
Endosulfan II	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
pp-DDT	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	LCS-4	108%
Methoxychlor	mg/kg	0.1	GC-5	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Surrogate TCLMX	%		GC-5	131	23038-1	137 139 RPD: 1	LCS-4	130%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organophosphorus Pesticides						Base II Duplicate II %RPD		
Date extracted	-			1/10/08	23038-1	01/10/2008 01/10/2008	LCS-4	1/10/08
Date analysed	-			2/10/08	23038-1	02/10/2008 02/10/2008	LCS-4	2/10/08
Diazinon	mg/kg	0.1	GC.8	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Dimethoate	mg/kg	0.1	GC.8	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Chlorpyrifos-methyl	mg/kg	0.1	GC.8	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Ronnel	mg/kg	0.1	GC.8	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Chlorpyrifos	mg/kg	0.1	GC.8	<0.1	23038-1	<0.1 <0.1	LCS-4	122%
Fenitrothion	mg/kg	0.1	GC.8	<0.1	23038-1	<0.1 <0.1	LCS-4	85%
Bromophos-ethyl	mg/kg	0.1	GC.8	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Ethion	mg/kg	0.1	GC.8	<0.1	23038-1	<0.1 <0.1	LCS-4	140%
Surrogate TCLMX	%		GC.8	131	23038-1	137 139 RPD: 1	LCS-4	133%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCBs in Soil						Base II Duplicate II %RPD		
Date extracted	-			1/10/08	23038-1	01/10/2008 01/10/2008	LCS-4	1/10/08
Date analysed	-			2/10/08	23038-1	02/10/2008 02/10/2008	LCS-4	2/10/08
Arochlor 1016	mg/kg	0.1	GC-6	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	GC-6	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	GC-6	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	GC-6	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	GC-6	<0.1	23038-1	<0.1 <0.1	LCS-4	100%
Arochlor 1260	mg/kg	0.1	GC-6	<0.1	23038-1	<0.1 <0.1	[NR]	[NR]
Surrogate TCLMX	%		GC-6	131	23038-1	137 139 RPD: 1	LCS-4	120%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			02/10/08	23038-1	2/10/2008 2/10/2008	LCS-2	02/10/08
Date analysed	-			02/10/08	23038-1	2/10/2008 2/10/2008	LCS-2	02/10/08
Arsenic	mg/kg	4	Metals.20 ICP-AES	<4	23038-1	<4 <4	LCS-2	103%
Cadmium	mg/kg	0.5	Metals.20 ICP-AES	<0.5	23038-1	<0.5 <0.5	LCS-2	105%
Chromium	mg/kg	1	Metals.20 ICP-AES	<1	23038-1	2 1 RPD: 67	LCS-2	107%
Copper	mg/kg	1	Metals.20 ICP-AES	<1	23038-1	18 18 RPD: 0	LCS-2	108%
Lead	mg/kg	1	Metals.20 ICP-AES	<1	23038-1	7 6 RPD: 15	LCS-2	103%
Mercury	mg/kg	0.1	Metals.21 CV-AAS	<0.1	23038-1	<0.1 <0.1	LCS-2	103%
Nickel	mg/kg	1	Metals.20 ICP-AES	<1	23038-1	1 1 RPD: 0	LCS-2	108%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base Duplicate %RPD		
Zinc	mg/kg	1	Metals.20 ICP-AES	<1	23038-1	15 13 RPD: 14	LCS-2	107%
QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base Duplicate %RPD		
Date prepared	-			1/10/2008	23038-1	1/10/2008 1/10/2008		
Date analysed	-			1/10/2008	23038-1	1/10/2008 1/10/2008		
Moisture	%	0.1	LAB.8	<0.1	23038-1	1.4 1.4 RPD: 0		
QUALITY CONTROL Asbestos ID - soils	UNITS	PQL	METHOD	Blank				
Date analysed	-			[NT]				
QUALITY CONTROL vTPH & BTEX in Soil	UNITS	Dup. Sm#		Duplicate Base + Duplicate + %RPD		Spike Sm#	Spike % Recovery	
Date extracted	-	[NT]		[NT]		23038-10	1/10/08	
Date analysed	-	[NT]		[NT]		23038-10	2/10/08	
vTPH C6 - C9	mg/kg	[NT]		[NT]		23038-10	86%	
Benzene	mg/kg	[NT]		[NT]		23038-10	81%	
Toluene	mg/kg	[NT]		[NT]		23038-10	85%	
Ethylbenzene	mg/kg	[NT]		[NT]		23038-10	89%	
m+p-xylene	mg/kg	[NT]		[NT]		23038-10	87%	
o-Xylene	mg/kg	[NT]		[NT]		23038-10	86%	
Surrogate aaa-Trifluorotoluene	%	[NT]		[NT]		23038-10	100%	
QUALITY CONTROL sTPH in Soil (C10-C36)	UNITS	Dup. Sm#		Duplicate Base + Duplicate + %RPD		Spike Sm#	Spike % Recovery	
Date extracted	-	[NT]		[NT]		23038-10	1/10/08	
Date analysed	-	[NT]		[NT]		23038-10	2/10/08	
TPH C10 - C14	mg/kg	[NT]		[NT]		23038-10	100%	
TPH C15 - C28	mg/kg	[NT]		[NT]		23038-10	#	
TPH C29 - C36	mg/kg	[NT]		[NT]		23038-10	#	
Surrogate o-Terphenyl	%	[NT]		[NT]		23038-10	116%	

