



ENVIRONMENTAL INVESTIGATION SERVICES

29 January 2013

Ref: E26295Klet

CP Finance

Attention: Mr Simon Arraj

Preliminary Environmental Assessment

2 Hythe Street, Drummoyne

Site Description

Fieldwork for this investigation was conducted on 25 January 2013. The site layout at the time of the investigation is shown in Figure 1. The site included an asphaltic concrete driveway approximately 65m long x 4m wide extending from an asphaltic concrete car park in the north-western corner of the site. A bowling green and landscaped area were located in the north-eastern section of the site, while the former bowling club house and several other adjoining sheds and small buildings were located in the south-eastern section of the site. The local topography sloped down towards Five Dock Bay to the west of the site. The site car park and the driveway sloped down towards the north-west.

Fibro cement sheeting (possibly containing asbestos) was observed lining the gutters of the bowling green, as shown in the attached photographs. No other obvious sources of potential soil contamination were observed at the site during the investigation.

The nearest potential off-site contamination source was the service station located directly across Hythe Street approximately 20m to the east of the site. The underground storage tanks of the service station were observed to be on the east side, adjacent to Victoria Road. The site is located down-gradient of the service station.

Sub-Surface Conditions

Seven boreholes were drilled at various locations across the site, as shown in the attached Figure 1. The boreholes were drilled to depths ranging from 1.5m to 6.0m. The depth of fill across the site ranged from 0.8m to 1.6m. Groundwater was encountered in two boreholes. A summary of the subsurface conditions is detailed in the table below.

Borehole	Total depth drilled	Depth of fill	Depth to rock	Depth of groundwater
BH1	6.0m	1.2m	2.4m	3.4m
BH2	1.5m	0.8m	-	-
BH3	1.5m	1.0m	-	-
BH4	2.5m	1.1m	-	-
BH5	2.8m	1.6m	2.7m	-
BH6	1.5m	0.8m	-	-
BH7	3.0m	0.8m	-	1.6m



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The composition of the fill material varied from gravelly, sandy silt to silty sand, sandy silt and silty clay. The underlying soil encountered below the fill material was silty clay. Shale bedrock was encountered in two boreholes at depths of 2.4m and 2.7m.

To assess the depth to groundwater, borehole 1 (BH1) was drilled to a depth of 6.0m and then left open for approximately 4 hours to allow the groundwater level to stabilize. The standing water level was measured to be approximately 3.4m below ground level. Significant groundwater in flow was also observed during the drilling of BH7 at a depth of approximately 1.6m.

Guidelines

The NEPM 1999 includes Health Based Investigation Levels (HILs) for a range of contaminants based on the risk of exposure, duration of exposure, toxicity and land use (availability). The HILs are divided into four categories outlined in the following table:

Table: HILs Categories

Category/Column	Land Use
Column A	'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.
Column D	Residential with minimal opportunities for soil access: includes dwellings with fully and permanently paved yard space such as high-rise apartments and flats.
Column E	Parks, recreational open space and playing fields: includes secondary schools.
Column F	Commercial/Industrial: includes premises such as shops and offices as well as factories and industrial sites.

Where the proposed land use includes more than one land use category (for example a mixed-use development including residential/retail/commercial land uses) the exposure setting of the most 'sensitive' land use should be adopted for the site.

Analysis

Eight fill and one natural soil samples were collected from the boreholes during drilling and analysed for contaminants of potential concern including petroleum hydrocarbons, BTEX compounds (benzene, toluene, ethylbenzene and xylenes), polycyclic aromatic hydrocarbons (PAHs), organochlorine and organophosphorus pesticides (OCPs and OPPs), polychlorinated biphenyls (PCBs), heavy metals and asbestos. The analytical results were compared to site assessment criteria which were derived with reference to relevant guidelines and regulations, as detailed above and in the attached Table A.

Results

The results indicated that:

- All soil results were less than the guideline concentration for “Residential with minimal opportunities for soil access”.
- Two fill soil results for benzo(a)pyrene were greater than the guideline concentration for “Standard residential with garden/ accessible soil.”

Marginal elevations of benzo(a)pyrene are very common in the inner suburbs of Sydney and are frequently associated with traces of ash and slag material that was mixed with fill used during the early twentieth century.

Prior to any excavation work additional sampling and analysis should be undertaken to assign a waste classification for off-site disposal of excavated soil. Based on our experience the waste classification for the excavated fill soil is likely to General Solid Waste.. The waste classification for the underlying natural soil and bedrock is likely to be Virgin Excavated Natural Material. However these classifications must be confirmed by additional analysis This will allow costs associated with off-site disposal of soil to be estimated.