Envirolab Reference: 23038
Revision No: R 00

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QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	23038-10	1/10/2008
Date analysed	-	[NT]	[NT]	23038-10	2/10/08
Naphthalene	mg/kg	[NT]	[NT]	23038-10	92%
Acenaphthylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	[NT]	[NT]	23038-10	89%
Phenanthrene	mg/kg	[NT]	[NT]	23038-10	83%
Anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	[NT]	[NT]	23038-10	78%
Pyrene	mg/kg	[NT]	[NT]	23038-10	76%
Benzo(a)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	[NT]	[NT]	23038-10	98%
Benzo(b+k)fluoranthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	[NT]	[NT]	23038-10	106%
Indeno(1,2,3-c,d)pyrene	mg/kg	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	[NT]	[NT]	23038-10	99%

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	23038-10	1/10/08
Date analysed	-	[NT]	[NT]	23038-10	2/10/08
HCB	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	[NT]	[NT]	23038-10	111%
gamma-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	[NT]	[NT]	23038-10	75%
Heptachlor	mg/kg	[NT]	[NT]	23038-10	106%
delta-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	[NT]	[NT]	23038-10	104%
Heptachlor Epoxide	mg/kg	[NT]	[NT]	23038-10	113%
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]	23038-10	111%
Dieldrin	mg/kg	[NT]	[NT]	23038-10	110%
Endrin	mg/kg	[NT]	[NT]	23038-10	127%
pp-DDD	mg/kg	[NT]	[NT]	23038-10	117%
Endosulfan II	mg/kg	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	[NT]	[NT]	23038-10	113%
Methoxychlor	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%	[NT]	[NT]	23038-10	130%

QUALITY CONTROL Organophosphorus Pesticides	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	23038-10	1/10/08
Date analysed	-	[NT]	[NT]	23038-10	2/10/08
Diazinon	mg/kg	[NT]	[NT]	[NR]	[NR]
Dimethoate	mg/kg	[NT]	[NT]	[NR]	[NR]
Chlorpyrifos-methyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Ronnel	mg/kg	[NT]	[NT]	[NR]	[NR]
Chlorpyrifos	mg/kg	[NT]	[NT]	23038-10	120%
Fenitrothion	mg/kg	[NT]	[NT]	23038-10	89%
Bromophos-ethyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	[NT]	[NT]	23038-10	137%
Surrogate TCLMX	%	[NT]	[NT]	23038-10	130%
QUALITY CONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	23038-10	1/10/08
Date analysed	-	[NT]	[NT]	23038-10	2/10/08
Arochlor 1016	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]	23038-10	105%
Arochlor 1260	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%	[NT]	[NT]	23038-10	117%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date digested	-	[NT]	[NT]	23038-10	02/10/08
Date analysed	-	[NT]	[NT]	23038-10	02/10/08
Arsenic	mg/kg	[NT]	[NT]	23038-10	104%
Cadmium	mg/kg	[NT]	[NT]	23038-10	81%
Chromium	mg/kg	[NT]	[NT]	23038-10	89%
Copper	mg/kg	[NT]	[NT]	23038-10	88%
Lead	mg/kg	[NT]	[NT]	23038-10	92%
Mercury	mg/kg	[NT]	[NT]	23038-10	115%
Nickel	mg/kg	[NT]	[NT]	23038-10	97%
Zinc	mg/kg	[NT]	[NT]	23038-10	#