Prior to any demolition work all buildings and structures should be surveyed for potential hazardous building materials (including asbestos). All potential hazardous building materials (including asbestos) should be removed before bulk excavation.

Limitations

The sampling locations for the investigation have enabled an assessment to be made of the risk of the existence of significant, large quantities of contamination.

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. Development activities at the site should be planned on this basis, and any unexpected problems that may be encountered between sampling locations 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 conclusions developed in this report are based on site conditions which existed at the time of the investigation and the scope of work outlined in the 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 immediate surrounds.

The investigation and preparation of this report 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 report.



EIS has not undertaken any assessment of off-site areas that may be potential contamination sources or may have been impacted by site contamination, except where specifically stated in the report.

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-1990 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.

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If you have any questions concerning the contents of this letter please do not hesitate to contact us.

Yours faithfully
ENVIRONMENTAL INVESTIGATION SERVICES

Adrian Kingswell
Principal

CERTIFICATE OF ANALYSIS

84727

Client:

Environmental Investigation Services

PO Box 976

North Ryde BC

NSW 1670

Attention: Rob Muller/Adrian Kingswell

Sample log in details:

Your Reference:

E26295K, Drummoyne

No. of samples:

10 Soils 2 Waters

Date samples received / completed instructions received

25/01/2013 / 25/01/2013

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:

29/01/13 / 29/01/13

Date of Preliminary Report:

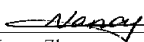
29/01/2013

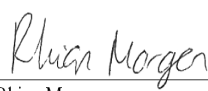
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Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:


Nancy Zhang
Chemist


Rhian Morgan
Reporting Supervisor


Lulu Guo
Approved Signatory

vTRH(C6-C10)/BTEXN in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	84727-1 BH1 0.0-0.2 25/01/2013 Soil	84727-2 BH1 2.0-2.3 25/01/2013 Soil	84727-3 BH2 0.6-0.8 25/01/2013 Soil	84727-4 BH4 0.5-0.8 25/01/2013 Soil	84727-5 BH5 0.0-0.2 25/01/2013 Soil
Date extracted	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	27/01/2013	27/01/2013	27/01/2013	27/01/2013	27/01/2013
TRHC ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	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
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	95	92	86	91	94

vTRH(C6-C10)/BTEXN in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	84727-6 BH5 0.7-0.9 25/01/2013 Soil	84727-7 BH6 0.5-0.7 25/01/2013 Soil	84727-8 BH7 0.6-0.8 25/01/2013 Soil	84727-9 Dup 1 - 25/01/2013 Soil	84727-10 BH3 0.5-0.7 25/01/2013 Soil
Date extracted	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	27/01/2013	27/01/2013	27/01/2013	27/01/2013	27/01/2013
TRHC ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	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
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	89	78	84	88	113

svTRH (C10-C40) in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	84727-1 BH1 0.0-0.2 25/01/2013 Soil	84727-2 BH1 2.0-2.3 25/01/2013 Soil	84727-3 BH2 0.6-0.8 25/01/2013 Soil	84727-4 BH4 0.5-0.8 25/01/2013 Soil	84727-5 BH5 0.0-0.2 25/01/2013 Soil
Date extracted	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	26/01/2013	26/01/2013	26/01/2013	26/01/2013	26/01/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	98	93	91	91	89

svTRH (C10-C40) in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	84727-6 BH5 0.7-0.9 25/01/2013 Soil	84727-7 BH6 0.5-0.7 25/01/2013 Soil	84727-8 BH7 0.6-0.8 25/01/2013 Soil	84727-9 Dup 1 - 25/01/2013 Soil	84727-10 BH3 0.5-0.7 25/01/2013 Soil
Date extracted	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	26/01/2013	26/01/2013	26/01/2013	26/01/2013	26/01/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	97	92	93	93	95

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	84727-1 BH1 0.0-0.2 25/01/2013 Soil	84727-2 BH1 2.0-2.3 25/01/2013 Soil	84727-3 BH2 0.6-0.8 25/01/2013 Soil	84727-4 BH4 0.5-0.8 25/01/2013 Soil	84727-5 BH5 0.0-0.2 25/01/2013 Soil
Date extracted	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.3	<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	2.5	<0.1	<0.1	0.6	<0.1
Anthracene	mg/kg	0.5	<0.1	<0.1	0.1	<0.1
Fluoranthene	mg/kg	3.3	<0.1	<0.1	1.3	<0.1
Pyrene	mg/kg	3.1	<0.1	<0.1	1.3	<0.1
Benzo(a)anthracene	mg/kg	1.5	<0.1	<0.1	0.7	<0.1
Chrysene	mg/kg	1.4	<0.1	<0.1	0.7	<0.1
Benzo(b+k)fluoranthene	mg/kg	2.5	<0.2	<0.2	1.3	<0.2
Benzo(a)pyrene	mg/kg	1.5	<0.05	<0.05	0.71	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	1.2	<0.1	<0.1	0.5	<0.1
Dibenzo(a,h)anthracene	mg/kg	0.2	<0.1	<0.1	0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	1.0	<0.1	<0.1	0.4	<0.1
Benzo(a)pyrene TEQ	mg/kg	2	<0.5	<0.5	1	<0.5
Surrogate p-Terphenyl-d ₁₄	%	85	91	91	85	86

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	84727-6 BH5 0.7-0.9 25/01/2013 Soil	84727-7 BH6 0.5-0.7 25/01/2013 Soil	84727-8 BH7 0.6-0.8 25/01/2013 Soil	84727-9 Dup 1 - 25/01/2013 Soil	84727-10 BH3 0.5-0.7 25/01/2013 Soil
Date extracted	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	0.2	<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	0.2	0.1	0.5	1.6	<0.1
Anthracene	mg/kg	<0.1	<0.1	0.1	0.4	<0.1
Fluoranthene	mg/kg	0.4	0.4	1.3	2.5	<0.1
Pyrene	mg/kg	0.4	0.5	1.5	2.4	<0.1
Benzo(a)anthracene	mg/kg	0.2	0.2	0.7	1.1	<0.1
Chrysene	mg/kg	0.2	0.3	0.7	1.0	<0.1
Benzo(b+k)fluoranthene	mg/kg	0.3	0.6	1.5	1.9	<0.2
Benzo(a)pyrene	mg/kg	0.20	0.32	0.93	1.1	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	0.2	0.7	0.8	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	0.1	0.2	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1	0.2	0.6	0.7	<0.1
Benzo(a)pyrene TEQ	mg/kg	<0.5	<0.5	1	2	<0.5
Surrogate p-Terphenyl-d ₁₄	%	91	90	89	85	78

Organochlorine Pesticides in soil						
Our Reference:	UNITS	84727-1	84727-2	84727-3	84727-4	84727-5
Your Reference	-----	BH1	BH1	BH2	BH4	BH5
Depth	-----	0.0-0.2	2.0-2.3	0.6-0.8	0.5-0.8	0.0-0.2
Date Sampled		25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	26/01/2013	26/01/2013	26/01/2013	26/01/2013	26/01/2013
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	1.3
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	%	109	104	111	98	103

Organochlorine Pesticides in soil						
Our Reference:	UNITS	84727-6	84727-7	84727-8	84727-9	84727-10
Your Reference	-----	BH5	BH6	BH7	Dup 1	BH3
Depth	-----	0.7-0.9	0.5-0.7	0.6-0.8	-	0.5-0.7
Date Sampled		25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	26/01/2013	26/01/2013	26/01/2013	26/01/2013	26/01/2013
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	0.5
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	%	113	104	107	104	97

Organophosphorus Pesticides						
Our Reference:	UNITS	84727-1	84727-2	84727-3	84727-4	84727-5
Your Reference	-----	BH1	BH1	BH2	BH4	BH5
Depth	-----	0.0-0.2	2.0-2.3	0.6-0.8	0.5-0.8	0.0-0.2
Date Sampled		25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	26/01/2013	26/01/2013	26/01/2013	26/01/2013	26/01/2013
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 TCMX	%	109	104	111	98	103

Organophosphorus Pesticides						
Our Reference:	UNITS	84727-6	84727-7	84727-8	84727-9	84727-10
Your Reference	-----	BH5	BH6	BH7	Dup 1	BH3
Depth	-----	0.7-0.9	0.5-0.7	0.6-0.8	-	0.5-0.7
Date Sampled		25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	26/01/2013	26/01/2013	26/01/2013	26/01/2013	26/01/2013
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 TCMX	%	113	104	107	104	97

PCBs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	84727-1 BH1 0.0-0.2 25/01/2013 Soil	84727-2 BH1 2.0-2.3 25/01/2013 Soil	84727-3 BH2 0.6-0.8 25/01/2013 Soil	84727-4 BH4 0.5-0.8 25/01/2013 Soil	84727-5 BH5 0.0-0.2 25/01/2013 Soil
Date extracted	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	26/01/2013	26/01/2013	26/01/2013	26/01/2013	26/01/2013
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	%	109	104	111	98	103

PCBs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	84727-6 BH5 0.7-0.9 25/01/2013 Soil	84727-7 BH6 0.5-0.7 25/01/2013 Soil	84727-8 BH7 0.6-0.8 25/01/2013 Soil	84727-9 Dup 1 - 25/01/2013 Soil	84727-10 BH3 0.5-0.7 25/01/2013 Soil
Date extracted	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	26/01/2013	26/01/2013	26/01/2013	26/01/2013	26/01/2013
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	%	113	104	107	104	97