Report Comments:

Total Petroleum Hydrocarbons in soil: # Percent recovery not available due to sample matrix.

Trace Elements #: Accurate spike not available due to the high concentration of these elements in the sample.

Asbestos was analysed by Approved Identifier: Joshua Lim

INS: Insufficient sample for this test

NT: Not tested

PQL: Practical Quantitation Limit

RPD: Relative Percent Difference

NA: Test not required

LCS: Laboratory Control Sample

NR: Not requested

<: Less than

>: Greater than

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:

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.

Surrogates: 60-140% is acceptable for general organics and 10-140% for

SVOC and speciated phenols.



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

SAMPLE RECEIPT ADVICE

Client:

Environmental Investigation Services
PO Box 976
North Ryde BC NSW 1670

ph: 02 9888 5000
Fax: 02 9888 5001

Attention: Rose Healy

Sample log in details:

Your reference:

E22455K, The Rocks

Envirolab Reference:

23038

Date received:

29/09/08

Date results expected to be reported:

6/10/08

Samples received in appropriate condition for analysis:

YES

No. of samples provided

28 Soils

Turnaround time requested:

Standard

Temperature on receipt

Cool

Cooling Method:

Ice Pack

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

SAMPLE AND CHAIN OF CUSTODY FORM

TO: Envirolab Services Pty Ltd 12 Ashley Street Chatswood NSW 2067 Phone: (02) 99106200 Fax: (02) 99106201 Attention: Aileen				EIS Job Number: E22455K Date Results Required: Standard				FROM: Environmental Investigation Services Rear 115 Wicks Road Macquarie Park NSW 2113 Phone: (02) 9888 5000 Fax: (02) 9888 5004 Contact: <i>Rose Healy</i>								
Project: Proposed Extension Location: The Rocks Sampler: RH				Sheet 1 1 2				Sample Preservation: In esky on ice								
Date Sampled	Lab Ref.	Borehole/ Sample Number	Depth (m)	Sample Container	PID	Sample Description	Heavy Metals (8)	TPH/BTEX	PAH	OC/OP/ PCB	Asbestos	TCLP Prep + M8, PAH	Phenols	VOC	SVOC	SPOCAS
25-9-08	1	TP1	0.3-0.4	Glass jar + Asb Bag	0.1	fill	X	X	X	X	X					
	2		0.8-0.9	Glass jar + Asb Bag	0.1											
	3		1.3-1.4	Glass jar + Asb Bag	0.1											
	4		1.7-1.8	Glass jar + Asb Bag	0.0											
	5	TP2	1.4-0.5	Glass jar + Asb Bag	0.0											
	6		0.7-0.8	Glass jar + Asb Bag	0.0											
	7		1.1-1.2	Glass jar + Asb Bag	0.0											
26-9-08	8	TP3	0.2-0.3	Glass jar + Asb Bag	0.0											
	9		0.6-0.7	Glass jar + Asb Bag	0.0											
	10		0.7-0.8	Glass jar + Asb Bag	0.0		X	X	X	X	X					
	11		1.1-1.2	Glass jar + Asb Bag	0.0											
	12	TP4	0.3-0.4	Glass jar + Asb Bag	0.0		X	X	X	X	X					
	13		0.8-0.9	Glass jar + Asb Bag	0.0											
	14		1.3-1.4	Glass jar + Asb Bag	0.0											
26-9-08	15	TP5	0.3-0.4	Glass jar + Asb Bag	0.0		X	X	X	X	X					
	16		0.8-0.9	Glass jar + Asb Bag	0.0											
	17		1.1-1.2	Glass jar + Asb Bag	0.0											
25-9-08	18	TP6	0.2-0.3	Glass jar + Asb Bag	0.0											
	19		0.8-0.9	Glass jar + Asb Bag	0.0											
	20		1.6-1.7	Glass jar + Asb Bag	0.0		X	X	X	X	X					
26-9-08	21	TP7	0.2-0.3	Glass jar + Asb Bag	0.0											
	22		0.4-0.5	Glass jar + Asb Bag	0.0		X	X	X	X	X					
	23		0.8-0.9	Glass jar + Asb Bag	0.0											
	24	DUP1		Glass jar + Asb Bag	0.0		X									
	25	DUP2		Glass jar + Asb Bag	0.0											
Remarks (comments/detection limits required): Please to HOLD SAMPLES																
Relinquished By: RH		Date: Time: 29-9-08		Received By: Simon Song		Relinquished By:		Date: Time:		Received By:						