Acid Extractable metals in soil						
Our Reference:	UNITS	84727-1	84727-2	84727-3	84727-4	84727-5
Your Reference	-----	BH1	BH1	BH2	BH4	BH5
Depth	-----	0.0-0.2	2.0-2.3	0.6-0.8	0.5-0.8	0.0-0.2
Date Sampled		25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Arsenic	mg/kg	<4	<4	6	24	6
Cadmium	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	mg/kg	13	9	8	40	16
Copper	mg/kg	35	2	3	20	7
Lead	mg/kg	61	26	11	140	13
Mercury	mg/kg	0.7	<0.1	<0.1	2.0	11
Nickel	mg/kg	4	6	4	6	3
Zinc	mg/kg	100	35	12	57	21

Acid Extractable metals in soil						
Our Reference:	UNITS	84727-6	84727-7	84727-8	84727-9	84727-10
Your Reference	-----	BH5	BH6	BH7	Dup 1	BH3
Depth	-----	0.7-0.9	0.5-0.7	0.6-0.8	-	0.5-0.7
Date Sampled		25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Arsenic	mg/kg	6	52	22	18	<4
Cadmium	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	mg/kg	13	28	68	23	8
Copper	mg/kg	8	11	26	14	18
Lead	mg/kg	32	95	150	96	22
Mercury	mg/kg	0.5	1.4	1.9	1.3	2.0
Nickel	mg/kg	3	3	5	3	13
Zinc	mg/kg	30	50	100	43	41

Moisture						
Our Reference:	UNITS	84727-1	84727-2	84727-3	84727-4	84727-5
Your Reference	-----	BH1	BH1	BH2	BH4	BH5
Depth	-----	0.0-0.2	2.0-2.3	0.6-0.8	0.5-0.8	0.0-0.2
Date Sampled		25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	29/01/2013	29/01/2013	29/01/2013	29/01/2013	29/01/2013
Moisture	%	9.2	7.9	12	12	2.7

Moisture						
Our Reference:	UNITS	84727-6	84727-7	84727-8	84727-9	84727-10
Your Reference	-----	BH5	BH6	BH7	Dup 1	BH3
Depth	-----	0.7-0.9	0.5-0.7	0.6-0.8	-	0.5-0.7
Date Sampled		25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Date analysed	-	29/01/2013	29/01/2013	29/01/2013	29/01/2013	29/01/2013
Moisture	%	14	13	22	13	11

Asbestos ID - soils						
Our Reference:	UNITS	84727-1	84727-2	84727-3	84727-4	84727-5
Your Reference	-----	BH1	BH1	BH2	BH4	BH5
Depth	-----	0.0-0.2	2.0-2.3	0.6-0.8	0.5-0.8	0.0-0.2
Date Sampled		25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	26/01/2013	26/01/2013	26/01/2013	26/01/2013	26/01/2013
Sample mass tested	g	Approx 40g	Approx 40g	Approx 40g	Approx 40g	Approx 40g
Sample Description	-	Brown fine-grained soil & rocks	Red brown fine-grained soil & rocks	Dark brown fine-grained soil & rocks	Dark grey fine-grained soil & rocks	Dark grey fine-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	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected

Asbestos ID - soils						
Our Reference:	UNITS	84727-6	84727-7	84727-8	84727-9	84727-10
Your Reference	-----	BH5	BH6	BH7	Dup 1	BH3
Depth	-----	0.7-0.9	0.5-0.7	0.6-0.8	-	0.5-0.7
Date Sampled		25/01/2013	25/01/2013	25/01/2013	25/01/2013	25/01/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	26/01/2013	26/01/2013	26/01/2013	26/01/2013	29/01/2013
Sample mass tested	g	Approx 40g	Approx 40g	Approx 40g	Approx 40g	Approx 40g
Sample Description	-	Dark brown fine-grained soil & rocks	Dark brown fine-grained soil & rocks	Dark brown fine-grained soil & rocks	Dark brown fine-grained soil & rocks	Grey-brown fine-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	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected

BTEX in Water			
Our Reference:	UNITS	84727-11	84727-12
Your Reference	-----	TB	FR
Depth	-----	-	-
Date Sampled		25/01/2013	25/01/2013
Type of sample		Water	Water
Date extracted	-	25/01/2013	25/01/2013
Date analysed	-	26/01/2013	26/01/2013
Benzene	µg/L	<1	<1
Toluene	µg/L	<1	<1
Ethylbenzene	µg/L	<1	<1
m+p-xylene	µg/L	<2	<2
o-xylene	µg/L	<1	<1
Surrogate Dibromofluoromethane	%	106	106
Surrogate toluene-d8	%	102	101
Surrogate 4-BFB	%	97	96

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. F1 = (C6-C10)-BTEX as per NEPM B1 draft Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 draft Guideline on Investigation Levels for Soil and Groundwater.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM draft B1 Guideline on Investigation Levels for Soil and Groundwater.
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-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.

Client Reference: E26295K, Drummoyne

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			25/01/2013	84727-1	25/01/2013 25/01/2013	LCS-8	25/01/2013
Date analysed	-			27/01/2013	84727-1	27/01/2013 27/01/2013	LCS-8	27/01/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	84727-1	<25 <25	LCS-8	100%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	84727-1	<25 <25	LCS-8	100%
vTPHC ₆ - C ₁₀ less BTEX(F1)	mg/kg	25	Org-016	[NT]	84727-1	<25 <25	[NR]	[NR]
Benzene	mg/kg	0.2	Org-016	<0.2	84727-1	<0.2 <0.2	LCS-8	105%
Toluene	mg/kg	0.5	Org-016	<0.5	84727-1	<0.5 <0.5	LCS-8	105%
Ethylbenzene	mg/kg	1	Org-016	<1	84727-1	<1 <1	LCS-8	96%
m+p-xylene	mg/kg	2	Org-016	<2	84727-1	<2 <2	LCS-8	97%
o-Xylene	mg/kg	1	Org-016	<1	84727-1	<1 <1	LCS-8	101%
naphthalene	mg/kg	1	Org-014	<1	84727-1	<1 <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	101	84727-1	95 90 RPD: 5	LCS-8	100%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH (C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			25/01/2013	84727-1	25/01/2013 25/01/2013	LCS-8	25/01/2013
Date analysed	-			26/01/2013	84727-1	26/01/2013 26/01/2013	LCS-8	26/01/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	84727-1	<50 <50	LCS-8	80%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	84727-1	<100 <100	LCS-8	92%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	84727-1	<100 <100	LCS-8	101%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	84727-1	<50 <50	LCS-8	80%
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	50	Org-003	[NT]	84727-1	<50 <50	[NR]	[NR]
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	84727-1	<100 <100	LCS-8	92%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	84727-1	<100 <100	LCS-8	101%
Surrogate o-Terphenyl	%		Org-003	91	84727-1	98 94 RPD: 4	LCS-8	100%

Client Reference: E26295K, Drummoyne

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base Duplicate %RPD		
Date extracted	-			25/01/2013	84727-1	25/01/2013 25/01/2013	LCS-8	25/01/2013
Date analysed	-			25/01/2013	84727-1	25/01/2013 25/01/2013	LCS-8	25/01/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	84727-1	<0.1 <0.1	LCS-8	110%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	84727-1	0.3 <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	84727-1	<0.1 <0.1	LCS-8	115%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	84727-1	2.5 0.4 RPD: 145	LCS-8	115%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	84727-1	0.5 0.1 RPD: 133	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	84727-1	3.3 0.8 RPD: 122	LCS-8	115%
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	84727-1	3.1 0.8 RPD: 118	LCS-8	115%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	84727-1	1.5 0.4 RPD: 116	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	84727-1	1.4 0.4 RPD: 111	LCS-8	109%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	84727-1	2.5 0.9 RPD: 94	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	84727-1	1.5 0.53 RPD: 96	LCS-8	110%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	84727-1	1.2 0.4 RPD: 100	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	84727-1	0.2 <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	84727-1	1.0 0.4 RPD: 86	[NR]	[NR]
Benzo(a)pyrene TEQ	mg/kg	0.5	Org-012 subset	[NT]	84727-1	2 1 RPD: 67	[NR]	[NR]
Surrogate p-Terphenyl-d ₁₄	%		Org-012 subset	89	84727-1	85 89 RPD: 5	LCS-8	81%

Client Reference: E26295K, Drummoyne

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	-			25/01/2013	84727-1	25/01/2013 25/01/2013	LCS-8	25/01/2013
Date analysed	-			26/01/2013	84727-1	26/01/2013 26/01/2013	LCS-8	26/01/2013
HCB	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	LCS-8	108%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	LCS-8	115%
Heptachlor	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	LCS-8	108%
delta-BHC	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	LCS-8	121%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	LCS-8	110%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	84727-1	0.1 <0.1	LCS-8	108%
Dieldrin	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	LCS-8	105%
Endrin	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	LCS-8	109%
pp-DDD	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	LCS-8	98%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	LCS-8	117%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Surrogate TCMX	%		Org-005	105	84727-1	109 107 RPD: 2	LCS-8	103%