[illegible]



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 23038-A

Client:

Environmental Investigation Services
PO Box 976
North Ryde BC
NSW 1670

Attention: Adrian Kingswell

Sample log in details:

Your Reference:	E22455K, The Rocks
No. of samples:	Additional Testing on 4 Soils
Date samples received:	29/09/08
Date completed instructions received:	03/10/08

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:	10/10/08
Date of Preliminary Report:	Not Issued
Issue Date:	9/10/08

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

This document is issued in accordance with NATA's accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:


Jacinta Hurst
Operations Manager

Envirolab Reference: 23038-A
Revision No: R 00

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Metals in TCLP					
Our Reference:	UNITS	23038-A-10	23038-A-12	23038-A-15	23038-A-22
Your Reference	-----	TP3	TP4	TP5	TP7
Depth	-----	0.7-0.8	0.3-0.4	0.3-0.4	0.4-0.5
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	7/10/2008	7/10/2008	7/10/2008	7/10/2008
Date analysed	-	7/10/2008	7/10/2008	7/10/2008	7/10/2008
pH of soil for fluid# determ.	pH units	7.4	8.5	8.9	8.6
pH of soil for fluid # determ. (acid)	pH units	1.7	2.1	2	2.1
Extraction fluid used	-	1	1	1	1
pH of final Leachate	pH units	5.4	6.4	5.2	6.1
Lead in TCLP	mg/L	0.96	0.11	11	0.89
Nickel in TCLP	mg/L	0.03	[NA]	0.05	[NA]

PAHs in TCLP (USEPA 1311)	UNITS	23038-A-10	23038-A-15
Our Reference:	-----	TP3	TP5
Your Reference	-----	0.7-0.8	0.3-0.4
Depth		Soil	Soil
Type of sample			
Date extracted	-	8/10/2008	8/10/2008
Date analysed	-	8/10/2008	8/10/2008
Naphthalene	mg/L	<0.001	<0.001
Acenaphthylene	mg/L	<0.001	<0.001
Acenaphthene	mg/L	<0.001	<0.001
Fluorene	mg/L	<0.001	<0.001
Phenanthrene	mg/L	<0.001	<0.001
Anthracene	mg/L	<0.001	<0.001
Fluoranthene	mg/L	<0.001	<0.001
Pyrene	mg/L	<0.001	<0.001
Benzo(a)anthracene	mg/L	<0.001	<0.001
Chrysene	mg/L	<0.001	<0.001
Benzo(b+k)fluoranthene	mg/L	<0.002	<0.002
Benzo(a)pyrene	mg/L	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene	mg/L	<0.001	<0.001
Dibenzo(a,h)anthracene	mg/L	<0.001	<0.001
Benzo(g,h,i)perylene	mg/L	<0.001	<0.001
Surrogate p-Terphenyl-d ₁₄	%	118	113