Client Reference: E26295K, Drummoyne

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organophosphorus Pesticides						Base II Duplicate II %RPD		
Date extracted	-			25/01/2013	84727-1	25/01/2013 25/01/2013	LCS-8	25/01/2013
Date analysed	-			26/01/2013	84727-1	26/01/2013 26/01/2013	LCS-8	26/01/2013
Diazinon	mg/kg	0.1	Org-008	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Dimethoate	mg/kg	0.1	Org-008	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Chlorpyrifos-methyl	mg/kg	0.1	Org-008	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Ronnel	mg/kg	0.1	Org-008	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Chlorpyrifos	mg/kg	0.1	Org-008	<0.1	84727-1	<0.1 <0.1	LCS-8	99%
Fenitrothion	mg/kg	0.1	Org-008	<0.1	84727-1	<0.1 <0.1	LCS-8	96%
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Ethion	mg/kg	0.1	Org-008	<0.1	84727-1	<0.1 <0.1	LCS-8	99%
Surrogate TCMX	%		Org-008	105	84727-1	109 107 RPD: 2	LCS-8	100%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCBs in Soil						Base II Duplicate II %RPD		
Date extracted	-			25/01/2013	84727-1	25/01/2013 25/01/2013	LCS-8	25/01/2013
Date analysed	-			26/01/2013	84727-1	26/01/2013 26/01/2013	LCS-8	26/01/2013
Arochlor 1016	mg/kg	0.1	Org-006	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1221	mg/kg	0.1	Org-006	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	Org-006	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	Org-006	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	Org-006	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	Org-006	<0.1	84727-1	<0.1 <0.1	LCS-8	100%
Arochlor 1260	mg/kg	0.1	Org-006	<0.1	84727-1	<0.1 <0.1	[NR]	[NR]
Surrogate TCLMX	%		Org-006	105	84727-1	109 107 RPD: 2	LCS-8	96%
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	-			25/01/2013	84727-1	25/01/2013 25/01/2013	LCS-1	25/01/2013
Date analysed	-			25/01/2013	84727-1	25/01/2013 25/01/2013	LCS-1	25/01/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	84727-1	<4 <4	LCS-1	97%
Cadmium	mg/kg	0.5	Metals-020 ICP-AES	<0.5	84727-1	<0.5 <0.5	LCS-1	98%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	84727-1	13 10 RPD: 26	LCS-1	102%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	84727-1	35 40 RPD: 13	LCS-1	102%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	84727-1	61 58 RPD: 5	LCS-1	99%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	84727-1	0.7 0.6 RPD: 15	LCS-1	96%

Client Reference: E26295K, Drummoyne

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	84727-1	4 4 RPD: 0	LCS-1	102%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	84727-1	100 99 RPD: 1	LCS-1	102%
QUALITYCONTROL Moisture								
Date prepared	-			[NT]				
Date analysed	-			[NT]				
Moisture	%	0.1	Inorg-008	[NT]				
QUALITYCONTROL Asbestos ID - soils								
Date analysed	-			[NT]				
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
BTEX in Water						Base II Duplicate II %RPD		
Date extracted	-			25/01/2013	[NT]	[NT]	LCS-W1	25/01/2013
Date analysed	-			26/01/2013	[NT]	[NT]	LCS-W1	26/01/2013
Benzene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W1	109%
Toluene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W1	109%
Ethylbenzene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W1	109%
m+p-xylene	µg/L	2	Org-016	<2	[NT]	[NT]	LCS-W1	109%
o-xylene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W1	109%
Surrogate Dibromofluoromethane	%		Org-016	103	[NT]	[NT]	LCS-W1	103%
Surrogate toluene-d8	%		Org-016	101	[NT]	[NT]	LCS-W1	100%
Surrogate 4-BFB	%		Org-016	96	[NT]	[NT]	LCS-W1	100%
QUALITYCONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#		Duplicate Base + Duplicate + %RPD		Spike Sm#	Spike % Recovery	
Date extracted	-	[NT]		[NT]		84727-2	25/01/2013	
Date analysed	-	[NT]		[NT]		84727-2	27/01/2013	
TRHC ₆ - C ₉	mg/kg	[NT]		[NT]		84727-2	118%	
TRHC ₆ - C ₁₀	mg/kg	[NT]		[NT]		84727-2	118%	
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	[NT]		[NT]		[NR]	[NR]	
Benzene	mg/kg	[NT]		[NT]		84727-2	129%	
Toluene	mg/kg	[NT]		[NT]		84727-2	124%	
Ethylbenzene	mg/kg	[NT]		[NT]		84727-2	111%	
m+p-xylene	mg/kg	[NT]		[NT]		84727-2	114%	
o-Xylene	mg/kg	[NT]		[NT]		84727-2	118%	
naphthalene	mg/kg	[NT]		[NT]		[NR]	[NR]	
Surrogate aaa-Trifluorotoluene	%	[NT]		[NT]		84727-2	86%	

Client Reference: E26295K, Drummoyne

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	84727-2	25/01/2013
Date analysed	-	[NT]	[NT]	84727-2	26/01/2013
TRHC ₁₀ - C ₁₄	mg/kg	[NT]	[NT]	84727-2	78%
TRHC ₁₅ - C ₂₈	mg/kg	[NT]	[NT]	84727-2	93%
TRHC ₂₉ - C ₃₆	mg/kg	[NT]	[NT]	84727-2	99%
TRH>C ₁₀ -C ₁₆	mg/kg	[NT]	[NT]	84727-2	78%
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	[NT]	[NT]	[NR]	[NR]
TRH>C ₁₆ -C ₃₄	mg/kg	[NT]	[NT]	84727-2	93%
TRH>C ₃₄ -C ₄₀	mg/kg	[NT]	[NT]	84727-2	99%
Surrogate o-Terphenyl	%	[NT]	[NT]	84727-2	74%
QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	84727-2	25/01/2013
Date analysed	-	[NT]	[NT]	84727-2	25/01/2013
Naphthalene	mg/kg	[NT]	[NT]	84727-2	111%
Acenaphthylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	[NT]	[NT]	84727-2	117%
Phenanthrene	mg/kg	[NT]	[NT]	84727-2	118%
Anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	[NT]	[NT]	84727-2	117%
Pyrene	mg/kg	[NT]	[NT]	84727-2	119%
Benzo(a)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	[NT]	[NT]	84727-2	111%
Benzo(b+k)fluoranthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	[NT]	[NT]	84727-2	110%
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]
Benzo(a)pyrene TEQ	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl- d ₁₄	%	[NT]	[NT]	84727-2	82%

Client Reference: E26295K, Drummoyne

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	84727-2	25/01/2013
Date analysed	-	[NT]	[NT]	84727-2	26/01/2013
HCB	mg/kg	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	[NT]	[NT]	84727-2	111%
gamma-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	[NT]	[NT]	84727-2	111%
Heptachlor	mg/kg	[NT]	[NT]	84727-2	112%
delta-BHC	mg/kg	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	[NT]	[NT]	84727-2	126%
Heptachlor Epoxide	mg/kg	[NT]	[NT]	84727-2	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]	84727-2	112%
Dieldrin	mg/kg	[NT]	[NT]	84727-2	108%
Endrin	mg/kg	[NT]	[NT]	84727-2	112%
pp-DDD	mg/kg	[NT]	[NT]	84727-2	101%
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]	84727-2	121%
Methoxychlor	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%	[NT]	[NT]	84727-2	107%

Client Reference: E26295K, Drummoyne

QUALITY CONTROL Organophosphorus Pesticides	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	84727-2	25/01/2013
Date analysed	-	[NT]	[NT]	84727-2	26/01/2013
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]	84727-2	89%
Fenitrothion	mg/kg	[NT]	[NT]	84727-2	102%
Bromophos-ethyl	mg/kg	[NT]	[NT]	[NR]	[NR]
Ethion	mg/kg	[NT]	[NT]	84727-2	102%
Surrogate TCMX	%	[NT]	[NT]	84727-2	107%
QUALITY CONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	84727-2	25/01/2013
Date analysed	-	[NT]	[NT]	84727-2	26/01/2013
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]	84727-2	91%
Arochlor 1260	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%	[NT]	[NT]	84727-2	103%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date digested	-	[NT]	[NT]	84727-2	25/01/2013
Date analysed	-	[NT]	[NT]	84727-2	25/01/2013
Arsenic	mg/kg	[NT]	[NT]	84727-2	88%
Cadmium	mg/kg	[NT]	[NT]	84727-2	85%
Chromium	mg/kg	[NT]	[NT]	84727-2	93%
Copper	mg/kg	[NT]	[NT]	84727-2	97%
Lead	mg/kg	[NT]	[NT]	84727-2	92%
Mercury	mg/kg	[NT]	[NT]	84727-2	94%
Nickel	mg/kg	[NT]	[NT]	84727-2	92%
Zinc	mg/kg	[NT]	[NT]	84727-2	93%

Report Comments:

PAH's in soil: The RPD for duplicate results is accepted due to the non homogenous nature of the sample/s.

Asbestos:

A portion of the supplied sample 84727-10 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.