Method ID	Methodology Summary
EXTRACT.7	Toxicity Characteristic Leaching Procedure (TCLP).
Metals.20	Determination of various metals by ICP-AES.
ICP-AES	
GC.12 subset	Leachates are extracted with Dichloromethane and analysed by GC-MS.
GC.12 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
GC.12	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Metals in TCLP						Base II Duplicate II %RPD		
Date extracted	-			7/10/2008	[NT]	[NT]	LCS-W1	8/10/08
Date analysed	-			7/10/2008	[NT]	[NT]	LCS-W1	8/10/08
Lead in TCLP	mg/L	0.03	Metals.20 ICP-AES	<0.03	[NT]	[NT]	LCS-W1	102%
Nickel in TCLP	mg/L	0.02	Metals.20 ICP-AES	<0.02	[NT]	[NT]	LCS-W1	103%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in TCLP (USEPA 1311)						Base II Duplicate II %RPD		
Date extracted	-			8/10/2008	[NT]	[NT]	LCS-W1	8/10/2008
Date analysed	-			8/10/2008	[NT]	[NT]	LCS-W1	8/10/2008
Naphthalene	mg/L	0.001	GC.12 subset	<0.001	[NT]	[NT]	LCS-W1	119%
Acenaphthylene	mg/L	0.001	GC.12 subset	<0.001	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/L	0.001	GC.12 subset	<0.001	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/L	0.001	GC.12 subset	<0.001	[NT]	[NT]	LCS-W1	116%
Phenanthrene	mg/L	0.001	GC.12 subset	<0.001	[NT]	[NT]	LCS-W1	119%
Anthracene	mg/L	0.001	GC.12 subset	<0.001	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/L	0.001	GC.12 subset	<0.001	[NT]	[NT]	LCS-W1	112%
Pyrene	mg/L	0.001	GC.12 subset	<0.001	[NT]	[NT]	LCS-W1	121%
Benzo(a)anthracene	mg/L	0.001	GC.12 subset	<0.001	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/L	0.001	GC.12 subset	<0.001	[NT]	[NT]	LCS-W1	132%
Benzo(b+k)fluoranthene	mg/L	0.002	GC.12 subset	<0.002	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/L	0.001	GC.12 subset	<0.001	[NT]	[NT]	LCS-W1	120%
Indeno(1,2,3-c,d)pyrene	mg/L	0.001	GC.12 subset	<0.001	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/L	0.001	GC.12 subset	<0.001	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/L	0.001	GC.12 subset	<0.001	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		GC.12	114	[NT]	[NT]	LCS-W1	132%

Report Comments:

Asbestos was analysed by Approved Identifier: Not applicable for this job

INS: Insufficient sample for this test

NT: Not tested

PQL: Practical Quantitation Limit

RPD: Relative Percent Difference

NA: Test not required

LCS: Laboratory Control Sample

NR: Not requested

<: Less than

>: Greater than

Quality Control Definitions

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SVOC and speciated phenols is acceptable.

Surrogates: 60-140% is acceptable for general organics and 10-140% for

SVOC and speciated phenols.

Aileen Hie

From: Adrian Kingswell [akingswell@jkgroup.net.au]
Sent: Friday, 3 October 2008 04:15 PM
To: Aileen Hie
Subject: 23038

EIS

ENVIRONMENTAL INVESTIGATION SERVICES

A division of Jeffery & Katauskas Pty Ltd
ABN 17 003 550 801

Please prepare TCLP leachates and analyse for the following:

TP3 0.7-0.8 PAH lead nickel -10
TP5 0.3-0.4 PAH -15
TP4 0.3-0.4 lead -12
TP5 0.3-0.4 lead nickel -15
TP7 0.4-0.5 lead -22

EnviroLab Ref: 23038A
Due: 13/10/08
Std +1A

Regards,
For and on behalf of
ENVIRONMENTAL INVESTIGATION SERVICES

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