Asbestos ID was analysed by Approved Identifier:

Paul Ching, Alex Tam

Asbestos ID was authorised by Approved Signatory:

Lulu Guo

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

<: Less than

>: Greater than

LCS: Laboratory Control Sample

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 batches 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, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.



TABLE A
SUMMARY OF SOIL LABORATORY RESULTS
All data in mg/kg unless stated otherwise

			HEAVY METALS							PAHs		OCPs				TOTAL OPPs	Total PCBs	TPH					BTEX COMPOUNDS				FIELD PID VALUES	ASBESTOS FIBRES	
			Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Total PAHs	B(a)P	Aldrin & Dieldrin	Chlordane	DDT, DDD & DDE			Heptachlor	C ₆ -C ₉	C ₁₀ -C ₁₄	C ₁₅ -C ₂₈	C ₂₉ -C ₃₆	Total C ₁₀ -C ₃₆	Benzene	Toluene	Ethyl benzene			Total Xylenes
PQL - Envirolab Services			4	0.5	1	1	1	0.1	1	1	-	0.05	0.1	0.1	0.1	0.1	0.1	0.1	25	50	100	100	250	0.5	0.5	1			3
Site Assessment Criteria (SAC) ¹			100	20	12%	1000	300	15	600	7000	20	1	10	50	200	10	0.1 ^a	10	65 ^b	nsi	nsi	nsi	1000 ^b	1 ^b	1.4 ^b	3.1 ^b			14 ^b
Site Assessment Criteria (SAC) ²			400	80	48%	4000	1200	60	2400	28000	80	4	40	200	800	40	0.1a	40	65 ^b	nsi	nsi	nsi	1000 ^b	1 ^b	1.4 ^b	3.1 ^b	14 ^b		
Sample Reference	Sample Depth	Sample Description																											
BH1	0.0-0.2	Fill	LPQL	LPQL	13	35	61	0.7	4	100	19	1.5	LPQL	LPQL	0.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.0	LPQL	
BH1	2.0-2.3	Silty clay	LPQL	LPQL	9	2	26	LPQL	6	35	0	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.0	LPQL	
BH2	0.6-0.8	Fill	6	LPQL	8	3	11	LPQL	4	12	0	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.0	LPQL	
BH3	0.5-0.7	Fill	LPQL	LPQL	8	18	22	2	13	41	LPQL	LPQL	0.5	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.0	LPQL	
BH4	0.5-0.8	Fill	24	LPQL	40	20	140	2	6	57	7.71	0.71	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.0	LPQL	
BH5	0.0-0.2	Fill	6	LPQL	16	7	13	11	3	21	0	LPQL	1.3	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.0	LPQL	
BH5	0.7-0.9	Fill	6	LPQL	13	8	32	0.5	3	30	2.1	0.2	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.0	LPQL	
BH6	0.5-0.7	Fill	52	LPQL	28	11	95	1.4	3	50	2.82	0.32	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.0	LPQL	
BH7	0.6-0.8	Fill	22	LPQL	68	26	150	1.9	5	100	8.63	0.93	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.0	LPQL	
Dup 1	-	Duplicate of BH4 (0.5-0.8)	18	LPQL	23	14	96	1.3	3	43	14	1.1	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	LPQL	0.0	LPQL	

Explanation:
1 - Site Assessment Criteria (SAC): NEPM 1999 (NEPC Guidelines) HILs - Column A 'Residential w ith garden accessible soils'
2 -Site Assessment Criteria (SAC): NEPM 1999 (NEPC Guidelines) HILs - Column D 'Residential with minimal opportunities for soil access'

a - In the absence of Australian guidelines, the laboratory PQL has been adopted as the SAC
b - NSW DECC Guidelines for Assessing Service Station Sites (1994)
c - The PQL has been adopted as the SAC

Concentration above the SAC Column A **VALUE**
Concentration above the SAC Column D **VALUE**

Abbreviations:
PAHs: Polycyclic Aromatic Hydrocarbons
B(a)P: Benzo(a)pyrene
PQL: Practical Quantitation Limit
LPQL: Less than PQL
OPP: Organophosphorus Pesticides
PID: Photoionisation Detector
PCBs: Polychlorinated Biphenyls

UCL: Upper Level Confidence Limit on Mean Value
ALPQL: All values less than PQL
na: Not Analysed
nc: Not Calculated
nsi: No Set Limit
SAC: Site Assessment Criteria
TPH: Total Petroleum Hydrocarbons

BTEX: Monocyclic Aromatic Hydrocarbons
OCP: Organochlorine Pesticides
CT: Contaminant Threshold
SCC: Specific Contaminant Concentration
HILs: Health Investigation Levels
NEPM: National Environmental Protection Measure